AccuStandard®

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Singles:

- Singles are listed by POP group, Functional group and Applications group and are shown in the Organic Single Analytes section.
- All analytes used in EPA Methods are listed at the beginning of the EPA Methods section.
- An index of CAS numbers and Organic Analytes are in the back of the catalog.

Mixtures:

- Selected mixtures are listed in the Single Organic section by chemical group.
- Listing for each EPA, DIN and other methods are by method numbers in the Organic Method section starting on page 127.

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What we've changed in this catalog

Every product of ours is contained in this one master catalog.

New Products in this Catalog

- Plastic Additives
- BioFuels
- More Dyes
- Methoxy and Hydroxy PCBs
- More PBDEs
- Fluoro PBDEs
- Brominated Dibenzo-p-Dioxins
- UOP Standards
- ICP Instrument Specific Standards
- ASTM 7065 Phenols
- EPA Method 535
- Melamine Analytical Set

About the Cover
Our Chemist/Collector was fortunate to acquire one of the prime works of one of the most famous painters of the genre. Thomas Wyck's (1616-1677) The Alchemist in His Studio, working among his books and papers. The painting is quite dark, but rich. For the cover we lightened it up a bit benefiting from hidden features not visible in the original before cleaning. Notice Wyck's upside down signature in the lower left near the globe. The painting is an excellent addition to our growing collection. See back page for reprints of paintings featured on all previous covers.

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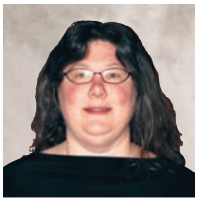
Bill McClain
President

Amy Harvey
VP

Matt Bolgar
VP



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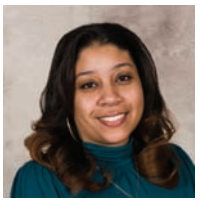


Jessica P.
Customer Service Rep.

Lisa Z.
Customer Service Rep.

About Us

Founded in 1986, AccuStandard has grown from one employee (Alice Bolgar, the CEO's wife), to the current team of 65 people. The company started in a small business incubator co-sponsored by Yale University, The City of New Haven and the State of Connecticut at the former site of Olin Chemical Company in New Haven, Connecticut, USA. Outgrowing that facility, AccuStandard moved across town in 1998 into a fully modernized facility of 37,000 square feet of laboratories, office and storage space. AccuStandard is now one of the leading companies in the field of Chemical Reference Standards.

AccuStandard ships products to over 108 countries and maintains a distributor network in 65 of those countries. Since its beginning, the product line has grown to include over 11,000 Reference Standard products and twice that number of special formulations which have been developed for specific customer needs.

The company is renowned for its recognition and speedy introduction of Standards to the market place. Featured in its history of firsts are all of the 209 congeners of polychlorinated biphenyls (PCBs), over 180 out of the 209 congeners of Polybrominated diphenyl ethers (the flame retardants, PBDEs) as well as halogenated dioxins and dibenzofurans, which all point to our particular strength: organic synthesis.

Among the more recent introductions are the hydroxy and methoxy PBDE congeners, fluorinated PBDE congeners (used as internal standards), Biofuels, Plastic Additives (AccuStandard authored a CRC Press Handbook), EPA Method 535 pesticide derivatives and previously unavailable explosives.

AccuStandard's quality system is audited to ISO 9001 and ISO/IEC 17025 and complies with governmental regulations for the preparation, handling and storage of hazardous substances such as Explosives and Drugs.

AccuStandard owes its success in large part to the excellence, loyalty and dedication of its staff, and we look foward to serving our customers for many years to come.

AccuStandard, At Your Service

Synthesis

Organic and Inorganic Production

Assembly / Shipping

Organic and Inorganic Quality Control

AccuStandard's Quality Resources

- On-Going Stability Program for understanding of chemical interactions
- Complete range of instrumentation: GC/MS, GC/ECD, GC/FID, GC/NPD, LC/MS/MS, HPLC, XOS Sulfur analyzer, Antek 9000 sulfur analyzer, Physical Standards instruments for Flash Point, Distillation, Cloud Point, Freeze Point, Aniline Point, Pour Point, Vapor Pressure. Plus ICP, ICP/MS, Karl Fischer, IC with ion suppression conductivity detector, ion selective electrodes, auto polarimeter and others.
- Monthly internal meetings for formal failure analysis of any non-conformances.
- ISO 9001:2000 and ISO 17025:2005

Agilent 1100/120 Series LC/MS/MS System

Custom Services

Custom Synthesis

The AccuStandard Synthesis Department employs PhD Organic Chemists with many years of academic and industrial experience. This experienced team has developed hundreds of pure chemical compounds for companies and governmental agencies around the world. AccuStandard specializes in synthesizing chemicals of high purity to be used as reference standards, for milligram to kilogram batches. AccuStandard is the only company to synthesize all 209 individual PCB congeners as well as over 180 individual PBDE congeners.

Synthesis Experience

- PCBs (all 209 congeners), PBBs, PCB Metabolites
- Explosives - TNT, RDX, HMX, TATP, HND, HMTD
- PBDEs (over 180 congeners)
- PBDE Metabolites
- FBDEs
- Halo-Dibenzodioxins
- Halo-Dibenzofurans
- PAHs, Nitro-PAHs
- Substituted Diphenylethers
- Pesticides and Metabolites
- Forensics
- Wear Metals
- Pharmaceuticals
  and
  Other Rare Chemicals

Lab Resources

- Milligram to Kilogram Scale Glassware
- Equipment to work under N_2/Ar
- Liquid Solid Phase Chrom. (mg to 2 kg)
- Flash Chrom. (mg to 2 kg) including Horizon High Performance Flash Chrom. System
- Microwave Synthesis System
- Preparative TLC
- Buchi Rotary Evaporators
- Vacuum Drying Oven
- Parr Pressure Reactor (high pressure reaction, hydrogenation)
- Distillation Equipment - High Vacuum Distillation, Molecular Distillation (Kugelrohr), and Spinning Band Columns

Analytical Resources

- ^{1}H-NMR spectrometer - 400 MHZ
- GC/MS, GC/FID, GC/ECD, GC/NPD
- HPLC
- ICP
- ICP/MS
- Low Sulfur Analyzers (Antek, X-Ray Optical)
- LC/MS/MS
- Hg Analyzer

Custom Formulations

With over 40,000 custom and catalog standards, there is a good chance that AccuStandard will have a catalog item to meet your needs. However, if your laboratory requires something specific, our Chemists will manufacture a Custom Standard to meet your unique requirements. Custom Standards are an economical and time saving way to have a Standard prepared for your individual needs.

Custom QC options

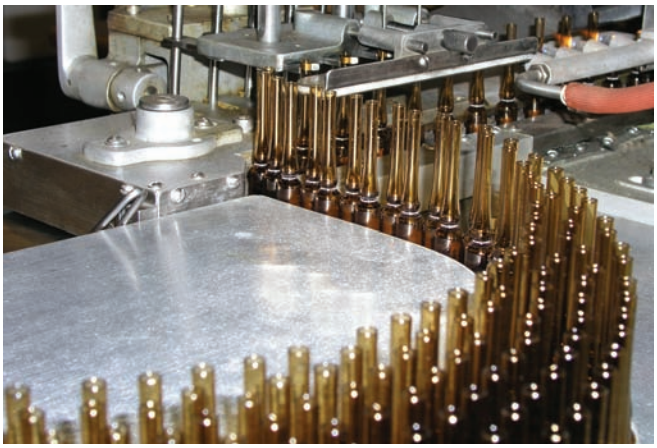
1. Gravimetric/Volumetric Certification: Each purity is measured gravimetrically and QC verified instrumentally (where available). Every component in the Standard is guaranteed to be within +/-0.5% of the requested value unless otherwise stated on the Certificate of Analysis. The solutions are diluted to volume using Class A glassware. A Certificate of Analysis accompanies each Standard and documents the gravimetric values used.
2. Full Quantitative Certification: This QA/QC method includes extended GC analysis using both internal calibration standards plus statistical analysis. A data package containing analytical and gravimetric data can be provided if requested during the quotation phase (Organic Customs only).

Custom Packaging & Bulk Quantity Requirements

AccuStandard has the resources and equipment to meet your custom packaging requirements.

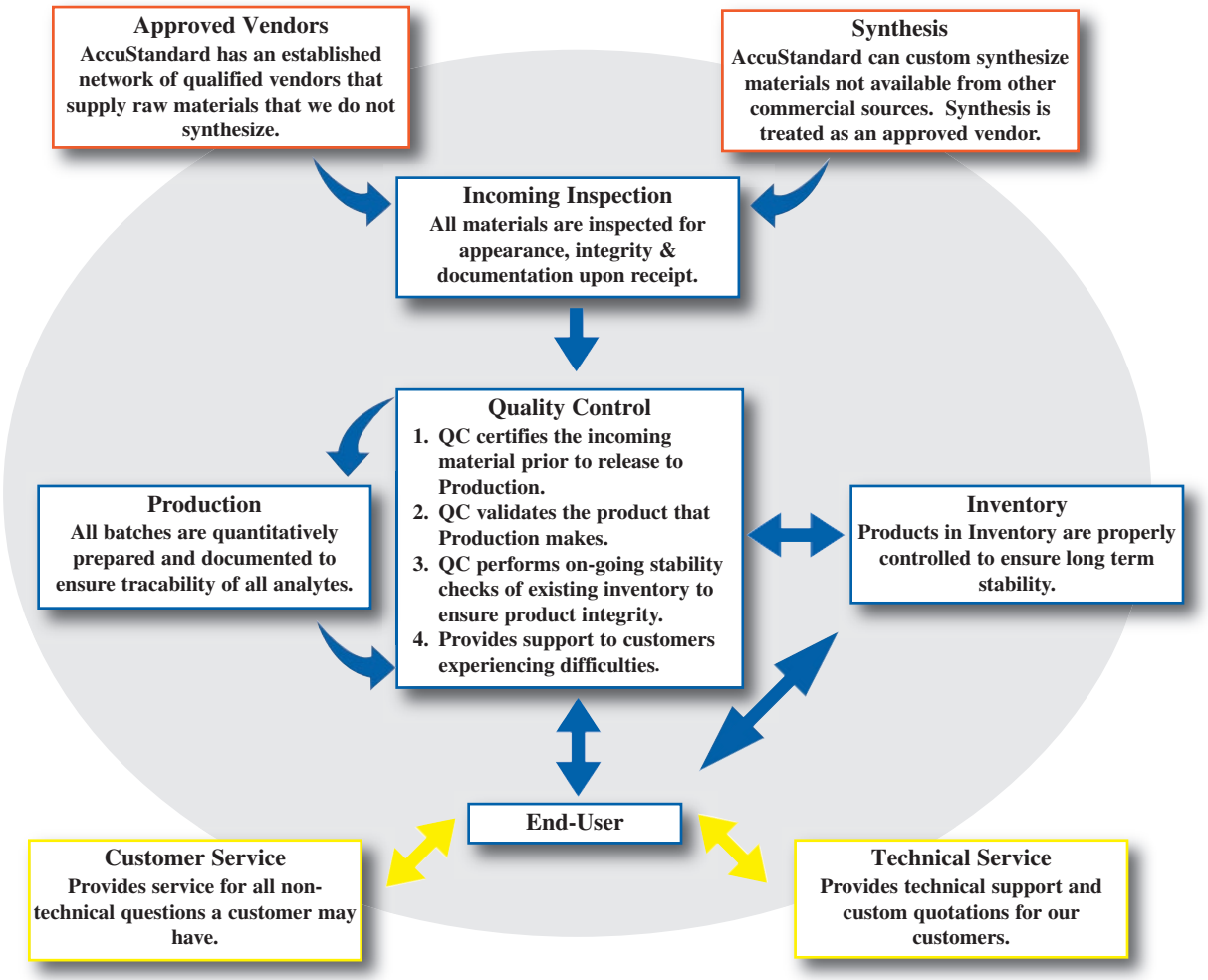
- Automated ampule filling & sealing 0.2 mL up to 20 mL and ampule sizes from 1 mL to 20 mL
- Quantities from 500 to over 500,000 ampules
- Homogeneity testing
- Amber ampules for added product stability
- Private labeling and packaging (OEM)

We can reduce your costs using the Cozzoli Auto Filling/Sealing Machine to package just the right size product for your application. OEM Standards - Privately labeled standards manufactured and tested to your specifications. Cold and under-Nitrogen sealing available.



ISO 9001 & 17025 Quality System

How AccuStandard Ensures the Best Quality in the Industry



Visit our website at AccuStandard.com and click "About Us" for a copy of the latest Certificates.

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CERTIFICATE OF ANALYSIS

CATALOG NO: DRH-007S
EXPIRATION: Nov 4, 2018
DESCRIPTION: Proposed DEP(MA) - Aliphatic Hydrocarbons
LOT: B8100022
SOLVENT: CH2Cl2:Hexane (1:1)

This product is guaranteed accurate to ± 0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
n-Nonane	111-84-2	100	1004	1004
n-Decane	124-18-5	99.7	1006	1003
n-Dodecane	112-40-3	99.2	1002	994
n-Tetradecane	629-59-4	98.5	1002	987
n-Hexadecane	544-76-3	99.4	1003	997
n-Octadecane	593-45-3	100	1008	1008
n-Nonadecane	629-92-5	96.8	1037 *	1004
n-Eicosane	112-95-8	99.8	1003	1001
n-Docosane	629-97-0	99.1	1007	998
n-Tetracosane	646-31-1	100	1001	1001
n-Hexacosane	630-01-3	98	1008	988
n-Octacosane	630-02-4	100	1005	1005
n-Triacontane	638-68-6	97.5	1026 *	1000
n-Hexatriacontane	630-06-8	98.8	1002	990

14 Components

Analytical method used for purity determination.

CAS Number to easily identify compound

Compounds assembled into a standard based on method requirements and customer formulation request - but all reviewed for solubilty and coelution potential prior to manufacture.

We use only high purity starting material.

Concentration calculated by using the purity of the starting material

NIST Tracability

1. All weights are traceable through NIST, Test No. 822/272103-05
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±4% which is the Combined Uncertainty uc(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

* Weight compensated to 100% purity

Certified by: R. Cooper

AccuStandard is accredited to ISO/IEC 17025:2005

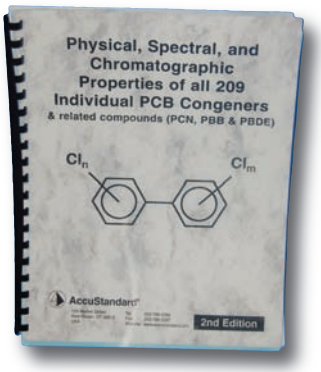
QR-ORG/INO-001
Rev. 07/07

QC management approval

Uncertainty Values
The uncertainty values as stated on our Certificate of Analysis have been determined using the EURACHEM/CITAC Guide (Quantifying Uncertainty in Analytical Measurement). We have evaluated both Type A (based on a series of observations) and Type B (manufacturers specifications and calibration data) factors and report a combined expanded uncertainty.

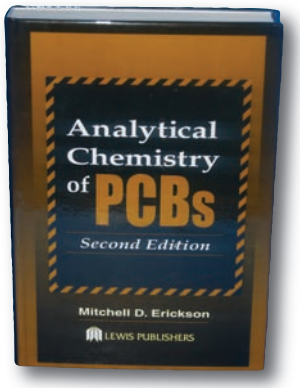
Although uncertainty relates to the general concept of doubt, uncertainty of measurement does not imply doubt about the validity of a measurement, but rather increased confidence in the validity of a measurement result. Uncertainty takes the form of a range and cannot be used to correct a measurement result. The uncertainty of the result should never be interpreted as representing the error itself, or the error remaining after correction.

Technical Reference Books



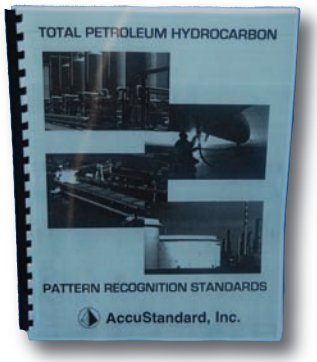
Physical, Spectra, and Chromatographic Properties of all 209 Individual PCB Congeners
AccuStandard's FT/IR, Mass Spectral data, melting point and chromatographic information along with chromatographic data from George Frame's study is available in this book.

Our own PCB Book
Contains the Physical, Spectral and Chromatographic Properties of all 209 Congeners. Also included is an article by George Frame
BOOK-PCB-002 $ 25



Analytical Chemistry of PCBs
This updated and expanded Second Edition of Dr. Erickson's Analytical Chemistry of PCBs appears a decade after the first and is completely revised and updated. The changes from the First Edition reflect the significant growth in the area and a growing appreciation of the importance of PCB analysis to our culture. This book is a comprehensive review of the analytical chemistry of PCBs. It is part history, part annotated bibliography, part comparison, and part guidance. Featuring a new chapter on analyst/customer interactions and several new appendices, the Second Edition is an invaluable resource for both chemists with no experience in PCB analysis and seasoned PCB researchers.

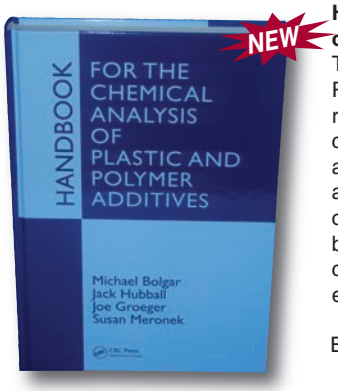
PCB Book
Analytical Chemistry of PCBs
BOOK-PCB-001 $ 225



Total Petroleum Hydrocarbon Pattern Recognition Standards
This book contains chromatography for the various petroleum products typically found during LUFT/LUST site investigations. The chromatography shows each fuel pattern in a 25 minute analytical run for early eluting petroleum products like gasoline to late eluting products like motor oil. In addition, an *n*-alkane standard analyzed under identical conditions has been overlaid on each petroleum product chromatogram. Use of the book will assist the chemist's identification of the fuel for pattern recognition.

The *n*-alkane standard overlay provides *n*-alkane reference points between the standard and the unknown sample. These beginning and ending *n*-alkane reference points can be used to establish gross hydrocarbon concentrations. By comparing the specific *n*-alkane range of the closest identified petroleum standard to that of the unknown sample a reproducible gross hydrocarbon number can be achieved.

TPH Book
Total Petroleum Hydrocarbon Pattern Recognition Standards
BOOK-TPH-001 $ 30



Handbook for the Chemical Analysis of Plastic and Polymer Additives
This book, recently published by CRC Press, contains a host of analytical reference data for each of the many common plastics and polymer additives. Each of the compounds is also offered by AccuStandard as a certified reference standard, most in both neat and solution form, making comparison of the analytical results easier.

Each compound has:(where applicable)

- Chemical Information
- Structure
- CAS Number
- RTECS Number
- Formula
- Molecular Weight
- IUPAC Name, other common names and some popular brand names
- Physical Properties
- Appearance
- Melting and Boiling Points
- Stability
- Solubilities in several common solvents
- Application
- Regulatory
- Environmental Impact
- Point of Release
- Toxicological Data
- Analytical Data
- Mass Spectrum with key Ions tabulated
- Chromatogram with conditions
- Other Important Information

Plastics Book
For the Chemical Analysis of Plastic and Polymer Additives
BOOK-PLAS-001 $ 250

Additional reference information, such as the full text of select EPA Methods and EU Directives, can be found on our Website.

QC Standards

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NotLot™

AccuStandard has developed the NotLot Program for customers to meet regulatory, auditor and laboratory requirements for the use of independent lots without having to place two different orders with two different companies. NotLots are the simplest way to verify the accuracy of your analysis without the added paperwork required when using lots from two different manufacturers.

NotLots contain the same formulation of materials as the first lot, and are made independently.

This program is available on selected catalog items. Ask your Customer Service Representative for the catalog number and a NotLot.

NotLots will be provided at the regular list price for the more common products, and for the same price but with a minimum quantity of 5 for the less common and Custom (S-) products. NotLots may not be available for resale items, kits, Paks, or Inorganic Standards.

Not Lot

Independent Lots

Alternate Source Line

Cross Reference

ASL

Improves Analytical Results, while Saving Time and Money

AccuStandard enhances your laboratory's analytical results while streamlining your purchasing efforts through the Alternate Source Line (ASL) of Analytical Standards. Use ASL's for Independent lots to other Standard suppliers' formulations.

- **Truly independent lots**
- **Identical Formulations to allow easy analysis without modifying analytical programs**
- **Economical packaging versus custom products**

For additional Cross Referencing, visit our Website

Request a competitor's formulation and chemists will manufacture a high quality ASL at a competitive cost. All ASL formulations were originally designed to meet an individual lab's need, but once incorporated into the ASL line, benefit the global analytical community.

AccuStandard has compiled the following cross-reference table for the most requested CLP, and EPA 500, 600, 8000 series analytical Standard formulations currently offered in the marketplace.

SUPELCO	ACCUSTANDARD
36588	P-085S-A-10X
36656	M-8150S-A-10
40003	M-8031
40156	M-508-IS
40179	CLP-FC
43286	M-8015A-10X
45843	M-8150S-A-06
45873	M-8150S-A-09
46965	M-601C-10X
47077	CLP-004
47283	M-8330A-R
47284	M-8330B-R2
47399	M-502C-10
47645	M-552.1-SS
47896	M-8150S-A-01
47897	M-8150S-A-04
47904	M-501-0.5X-5ML
47905	GAD-001
47913	M-8080-QC-R
47914	Z-014C
47933	M-502A-R
47937	M-551.1-IS-10X
47951	M-8040-SS
47969	M-001A
47973	M-525-4-5X
47975	CLP-025-10X
47976	CLP-028-10X
47979	M-8150-01
47981	M-8150-02
47982	M-8150-06
47984	M-8150-08
47986	M-8150-10
47988	M-8150-03
47993	CLP-BTEX-10X
48026	CLP-BTEX
48045	M-551A
48063	M-507-SS
48064	M-507-IS
48081	M-525-SS
48082	CLP-033
48082	M-525-TS
48083	M-624-SS-03
48099	M-525-FS-1
48101	CLP-PS-4X
48129	CLP-PES-A-10X
48139	TCLP-PES-1
48141	TCLP-HERB-ME

SUPELCO	ACCUSTANDARD
48142	TCLP-A-0.5X
48143	TCLP-VOC
48166	DRH-001S-10X
48238	M-8040B-R
48242	M-525.2-IS
48243	M-525-5
48243	M-CL-2
48246	M-525-2-5X
48249	M-525-1
48249	M-525-1-5X
48282	M-1618D
48355	APP-9-208-10X
48378	M-8150S-A-08
48389	M-602-SS
48389	M-602-SS-10X
48399	CLP-003-R
48449	CLP-026-R2-10X
48464	CLP-011A
48466	M-524-SS
48483	M-8020-QC
48599	D-404S
48599	M-613
48672	M-601C
48704	C-260S-M-28.5X
48718	M-625-17
48740	M-602
48741	M-606
48743	M-610
48743	M-610A
48743	M-610-QC-10X
48746	M-501
48775	M-502C-06
48777	M-502C-05
48779	M-502C-04
48786	M-502C-03
48788	M-625-01
48789	M-625-03
48791	M-625-06
48792	M-551.1-SS-100X
48792	M-625-04
48792	M-8310-SS-10X
48797	M-502C-02
48801	M-625-19
48802	M-502C-07
48803	M-502C-08
48832	M-625-BN-2
48833	M-625-BN-3

SUPELCO	ACCUSTANDARD
48834	M-625-BN-4
48835	CLP-PI
48853	M-001C
48859	M-001P
48859	M-604
48859	M-625A
48861	M-001K
48862	M-001L
48863	M-001N
48863	M-625-02
48864	M-001 R-0.1X
48864	M-001R
48866	M-625-BN-1
48866	Z-014H
48875	CLP-AS
48876	CLP-PS-10X
48878	CLP-007B
48902	Z-014J
48902	Z-014J-0.5X
48906	M-605
48906	Z-014F
48907	Z-014D
48908	Z-014E
48913	M-8080
48913	Z-014C-R2
48925	CLP-BNS
48935	CLP-030
48939	CLP-029
48943	M-624-SS-09
48945	M-624-SS-10
48949	CLP-022K-10X
48958	M-8260-IS
48958	M-8260-IS-10X
48959	M-8260-SS
48959	M-8260-SS-10X
49156	M-550-QC
502049	M-625-BN
502111	M-502A-R-10X
502316	P-242S-10X
507989	M-508-QC
861271	M-8150B-SS
861271	P-244S
44690-U	M-547-10X
46856-U	M-531M
46862-U	CLP-023R-160X
46863-U	CLP-024R-160X
46960-U	M-508P-A

SUPELCO	ACCUSTANDARD
47358-U	M-524-FS
47426-U	M-8081-SC
47507-U	M-601/602
47568-U	CLP-LC-IS-100X
47578-U	GRH-003S
47616-U	P-093S-H-10X
47644-U	M-8151-IS
47668-U	M-552.1-SS-ME
47669-U	M-552.1-IS
47915-U	M-608-ASL
47930-U	Z-014G
47960-U	M-8270-SS
47970-U	M-001B
47980-U	M-8150-05
47985-U	M-8150-09
47987-U	M-8150-04
48057-U	CLP-022G
48057-U	CLP-022G-10X
48100-U	CLP-007A
48120-U	Z-014B
48140-U	M-501-10X
48225-U	M-504-10X
48226-U	M-8020-10X
48228-U	M-611-10X
48235-U	M-8040A-R
48240-U	M-607
48240-U	M-8070
48710-U	M-625-14
48714-U	M-625-15
48715-U	M-625-12
48716-U	M-625-18
48717-U	M-625-13
48719-U	M-625-16
48720-U	M-625-10
48721-U	M-625-11
48722-U	M-625-09
48790-U	M-508-SS
48790-U	M-625-05
48799-U	M-502B-10X
48858-U	M-608-QC
48900-U	Z-014A
48905-U	Z-014G-R
48940-U	M-624-SS-01
48950-U	M-502-IS
48952-U	M-524-SS-2-10X

Alternate Source Line

Cross Reference

ULTRA	ACCUSTANDARD
ALD-100-1	M-8315
ALD-554-1	M-554
ALD-554D-1	M-554-DNPH
AMM-602N-1	M-602
AMM-622-1	M-602-GAS
AMM-812-1	M-8020-10X
AMN-613-1	M-603
AMN-803-1	M-603-10X
AMN-813-1	M-8031
AMN-823-1	M-8032
AMN-823A-1	M-8032B
ASTM-100-1	ASTM-D3710
ASTM-110-1	DRH-002S
ASTM-130-1	ASTM-E1387
ATS-111 -1	M-548.1-IS
ATS-161-1	M-525-FS-2
BECM-621 -1	M-611
BECM-811 -1	M-611-10X
BKM-605-1	M-605
BTX-110-1	CLP-BTEX
BTX-2000N	CLP-BTEX-10X
CHM-622-1	M-612
CHM-842-1	M-8121
CHM-852-1	M-8120-QC
CLP-110-1	CLP-020-10X
CLP-120-1	CLP-021
CLP-120-1	CLP-021-10X
CLP-153	CLP-022G
CLP-206-1	CLP-026-R2-10X
CLP-231-1	CLP-017
CLP-245-1	CLP-FC
CLP-310-1	CLP-011A
CLP-320-1	CLP-010
CLP-330-1	CLP-009-10X
CLP-340-1	CLP-027
CLP-341-1	M-1618-GP
CLP-342-1	CLP-027-R2
CLP-40N-1	CLP-007B
CLP-411-1	CLP-011B
DWM-5031 -1	M-503
DWM-504N	M-504-PAK
DWM-504N-1	M-504
DWM-514	M-504.1-CSS-PAK
DWM-514-1	M-504.1-CSS
DWM-544	M-502B-10X-PAK
DWM-544	M-502C-01-PAK
DWM-544-1	M-502B-10X
DWM-544-1	M-502C-01
DWM-544-1	M-601B-10X
DWM-580-1	M-502
DWM-583	M-503-PAK
DWM-583-1	M-502A-R
DWM-583-1	M-502-REG
DWM-584	M-502B-PAK
DWM-584-1	M-502B
DWM-584-1	M-601B
DWM-588-1	M-502-10X
DWM-589N-1	M-502A-R-10X
DWM-590-1	M-502C-07
DWM-591-1	M-502C-08
DWM-592-1	M-524R-B
DWM-593A	M-502C-10
EPA-100-1	S-532
EPA-2004N-1	M-CL-2
EPA-2010N-1	M-GBN-1
EPA-2011N-1	M-GBN-2
EPA-2012N	M-GPE-1
EPA-2013N-1	M-GPE-2
EPA-2015N-1	M-HER
EPA-2038N-1	M-PNA-1
EPA-2039N-1	M-PNA-2
EPA-2041N-1	M-VOA-1
EPA-2042N-1	M-VOA-2
EPA-2043N-1	M-VOB
EPA-2044N-1	M-VOC-1

ULTRA	ACCUSTANDARD
EPA-2045N-1	M-VOC-2
FLM-001-1	FL-0102
FLM-002-1	FL-OADD
FLM-003-1	FL-0003
FLM-004-1	FL-0004-CR
FLM-005-1	FL-0005-NB
GCM-150-1	M-625-TS-20X
HBM-5152A	M-515.2A-1-PAK
HBM-5152A-1	M-515.2A-1
HBM-5152M	M-515.2-1-PAK
HBM-5152M-1	M-515.2-1
HBM-5153A	M-515.2A-2-PAK
HBM-5153A-1	M-515.2A-2
HBM-5153M	M-515.2-2-PAK
HBM-5153M-1	M-515.2-2
HBM-5155A	M-515A-R2-PAK
HBM-5155A-1	M-515A-R2
HBM-515M	M-515-R-PAK
HBM-555A-1	M-555A
HBM-555B-1	M-555B
HBM-8151A-1	M-8151A
HBM-8151M-1	M-8151
HBM-8152M-1	M-8150M
HC-070	M-601C
HCM-551A-1	M-551A
HCM-551B-1	M-551B
HCM-601-1	M-601-ASL
HCM-601G-1	M-001C
HCM-620-1	GAD-001
HCM-621-1	M-601/602
HCM-812-1	M-504-10X
ISM-280N-1	CLP-BNS
ISM-285-1	CLP-030
ISM-290N-1	CLP-AS
ISM-295-1	CLP-029
ISM-301-1	CLP-034
ISM-310-1	M-525-FS-1
ISM-331-1	M-8270-SS
ISM-335-1	CLP-031-R
ISM-380-1	M-8040-SS
ISM-390-1	M-8061-SS-10X
ISM-411-1	M-8121-SS
ISM-430-1	M-8410-IS
ISM-450-1	M-1618D
ISM-510-1	M-525.2-IS/SS
ISM-520-1	M-525.2-IS
ISM-560-1	Z-014J
ISM-560-1	Z-014J-0.5X
ISM-580-1	DRH-MA-SS-100X
IST-151-1	M-8310-SS-10X
IST-340-1	CLP-033
IST-341-1	M-525-TS
IST-370-1	M-525-SS
IST-400-1	M-8061-IS
IST-420-1	M-8121-IS
MISA-180-1	MISA-VWS
MISA-201-1	MISA-A
MISA-220-1	MISA-PEST
MISA-231-1	MISA-NC
NAIM-609-1	M-609-R
NAIM-833E-1	M-8330-R
NPM-101	M-507A-PAK
NPM-101-1	M-507A
NPM-102	M-507B-PAK
NPM-102-1	M-507B
NPM-103	M-507C-PAK
NPM-103-1	M-507C
NPM-104A	M-507D-PAK
NPM-104A-1	M-507D
NPM-105	M-507E-PAK
NPM-105-1	M-507E
NPM-106	M-507G-PAK
NPM-106-1	M-507G
NPM-107-1	M-507-QC
NPM-107A-1	M-507F

ULTRA	ACCUSTANDARD
NPM-107A-1	P-085S-A-10X
NPM-108	M-507H-PAK
NPM-108-1	M-507H
NPM-109	M-507F-R2-PAK
NPM-109-1	M-507F-R2
NPM-507	M-507-QC-PAK
NPM-619-1	M-619M
NPM-634-1	M-634
NSM-617-1	M-607
NSM-807-1	M-8070
NVM-8115-1	M-8015A
PBM-515M-1	M-515-R
PHM-5522A-1	M-552.2A
PHM-5522M-1	M-552.2
PHM-552A	M-552A-R
PHM-552M	M-552A
PHM-604-1	M-625A
PHM-624-1	M-604
PHM-814-1	M-8040A-R
PHM-824-1	M-8040B-R
PM-006-1	AE-00031
PM-007-1	AE-00032
PM-525A-1	M-525-1
PM-525B-1	M-525-1-5X
PM-611 -1	M-610
PM-613A- 1	M-8100-QC
PM-613A-1	M-610-QC
PM-811-1	M-81 00-R
PPM-505D-1	M-505-ASL
PPM-505E	M-505R-2-PAK
PPM-505E-1	M-505R-2
PPM-508	M-508-QC-PAK
PPM-508-1	M-508-QC
PPM-508B	M-508P-A-PAK
PPM-508B-1	M-508P-A
PPM-508D-1	M-508P-B-R
PPM-508E-1	M-508.1-ASL
PPM-515M	M-515-QC-PAK
PPM-515M	M-515-QC-R-PAK
PPM-515M-1	M-515-QC-R
PPM-525C-1	M-525-3
PPM-525D-1	M-525-3-5X
PPM-525E-1	M-525.2-CP-ASL
PPM-530-1	M-531M
PPM-530B-1	M-531-REG-ASL
PPM-549-1	M-549.1
PPM-608B-1	M-608-ASL
PPM-608C-1	M-608-QC
PPM-608C-1	M-8080-QC-R
PPM-608D-1	M-001H
PPM-625B-1	M-625P
PPM-808B-1	Z-014C-R2
PPM-808C-1	M-8081-SC
PPM-808D-1	M-8081-DC
PPM-831-1	M-8318M
PPS-100-1	M-507-SS
PPS-110	M-507-IS-PAK
PPS-110-1	M-507-IS
PPS-120	M-508-SS-PAK
PPS-120-1	M-508-SS
PPS-130	M-508-IS-PAK
PPS-130-1	M-508-IS
PPS-140	M-508A-1-PAK
PPS-140-1	M-508A-1
PPS-141-1	C-260S-M-28.5X
PPS-150	M-508A-2-PAK
PPS-150-1	M-508A-2
PPS-160-1	P-244S
PPS-161	M-515-SS-PAK
PPS-161-1	M-515-SS
PPS-163-1	M-515-SS-50X
PPS-165-1	M-8150B-SS
PPS-170-1	M-515-IS
PPS-171-1	M-8151-IS
PPS-172-1	M-515-IS-M-5X

ULTRA	ACCUSTANDARD
PPS-190-1	M-547
PPS-200-1	M-548A
PPS-210-1	M-548B
PPS-220-1	M-548-IS
PPS-230-1	M-548-CAL
PPS-240-1	M-525-5
PPS-250-1	APP-9-208-10X
PPS-251-1	M-552.1-IS
PPS-261-1	P-242S-10X
PPS-262-1	P-247S-10X
PPS-270-1	M-550-IS
PPS-280-1	M-548.1-ME
PPS-300-1	M-552.1-SS
PPS-301 -1	M-552.1-SS-ME
PPS-350-1	M-8141A-IS
PPS-360-1	M-8141A-SS-X
PSM-506	M-506-PAK
PSM-506-1	M-506
PSM-516	M-506-QC-PAK
PSM-516-1	M-506-QC
PSM-525-1	M-525-4
PSM-525A-1	M-525-4-5X
PSM-616-1	M-606
PSM-806-1	M-8060
PSM-816-1	M-8060-QC
RGO-100-1	M-418-CON
RGO-101X	M-1664-20ML-PAK
RPCM-525-1	M-525-2
RPCM-525-A-1	M-525-2-5X
RPE-015	D-101N
RPE-015S	D-101S
RPE-016	D-102N
RPE-016S	D-102S
RPE-017A	D-801N
RPE-017S	D-801S
RPE-023	D-100N
RPE-023S	D-100S
RPE-025	D-203N
RPE-025S	D-203S
RPE-026	D-302N
RPE-026S	D-302S
RPE-027	D-401N
RPE-027S	D-401S
RPE-029S	D-404S
RPE-029S	M-613
RPE-051	D-202N
RPE-051S	D-202S
RPE-053A	D-304N
RPE-053S	D-304S
RPE-054A	D-405N
RPE-054S	D-405S
RPE-055A	D-503N
RPE-055S	D-503S
RPE-056A	D-501N
RPE-056S	D-501S
RPE-057A	D-502N
RPE-057S	D-502S
RPE-057S	D-601S
RPE-058A	D-601N
RPE-059	D-301N
RPE-059S	D-301S
RPE-060A	D-403N
RPE-060S	D-403S
RPE-063A	D-701N
RPE-063S	D-701S
SMA-100-1	GRH-004S/SS
SMA-300-1	DRH-006S
SMA-310-1	DRH-007S
SMN-101-1	M-465B-10X
SMN-102-1	M-465D-ADD-R
SPM-824-1	M-8140M-5X
SPM-834-1	M-8141M
SPM-854-1	M-8141A-2M
STM-260N-1	CLP-PS-4X
STM-262-1	CLP-PS-10X

ULTRA	ACCUSTANDARD
STM-270N-1	CLP-PI
STM-272-1	CLP-PI-2.5X
STM-290N-1	M-001 R-0.1X
STM-291-1	M-001R
STM-320N-1	M-524-FS
STM-330N-1	M-8260-SS
STM-341N- 1	M-8260-IS
STM-390-1	M-624-SS-M
STM-401-1	M-8010-IS/SS
STM-410-1	M-8020-IS-10X
STM-420-1	M-8020-SS
STM-460-1	M-502-IS-ASL
STS-110N-1	CLP-004-80X
STS-111-1	CLP-004
STS-112-1	CLP-004-100X
STS-190-1	M-624-SS-04
STS-200-1	M-624-SS-05
STS-220N-1	M-602-SS
STS-220N-1	M-602-SS-10X
STS-280N-1	CLP-PES-A-10X
STS-440-1	M-8020-QC
SVM-100A- 1	M-625-BN
SVM-101A-1	M-625-BN-5X
SVM-102-1	CLP-HC-BN
SVM-110-1	M-625-BN-1
SVM-111-1	M-625-BN-2
SVM-112-1	M-625-BN-3
SVM-113-1	M-625-BN-4
SVM-120A-1	M-8270-01
SVM-121-1	M-8270-05
SVM-122-1	M-8270-02
SVM-123-1	M-8270-06
SVM-124-1	M-8270-03
SVM-125-1	M-8270-04A
SVM-126-1	M-8270-07
SVM-127-1	M-8270-08
SVM-128-1	M-8270-04B
SVM-129-1	M-8270-09
SVM-500-1	M-525-REG-ASL
SVM-642-1	M-642
TCLP-500-1	TCLP-VOC
TCLP-512-1	TCLP-BNA
TCLP-520N-1	TCLP-A-0.5X
TCLP-531-1	TCLP-PES
TCLP-533-1	TCLP-PES-2
TCLP-540-1	TCLP-HERB
TCLP-540M-1	TCLP-HERB-ME
THK-501	M-501-SET
THK-501-1	M-501V
THM-511	M-501-PAK
THM-511-1	M-501
THM-521-1	M-501-25X
US-100N	Z-014A
US-101N	Z-014B
US-102BN	Z-014C
US-103N	Z-014D
US-104N	Z-014E
US-105N	Z-014F
US-106N	Z-014G
US-107N	Z-014H
US-112B	M-8080
US-126	Z-014G-R
US-130	Z-014A-LC
UST-200-1	DRH-001S-10X
UST-310-1	DRH-005S-10X
XY-0115-1	M-001A
XY-0116-1	M-001B
XY-0120-1	M-001D
XY-0121-1	M-001E
XY-0122-1	M-001F
XY-0123-1	M-001G-D
XY-0126-1	M-001P
XY-0127-1	M-001K
XY-0128-1	M-001L
XY-0129-1	M-001J

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ASL 500 Method Series

ISTD/SS for 500 Series Volatile Methods

M-502-IS-ASL $ 20 / **1 x 1 mL**
M-502-IS-ASL-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH 2 comps.

2-Bromo-1-chloropropane
1-Chloro-2-fluorobenzene

Method 505 Organohalide Pesticides

M-505-ASL $ 45 / **1 x 1 mL**
M-505-ASL-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
At stated conc. in Acetone 12 comps.

Alachlor	(50 µg/mL)	Heptachlor	(20 µg/mL)
Aldrin	(20 µg/mL)	Heptachlor epoxide (Isomer B)	(20 µg/mL)
Atrazine	(500 µg/mL)	Hexachlorobenzene	(10 µg/mL)
γ-BHC	(20 µg/mL)	Hexachlorocyclopentadiene	(20 µg/mL)
Dieldrin	(20 µg/mL)	Methoxychlor	(200 µg/mL)
Endrin	(20 µg/mL)	Simazine	(100 µg/mL)

Method 508.1 (SDWA) Regulated Pesticide Mix

M-508.1-ASL $ 60 / **1 x 1 mL**
M-508.1-ASL-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
100 µg/mL each in MtBE 17 comps.

Alachlor
Aldrin
Atrazine
γ-BHC
α-Chlordane
γ-Chlordane
Dieldrin
Endrin
Heptachlor
Heptachlor epoxide (Isomer B)
Hexachlorobenzene
Hexachlorocyclopentadiene
Methoxychlor
Metolachlor
Metribuzin
Propachlor
Simazine

Method 525.2 Nitrogen / Phosphorous Pesticide Mix

M-525.2-NP1-ASL $ 170 / **1 x 1 mL**
100 µg/mL each in Acetone 41 comps.

Alachlor
Ametryn
Atraton
Atrazine
Bromacil
Butachlor
Butylate
Chlorpropham
Dursban
Cycloate
Cyanazine
Dichlorvos
Diphenamid
EPTC
Ethoprop
Fenarimol
Fluridone
Hexazinone
Methyl paraoxon
Metolachlor
Metribuzin
Mevinphos
MGK-264
Molinate
Napropamide
Norflurazon
Pebulate
Prometon
Prometryne
Pronamide
Propachlor
Propazine
Simetryn
Tetrachlorvinphos
Tebuthiuron
Terbacil
Prebane
Triadimefon
Tricyclazole
Trifluralin
Vernolate

Method 525.2 Nitrogen/Phosphorous Pesticide Mix

M-525.2-NP2-ASL $ 60 / **1 x 1 mL**
M-525.2-NP2-ASL-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
100 µg/mL each in Acetone 6 comps.

Carboxin
Diazinon
Disulfoton
Fenamiphos
Merphos
Terbufos

Method 525.2 Organochlorine Pesticides

M-525.2-CP-ASL $ 110 / **1 x 1 mL**
M-525.2-CP-ASL-PAK *SAVE 20%* $ 440 / **5 x 1 mL**
100 µg/mL each in Acetone 30 comps.

Alachlor
Aldrin
Atrazine
α-BHC
β-BHC
δ-BHC
γ-BHC
Chlorobenzilate
Chlorothalonil
Chloroneb
Dacthal
p,p'-DDD
p,p'-DDE
p,p'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Etridiazole
α-Chlordane
γ-Chlordane
Heptachlor
Heptachlor epoxide (Isomer B)
Methoxychlor
cis-Permethrin
trans-Permethrin
Simazine
trans-Nonachlor

Method 525.2 Semi-Volatile Mix

M-525.2-SV-ASL $ 55 / **1 x 1 mL**
M-525.2-SV-ASL-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
100 µg/mL each in Acetone 33 comps.

Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl butyl phthalate
2-Chlorobiphenyl
Chrysene
Dibenz[a,h]anthracene
2,3-Dichlorobiphenyl
bis(2-Ethylhexyl)adipate
bis(2-Ethylhexyl)phthalate
Diethyl phthalate
Dimethyl phthalate
Dibutyl phthalate
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Fluorene
Hexachlorobenzene
2,2',4,4',5,6'-Hexachlorobiphenyl
2,2',3,3',4,4',6-Heptachlorobiphenyl
Hexachlorocyclopentadiene
Indeno[1,2,3-cd]pyrene
Isophorone
2,2',3,3',4,5',6,6'-Octachlorobiphenyl
2,2',3',4,6-Pentachlorobiphenyl
Pentachlorophenol (400 µg/mL)
Phenanthrene
Pyrene
2,2',4,4'-Tetrachlorobiphenyl
2,4,5-Trichlorobiphenyl

Method 525.2 Regulated Semi-Volatiles Mix

M-525-REG-ASL $ 35 / **1 x 1 mL**
M-525-REG-ASL-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
0.5 mg/mL each in Acetone 6 comps.

Benzo[a]pyrene
bis(2-Ethylhexyl)adipate
bis(2-Ethylhexyl)phthalate
Hexachlorobenzene
Hexachlorocyclopentadiene
Pentachlorophenol (2.0 mg/mL)

Method 525.2 Surrogate Standard

M-525.2-SS2-ASL $ 35 / **1 x 1 mL**
M-525.2-SS2-ASL-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
500 µg/mL each in Acetone 4 comps.

1,3-Dimethyl-2-nitrobenzene
Perylene-d_{12}
Pyrene-d_{10}
Triphenylphosphate

Method 525.2 ISTD/SS Fortification Solution

M-525.2-FS-ASL $ 65 / **1 x 1 mL**
M-525.2-FS-ASL-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
500 µg/mL each in Acetone 7 comps.

Acenaphthene-d_{10}
Chrysene-d_{12}
1,3-Dimethyl-2-nitrobenzene
Perylene-d_{12}
Phenanthrene-d_{10}
Pyrene-d_{10}
Triphenylphosphate

ASL 600 Method Series

Method 601 Purgeable Halocarbon Mixture

M-601-ASL $ 40 / **1 x 1 mL**
M-601-ASL-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
100 µg/mL each in MeOH 28 comps.

Bromodichloromethane	1,2-Dichloroethane
Bromoform	1,1-Dichloroethene
Bromomethane	*trans*-1,2-Dichloroethene
Carbon tetrachloride	1,2-Dichloropropane
Chlorobenzene	1,3-Dichloropropene
Chloroethane	1,3-Dichloropropene
Chloroform	Dichloromethane
Chloromethane	1,1,2,2-Tetrachloroethane
Dibromochloromethane	Tetrachloroethene
1,2-Dichlorobenzene	1,1,1-Trichloroethane
1,3-Dichlorobenzene	1,1,2-Trichloroethane
1,4-Dichlorobenzene	Trichloroethene
Dichlorodifluoromethane	Trichlorofluoromethane
1,1-Dichloroethane	Vinyl chloride

Method 601 Performance Check Solution

S-532-ASL $ 25 / **1 x 1 mL**
S-532-ASL-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH 8 comps.

Benzene	1,1-Dichloroethene
Carbon tetrachloride	1,1,1-Trichloroethane
1,4-Dichlorobenzene	Trichloroethene
1,2-Dichloroethane	Vinyl chloride

Method 608 Pesticides

M-608-ASL $ 50 / **1 x 1 mL**
M-608-ASL-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
20 µg/mL each in MeOH 16 comps.

Aldrin	p,p'-DDE	Endosulfan sulfate
α-BHC	p,p'-DDT	Endrin
β-BHC	Dieldrin	Endrin aldehyde
δ-BHC	Endosulfan I	Heptachlor
γ-BHC	Endosulfan II	Heptachlor epoxide (Isomer B)
p,p'-DDD		

Method 615 Underivatized Chlorinated Herbicides

M-615A-ASL $ 50 / **1 x 1 mL**
M-615A-ASL-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
At stated conc. in MeOH 10 comps.

Method 615 Methyl Derivatives of Chlorinated Herbicides

M-615-ASL $ 55 / **1 x 1 mL**
M-615-ASL-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
At stated conc. in MeOH 10 comps.

2,4-D	(100 µg/mL)	Dicamba	(10 µg/mL)
2,4-DB	(100 µg/mL)	Dichlorprop	(100 µg/mL)
2,4,5-T	(10 µg/mL)	Dinoseb	(50 µg/mL)
2,4,5-TP	(10 µg/mL)	MCPA	(10,000 µg/mL)
Dalapon	(250 µg/mL)	MCPP	(10,000 µg/mL)

ASL 8000 Method Series

Method 8015 Non-Halogenated Volatiles Mix

M-8015-ASL $ 40 / **1 x 1 mL**
100 µg/mL each in MeOH 12 comps.

Acetonitrile	Ethyl methacrylate
Acrylamide	Isobutyl alcohol
2-Butanone	Methacrylonitrile
Diethyl ether	Methyl methacrylate
1,4-Dioxane	4-Methyl-2-pentanone
Ethanol	Propionitrile

Method 8020A ISTD/SS Solution

M-8020-IS/SS-ASL $ 35 / **1 x 1 mL**
M-8020-IS/SS-ASL-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
1.5 mg/mL each in MeOH 5 comps.

4-Bromochlorobenzene	Fluorobenzene
p-Bromofluorobenzene	α,α,α-Trifluorotoluene
1,4-Difluorobenzene	

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Save 20-40% 5 x 1 mL

Method 8040A Phenols QC Check Standard

M-8040A-ASL $ 40 / **1 x 1 mL**
M-8040A-ASL-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
100 µg/mL each in Isopropanol
M-8040A-ASL-20X $ 70 / **1 x 1 mL**
2000 µg/mL each in Isopropanol 19 comps.

Dinoseb	4,6-Dinitro-*o*-cresol
4-Chloro-3-methylphenol	2,4-Dinitrophenol
2-Chlorophenol	2-Nitrophenol
o-Cresol	4-Nitrophenol
m-Cresol	Pentachlorophenol
p-Cresol	Phenol
2-Cyclohexyl-4,6-dinitrophenol	2,3,4,6-Tetrachlorophenol
2,4-Dichlorophenol	2,4,5-Trichlorophenol
2,6-Dichlorophenol	2,4,6-Trichlorophenol
2,4-Dimethylphenol	

Method 8080A Organochlorine Pesticides Mix

M-8080A-ASL $ 40 / **1 x 1 mL**
M-8080A-ASL-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
250 µg/mL each in Hexane:Toluene (1:1) 17 comps.

Aldrin	p,p'-DDE	Endrin
α-BHC	p,p'-DDT	Endrin aldehyde
β-BHC	Dieldrin	Heptachlor
δ-BHC	Endosulfan I	Heptachlor epoxide (Isomer B)
γ-BHC	Endosulfan II	Methoxychlor (1000 µg/mL)
p,p'-DDD	Endosulfan sulfate	

AccuStandard formulated the **M-8270-ASL-SET** with convenient mixtures based on similar analytical or functional group characteristics. Should your semi-volatile calibration table have additional required analytes, we can easily manufacture specific formulations.

Alternate Source Method 8270C/D Set

M-8270-ASL-SET — $ 675 / **17 x 1 mL**

The set includes the following 17 products

M-8270-01-ASL	**Ethers & Phthalates Mix**	M-8270-08-ASL	**Phenols Mix**	Z-014J	**Internal Standards Mix**
M-8270-02-ASL	**Chlorinated Hydrocarbons Mix**	M-8270-09-ASL	**Organochlorine Pesticide Mix**	CLP-BNS	**Base/Neutrals Surrogate Standard**
M-8270-03-ASL	**Nitrosamines Mix**	M-8270-10-ASL	**Pesticide Mix**	CLP-AS	**Acid Surrogate Standard**
M-8270-04-ASL	**Base/Neutrals Mix**	M-8270-11-ASL	**Toxic Substances Mix**		
M-8270-05-ASL	**Base/Neutrals Mix**	M-8270-12-ASL	**Phenols Mix**		
M-8270-06-ASL	**PAH Mix**	M-8270-13-ASL	**Polynuclear Aromatic Hydrocarbon Mix**		
M-8270-07-ASL	**Pyridines Mix**	M-8270-14-ASL	**Organochlorine Pesticide Mix**		

ASL Method 8270C/D Alternate Method 8270 Formulations

Ethers & Phthalates Mix

M-8270-01-ASL — $ 60 / **1 x 1 mL**

2.0 mg/mL each in CH_2Cl_2 — 11 comps.

bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Ethylhexyl)phthalate
bis(2-Chloro-1-methylethyl)ether
4-Bromophenyl phenyl ether
Benzyl butyl phthalate
4-Chlorophenyl phenyl ether
Diethyl phthalate
Dimethyl phthalate
Dibutyl phthalate
Di-*n*-octyl phthalate

Chlorinated Hydrocarbons Mix

M-8270-02-ASL — $ 60 / **1 x 1 mL**

2.0 mg/mL each in CH_2Cl_2 — 13 comps.

2-Chloronaphthalene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachloropropene
Pentachlorobenzene
Pentachloroethane
1,2,4,5-Tetrachlorobenzene
1,2,4-Trichlorobenzene

Nitrosamines Mix

M-8270-03-ASL — $ 60 / **1 x 1 mL**

2.0 mg/mL each in CH_2Cl_2 — 9 comps.

N-Nitrosodi-*n*-butylamine
N-Nitrosodiethylamine
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
N-Nitrosodi-*n*-propylamine
N-Nitrosomethylethylamine
N-Nitrosomorpholine
N-Nitrosopiperidine
N-Nitrosopyrrolidine

Base/Neutrals Mix

M-8270-04-ASL — $ 60 / **1 x 1 mL**

2.0 mg/mL each in CH_2Cl_2 — 13 comps.

2-Acetylaminofluorene
4-Aminobiphenyl
3,3'-Dichlorobenzidine
4-Dimethylaminoazobenzene
3,3'-Dimethylbenzidine
α,α-Dimethylphenethylamine
Diphenylamine
1-Naphthylamine
2-Naphthylamine
5-Nitro-*o*-toluidine
Phenacetin
p-Phenylenediamine
o-Toluidine

Base/Neutrals Mix

M-8270-05-ASL — $ 60 / **1 x 1 mL**

2.0 mg/mL each in CH_2Cl_2 — 13 comps.

Acetophenone
1,3-Dinitrobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Ethyl methanesulfonate
Isophorone
Isosafrole
Methyl methanesulfonate
1,4-Naphthoquinone
Nitrobenzene
Pentachloronitrobenzene
Safrole
1,3,5-Trinitrobenzene

PAH Mix

M-8270-06-ASL — $ 30 / **1 x 1 mL**

2.0 mg/mL each CH_2Cl_2:Benzene (1:1) — 2 comps.

7,12-Dimethylbenz[a]anthracene
3-Methylcholanthrene

Alternate Method 8270C/D Formulations Continued on the Next Page

Use our Custom Quotation form (at the back of catalog) to request additional analytes.

ASL Method 8270C/D Semi-Volatiles by GC/MS Alternate Method 8270 Formulations

Pyridine Mix

M-8270-07-ASL — $ 45 / **1 x 1 mL**
2.0 mg/mL each in Acetone — 4 comps.

- Methapyrilene
- 4-Nitroquinoline-1-oxide
- 2-Picoline
- Pyridine

Phenol Mix

M-8270-08-ASL — $ 60 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 8 comps.

- *o*-Cresol
- *m*-Cresol
- *p*-Cresol
- 2,6-Dichlorophenol
- Dinoseb
- Hexachlorophene
- 2,3,4,6-Tetrachlorophenol
- 2,4,5-Trichlorophenol

Organophosphorous Pesticide Mix

M-8270-09-ASL — $ 60 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 9 comps.

- Dimethoate
- Disulfoton
- Famphur
- Thionazin
- Sulfotep
- o,o,o-Triethylphosphorothioate
- Methyl parathion
- Parathion
- Phorate

Pesticide Mix

M-8270-10-ASL — $ 60 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 6 comps.

- Aramite
- Chlorobenzilate
- Diallate
- Isodrin
- Kepone
- Pronamide

Toxic Substance Mix

M-8270-11-ASL — $ 30 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 8 comps.

- Aniline
- Benzyl alcohol
- 4-Chloroaniline
- Dibenzofuran
- 2-Methylnaphthalene
- 2-Nitroaniline
- 3-Nitroaniline
- 4-Nitroaniline

Internal Standards Mixture

Z-014J — $ 80 / **1 x 1 mL**
Z-014J-PAK — ***SAVE 37%*** $ 250 / **5 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 — 6 comps.

- Acenaphthene-d_{10}
- Chrysene-d_{12}
- 1,4-Dichlorobenzene-d_4
- Naphthalene-d_8
- Perylene-d_{12}
- Phenanthrene-d_{10}

Acid Surrogate Standard

CLP-AS — $ 25 / **1 x 1 mL**
CLP-AS-PAK — ***SAVE 36%*** $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 3 comps.

- 2-Fluorophenol
- Phenol-d_5
- 2,4,6-Tribromophenol

Base/Neutrals Surrogate Standard

CLP-BNS — $ 25 / **1 x 1 mL**
CLP-BNS-PAK — ***SAVE 36%*** $ 80 / **5 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 — 3 comps.

- 2-Fluorobiphenyl
- Nitrobenzene-d_5
- *p*-Terphenyl-d_{14}

Phenol Mixture

M-8270-12-ASL — $ 30 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 11 comps.

- 4-Chloro-3-methylphenol
- 2-Chlorophenol
- 2,4-Dichlorophenol
- 2,4-Dimethylphenol
- 2,4-Dinitrophenol
- 2-Methyl-4,6-dinitrophenol
- 2-Nitrophenol
- 4-Nitrophenol
- Pentachlorophenol
- Phenol
- 2,4,6-Trichlorophenol

Polynuclear Aromatic Hydrocarbon Mixture

M-8270-13-ASL — $ 75 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2:Benzene (1:1) — 16 comps.

- Acenaphthene
- Acenaphthylene
- Anthracene
- Benz[a]anthracene
- Benzo[a]pyrene
- Benzo[b]fluoranthene
- Benzo[g,h,i]perylene
- Benzo[k]fluoranthene
- Chrysene
- Dibenz[a,h]anthracene
- Fluoranthene
- Fluorene
- Indeno[1,2,3-cd]pyrene
- Naphthalene
- Phenanthrene
- Pyrene

Organochlorine Pesticide Mix

M-8270-14-ASL — $ 75 / **1 x 1 mL**
2.0 mg/mL each in Acetone — 17 comps.

- Aldrin
- α-BHC
- β-BHC
- δ-BHC
- γ-BHC
- 4,4'-DDD
- 4,4'-DDE
- 4,4'-DDT
- Dieldrin
- Endosulfan I
- Endosulfan II
- Endosulfan sulfate
- Endrin
- Endrin aldehyde
- Heptachlor
- Heptachlor epoxide
- Methoxychlor

ASL Method 8270C/D Appendix IX Semi-Volatiles by GC/MS

These additional formulations, used in conjunction with the ASL 8270C/D formulations and designed on a functional group basis, will allow the chemist to analyze a complete method 8270C/D analyte list.

Additions to Method 8270

M-8270-13A-R2 — $ 75 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 10 comps.

- 4-aminoazobenzene
- 3-Amino-9-ethylcarbazole
- *o*-Anisidine
- 5-Chloro-2-methylaniline
- *p*-Cresidine
- 2,4-Diaminotoluene
- 4,4'-Methylenebis(N,N-dimethylaniline)
- 4,4'-Methylenebis(2-chloroaniline)
- 4,4'-oxydianiline
- 2,4,5-Trimethylaniline

M-8270-13B-R — $ 25 / **1 x 1 mL**
2.0 mg/mL each in THF — 3 comps

- 2-Aminoanthraquinone
- 4-Chloro-1,2-phenylenediamine
- 4-Chloro-1,3-phenylenediamine

M-8270-14A-R1 — $ 50 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 7 comps.

- Benzoic acid
- 1-Chloronaphthalene
- Dibenz[a,j]acridine
- Resorcinol
- Thiophenol
- tris-(2,3-Dibromopropyl)phosphate
- Tri-p-tolyl phosphate

M-8270-14B — $ 35 / **1 x 1 mL**
2.0 mg/mL each in THF — 5 comps.

- *p*-Benzoquinone
- Hydroquinone
- Maleic anhydride
- Phthalic anhydride
- Trimethyl phosphate

M-8270-14C — $ 35 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2:MeOH (3:1) — 5 comps.

- 1-Acetyl-2-thiourea
- Diethyl sulfate
- Hexamethylphosphoramide
- 3-Picolyl chloride HCL
- Toluene diisocyanate

M-8270-15 — $ 95 / **1 x 1 mL**
1.0 mg/mL each in CH_2Cl_2:MeOH (19:1) — 13 comps.

- Dibenzo[a,e]pyrene
- 1,2-Dibromo-3-chloropropane
- Diethyl stilbestrol
- 1,2-Dinitrobenzene
- 1,4-Dinitrobenzene
- 5,5-Diphenylhydantoin
- Mestranol
- Nicotine
- 5-Nitroacenapthene
- 5-Nitro-*o*-anisidine
- 4-Nitrobiphenyl
- Propylthiouracil
- Strychnine

Pesticides

M-8270-16 — $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 10 comps.

- Anilazine
- Azinphos methyl
- Barbamate
- Demeton (mixed isomers)
- Dichlone
- Dioxathion
- Mirex
- Sulfoxide
- Sulfallate
- Trifluralin

M-8270-17 — $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 7 comps.

- Brominal
- Captafol
- Captan
- Dinex
- Dinocap
- Fluchloralin
- Nitrofen

Carbamates/Pesticides

M-8270-18 — $ 75 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 6 comps.

- Carbaryl
- Carbofuran
- Ethyl carbamate
- Mexacarbate
- Schradan (Octamethylpyrophosphoramide)
- Phenobarbital

Pesticides

M-8270-19 — $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 12 comps.

- Carbophenothion
- Coumaphos
- EPN
- ETHION
- Fensulfothion
- Fenthion
- Leptophos
- Malathion
- Phosalone
- Imidan (Phosmet)
- Terbufos
- Tetrachlorvinphos

M-8270-20 — $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 9 comps.

- Chlorfenvinphos
- Ciodrin (Crotoxyphos)
- Dichlorvos
- Dicrotophos
- Mevinphos
- Monocrotophos
- Naled
- Phosphamidon
- TEPP (Tetraethyl pyrophosphate)

M-8270-21 — $ 35 / **1 x 1 mL**
2.0 mg/mL each in Acetone — 3 comps.

- α-Chlordane
- γ-Chlordane
- Endrin ketone

Semi-Volatile additions

M-8270-22 — $ 30 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 2 comps.

- Benzidine
- 3,3'-Dimethoxybenzidine

APP-9-126-10X — $ 30 / **1 x 1 mL**
1.0 mg/mL in CH_2Cl_2

- Methapyrilene

P-427S-10X — $ 34 / **1 x 1 mL**
1.0 mg/mL in MeOH

- Dinex

ASL Method 8270C/D Appendix IX Semi-Volatiles by Method 8270

The following formulations allow the analytical chemist to combine more analytes at one time in the development of a Method 8270C/D calibration curve. Use of these Alternate Source standards allow you to check product comparability from an independent source. AccuStandard has formulated the necessary additional standards required to have the most complete 8270C/D analyte list in the industry.

8270 Semi-Volatile Standards

M-8270-AG01-ASL — $ 105 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2:Benzene (3:1) — 64 comps.

Acenaphthene
Acenaphthylene
Anthracene
Azobenzene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Benzyl butyl phthalate
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloro-1-methylethyl)ether
bis(2-Ethylhexyl)phthalate
4-Bromophenyl phenyl ether
Carbazole
4-Chloroaniline
2-Chloronaphthalene
4-Chloro-3-methylphenol
2-Chlorophenol
4-Chlorophenyl phenyl ether
Chrysene
Dibenz[a,h]anthracene
Dibenzofuran
Dibutyl phthalate
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2,4-Dichlorophenol
Diethyl phthalate
2,4-Dimethylphenol
4,6-Dinitro-2-methylphenol
2,4-Dinitrophenol
Dimethyl phthalate
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-*n*-octyl phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno[1,2,3-cd]pyrene
Isophorone
2-Methylnaphthalene
2-Methylphenol
4-Methylphenol
Naphthalene
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline
Nitrobenzene
2-Nitrophenol
4-Nitrophenol
n-Nitrosodimethylamine
N-Nitrosodi-*n*-propylamine
Pentachlorophenol
Phenanthrene
Phenol
Pyrene
1,2,4-Trichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol

M-8270-AG02-ASL — $ 95 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 39 comps.

Aniline
Acetophenone
2-Acetamidofluorene
4-Aminobiphenyl
Benzyl alcohol
2,6-Dichlorophenol
4-Dimethylaminoazobenzene
7,12-Dimethylbenz[a]anthracene
1,3-Dinitrobenzene
Dinoseb
Diphenylamine
Ethyl methanesulfonate
Hexachloropropene
Isosafrole
Methapyrilene
3-Methylcholanthrene
Methyl methanesulfonate
3- Methylphenol
1-Naphthylamine
2-Naphthylamine
4-Nitroquinoline-N-oxide
N-Nitrosodi-*n*-butylamine
N-Nitrosodiethylamine
N-Nitrosomethylethylamine
N-Nitrosomorpholine
N-Nitrosopiperidine
N-Nitrosopyrrolidine
5-Nitro-*o*-toluidine
Pentachlorobenzene
Pentachloronitrobenzene
Pentachloroethane
Phenacetin
2-Picoline
Pyridine
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
1,3,5-Trinitrobenzene
o-Toluidine

M-8270-07 — $ 150 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 15 comps.

Aramite
Chlorobenzilate
Diallate
2,4-D
Dimethoate
Dinoseb
Disulfoton
Famphur
Kepone
Methyl parathion
Parathion
Phorate
Silvex *(2,4,5-TP)*
Sulfotep
Thionazin

Additions to Method 8270

M-8270-13A-R — $ 85 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 12 comps.

4-Aminoazobenzene
3-Amino-9-ethylcarbazole
o-Anisidine
5-Chloro-2-methylaniline
p-Cresidine
2,4-Diaminotoluene
4,4'-Methylenebis(N,N-dimethylaniline)
4,4'-Methylene bis(2-chloroaniline)
4,4'-Oxydianiline
2-Picoline
Pyridine
2,4,5-Trimethylaniline

M-8270-13B-R — $ 25 / **1 x 1 mL**
2.0 mg/mL each in THF — 3 comps

2-Aminoanthraquinone
4-Chloro-1,2-phenylenediamine
4-Chloro-1,3-phenylenediamine

M-8270-14A-R1 — $ 50 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 7 comps.

Benzoic acid
1-Chloronaphthalene
Dibenz[a,j]acridine
Resorcinol
Thiophenol
tris-(2,3-Dibromopropyl)phosphate
Tri-p-tolyl phosphate

M-8270-14B — $ 35 / **1 x 1 mL**
2.0 mg/mL each in THF — 5 comps.

p-Benzoquinone
Hydroquinone
Maleic anhydride
Phthalic anhydride
Trimethyl phosphate

M-8270-14C — $ 35 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2:MeOH (3:1) — 5 comps.

1-Acetyl-2-thiourea
Diethyl sulfate
Hexamethylphosphoramide
3-Picolyl chloride HCL
Toluene diisocyanate

M-8270-15 — $ 95 / **1 x 1 mL**
1.0 mg/mL each in CH_2Cl_2:MeOH (19:1) — 13 comps.

Dibenzo[a,e]pyrene
1,2-Dibromo-3-chloropropane
Diethyl stilbestrol
1,2-Dinitrobenzene
1,4-Dinitrobenzene
5,5-Diphenylhydantoin
Mestranol
Nicotine
5-Nitroacenapthene
5-Nitro-*o*-anisidine
4-Nitrobiphenyl
Propylthiouracil
Strychnine

ASL Method 8270C/D Appendix IX Semi-Volatiles by Method 8270 (Continued)

Pesticides

M-8270-16 — $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 10 comps.

Anilazine
Azinphos methyl
Barbamate
Demeton (mixed isomers)
Dichlone
Dioxathion
Mirex
Sulfoxide
Sulfallate
Trifluralin

M-8270-17 — $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 7 comps.

Brominal
Captafol
Captan
Dinex
Dinocap
Fluchloralin
Nitrofen

Carbamates/Pesticides

M-8270-18 — $ 75 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 6 comps.

Carbaryl
Carbofuran
Ethyl carbamate
Mexacarbate
Schradan (Octamethylpyrophosphoramide)
Phenobarbital

Pesticides

M-8270-19 — $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 12 comps.

Carbophenothion
Coumaphos
EPN
Ethion
Fensulfothion
Fenthion
Leptophos
Malathion
Phosalone
Imidan (Phosmet)
Terbufos
Tetrachlorvinphos

M-8270-20 — $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 — 9 comps.

Chlorfenvinphos
Ciodrin (Crotoxyphos)
Dichlorvos
Dicrotophos
Mevinphos
Monocrotophos
Naled
Phosphamidon
TEPP (Tetraethyl pyrophosphate)

Semi-Volatile additions

M-8270-22 — $ 30 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 2 comps.

Benzidine
3,3'-Dimethoxybenzidine

Pesticides - Mix #2

Z-014C-R — $ 95 / **1 x 1 mL**
Z-014C-R-PAK — *SAVE 20%* $ 380 / **5 x 1 mL**
2.0 mg/mL each in Toluene:Hexane (1:1) — 20 comps.

Aldrin
α-BHC
β-BHC
γ-BHC
δ-BHC
α-Chlordane
γ-Chlordane
4,4'-DDD
4,4'-DDE
4,4'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Endrin ketone
Heptachlor
Heptachlor epoxide
Methoxychlor

Semi-Volatile additions

M-8270-23-R1 — $ 50 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 4 comps.

3,3'-Dichlorobenzidine
3,3'-Dimethylbenzidine
a,a-Dimethylphenethylamine
p-Phenylenediamine

M-8270-24 — $ 50 / **1 x 1 mL**
2.0 *mg/mL each in CH_2Cl_2* — 4 comps

Hexachlorophene
Isodrin
Pronamide
o,o,o-Triethylphosphorothioate

AS-E0060 — $ 32 / **1 x 1 mL**
5.0 *mg/mL in MeOH*

N-Nitrosodiphenylamine

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For additional Cross Referencing, visit our Website

Column Testing Solutions

AccuStandard has assembled the following test mixtures based on suggestions by Grob[1,2] for evaluating capillary column performance. The alkanes in these mixtures can be used for evaluating instrumental effects and determining separation number and efficiency (PS-CP-02-1ML, PS-CP-03-1ML, PS-CP-04-1ML, PS-CP-05A-1ML, PS-CP-06A-1ML). Grob 2 has suggested a more complete mixture, the Non-Polar Columns Test Mix PS-CP-01-1ML provides a more complete capillary column test because a wider variety of organic compounds is included.

References
1. K.Grob and G. Grob, Chromatographia, 4, 422 (1971)
2. K. Grob, Jr., G. Grob, and K. Grob, J. Chromatogr., 156. 1 (1978)

Capillary Column Probe Solutions (also Grob Mixes)

Alkane C_8-C_{12} Mixture

PS-CP-02-1ML $ 110 / **1 mL**
0.5 mg/mL each in n-Hexane
5 comps.

Octane	Undecane
Nonane	Dodecane
Decane	

Alkane C_{13}-C_{20} Mixture

PS-CP-03-1ML $ 115 / **1 mL**
0.5 mg/mL each in n-Hexane
8 comps.

Tridecane	Heptadecane
Tetradecane	Octadecane
Pentadecane	Nonadecane
Hexadecane	Eicosane

Alkane C_8-C_{40} Mixture

PS-CP-06A-1ML $ 130 / **1 mL**
0.5 mg/mL each in n-Hexane
23 comps.

Octane	Eicosane
Nonane	Docosane
Decane	Tetracosane
Undecane	Hexacosane
Dodecane	Octacosane
Tridecane	Triacontane
Tetradecane	Dotriacontane
Pentadecane	Tetratriacontane
Hexadecane	Hexatriacontane
Heptadecane	Octatriacontane
Octadecane	Tetracontane
Nonadecane	

Alkane C_{22}-C_{32} Even Number Mixture

PS-CP-04-1ML $ 110 / **1 mL**
0.5 mg/mL each in n-Hexane
6 comps.

Docosane	Octacosane
Tetracosane	Triacontane
Hexacosane	Dotriacontane

Alkane C_{34}-C_{44} Even Number Mixture

PS-CP-05A-1ML $ 120 / **1 mL**
0.5 mg/mL each in n-Hexane
4 comps.

Tetratriacontane	Octatriacontane
Hexatriacontane	Tetracontane

Non-Polar Columns Test Mix

PS-CP-01-1ML $ 95 / **1 mL**
At the stated conc. in CH_2Cl_2
12 comps.

Methyl decanoate	0.42 mg/mL
Methyl undecanoate	0.42 mg/mL
Methyl dodecanoate	0.41 mg/mL
2,3-Butanediol	0.53 mg/mL
Dicyclohexylamine	0.31 mg/mL
2,6-Dimethylaniline	0.32 mg/mL
2,6-Dimethylphenol	0.32 mg/mL
2-Ethylhexanoic acid	0.38 mg/mL
Nonanal	0.40 mg/mL
Octanol	0.36 mg/mL
Undecane	0.29 mg/mL
Decane	0.28 mg/mL

Contains interactive and labile components. Refrigerate when not in use.

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Proficiency Testing - Self Test

AccuTest & AccuValue

AccuStandard Self Test Advantages

- **Extra material**: AccuStandard includes sufficient material to allow for two tests
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- **Internal Control:**

Use the Self Tests periodically to verify lab QA/QC performance and management control

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AccuTest and AccuValue Products

AccuTest - Suffix "-AT"

- Mimics a Study
- You report to AccuStandard, and we grade it
- Results typically sent back to lab within 48 hours

AccuValue - Suffix "-AV"

- Immediate Feedback
- Results sent in a sealed envelope with the product
- Self-graded

Water Supply (WS)	
Organic	
USEPA Analytes	21-22
NELAC/CA Additions	22-23
Inorganic	
USEPA Analytes	23
NELAC/CA Additions	23
Water Pollution (WP)	
Organic	
USEPA Analytes	24
NELAC/CA Additions	25
Inorganic	
USEPA Analytes	25
NELAC/CA Additions	26
Petrochemical QC Samples	
Petroleum PT	275-276

Water Supply (WS) Volatile Organic Parameters

WS-PT Regulated VOCs

OPE-RVOC-001-AT $ 61 / **2 mL**
OPE-RVOC-001-AV $ 61 / **2 mL**

Sample conc. after prep 1-60 µg/L
Contains 21 analytes listed below

Benzene	Ethylbenzene
Carbon tetrachloride	Styrene
Chlorobenzene	Tetrachloroethene
1,2-Dichlorobenzene	Toluene
1,4-Dichlorobenzene	1,1,1-Trichloroethane
1,2-Dichloroethane	1,1,2-Trichlororethane
1,1-Dichloroethene	Trichloroethene
cis-1,2-Dichloroethene	1,2,4-Trichlorobenzene
trans-1,2-Dichloroethene	Vinyl chloride
Dichloromethane	Total Xylenes *(o,m,p)*
1,2-Dichloropropane	

WS-PT Trihalomethanes VOCs

OPE-THMV-001-AT $ 47 / **2 mL**
OPE-THMV-001-AV $ 47 / **2 mL**

Sample conc. after prep 1-200 µg/L
Contains 4 analytes listed below, plus grading for Total THMs

Bromodichloromethane	Chloroform
Bromoform	Total THMs
Chlorodibromomethane	

WS-PT Unregulated VOCs

OPE-URV-001-AT * $ 63 / **2 mL**
OPE-URV-001-AV * $ 63 / **2 mL**

Sample conc. after prep 1-60 µg/L
Contains 5 highlighted compounds plus 10-20 selected analytes from the following list:

Bromobenzene	1,1-Dichloropropene
Bromochloromethane	***cis*-1,3-Dichloropropene**
Bromomethane	***trans*-1,3-Dichloropropene**
n-Butylbenzene	Fluorotrichloromethane
sec-Butylbenzene	**Hexachlorobutadiene**
tert-Butylbenzene	Isopropylbenzene
Chloroethane	*p*-Isopropyltoluene
Chloromethane	*n*-Propylbenzene
2-Chlorotoluene	**1,1,1,2-Tetrachloroethane**
4-Chlorotoluene	1,1,2,2-Tetrachloroethane
Dibromomethane	**1,2,3-Trichlorobenzene**
1,3-Dichlorobenzene	Trichlorotrifluoroethane
Dichlorodifluoromethane	1,2,4-Trimethylbenzene
1,1-Dichloroethane	1,2,3-Trichloropropane
1,3-Dichloropropane	1,3,5-Trimethylbenzene
2,2-Dichloropropane	

*** Designed for NELAC/CA**

WS-PT EDB/DBCP

OPE-EDB-001-AT $ 37 / **2 mL**
OPE-EDB-001-AV $ 37 / **2 mL**

Sample conc. after prep 0.05-20 µg/L
Contains 2 analytes listed below

1,2-Dibromo-3-chloropropane
Ethylene dibromide

WS-PT Organic Disinfection By-Products 1

OPE-ODBP-001-AT $ 68 / **2 mL**
OPE-ODBP-001-AV $ 68 / **2 mL**

Sample conc. after prep 0.1-100 µg/L
Contains 6 analytes listed below

Bromochloroacetic acid	Monobromoacetic acid
Dibromoacetic acid	Monochloroacetic acid
Dichloroacetic acid	Trichloroacetic acid

WS-PT Organic Disinfection By-Products 2

OPE-ODBP-002-AT $ 68 / **2 mL**
OPE-ODBP-002-AV $ 68 / **2 mL**

Sample conc. after prep 0.1-100 µg/L
Contains analyte listed below

Chloral hydrate

Water Supply (WS) Organics

for AccuTest & AccuValue

Water Supply (WS) Pesticides & Semi-Volatile Organic Parameters

WS-PT SOCs #1

OPE-SOC-001-AT $ 47 / **2 mL**
OPE-SOC-001-AV $ 47 / **2 mL**
Sample conc. after prep 0.1-200 µg/L
Contains 3 analytes listed below

bis(2-Ethylhexyl)adipate
bis(2-Ethylhexyl)phthalate
Benzo[a]pyrene

WS-PT SOCs #2

OPE-SOC-002-AT $ 42 / **2 mL**
OPE-SOC-002-AV $ 42 / **2 mL**
Sample conc. after prep 0.1-900 µg/L
Contains 3 analytes listed below

Diquat
Endothall
Glyphosate

WS-PT Pesticides

OPE-PEST-001-AT $ 63 / **2 mL**
OPE-PEST-001-AV $ 63 / **2 mL**
Sample conc. after prep 0.10-100 µg/L
Contains 11 analytes listed below

Aldrin
Dieldrin
Endrin
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Lindane
Methoxychlor
Propachlor
Trifluralin

WS-PT Toxaphene

OPE-PEST-002-AT $ 42 / **2 mL**
OPE-PEST-002-AV $ 42 / **2 mL**
Sample conc. after prep 0.10-25 µg/L
Contains analyte listed below

Toxaphene

WS-PT Chlordane

OPE-PEST-003-AT $ 42 / **2 mL**
OPE-PEST-003-AV $ 42 / **2 mL**
Sample conc. after prep 0.10-25 µg/L
Contains analyte listed below

Chlordane

WS-PT Pesticides Mix #4

OPE-PEST-004-AT $ 47 / **2 mL**
OPE-PEST-004-AV $ 47 / **2 mL**
Sample conc. after prep 0.10-50 µg/L
Contains 3 analytes listed below

Alachlor
Atrazine
Simazine

WS-PT Pesticides Mix #5

OPE-PEST-005-AT * $ 47 / **2 mL**
OPE-PEST-005-AV * $ 47 / **2 mL**
Sample conc. after prep 1-50 µg/L
Contains 3-5 randomly selected analytes listed below

Butachlor
Metolachlor
Metribuzin
Prometon
Bromacil

*** Designed for NELAC/CA**

WS-PT Dioxin

OPE-DIOX-001-AT $ 150 / **2 mL**
OPE-DIOX-001-AV $ 150 / **2 mL**
Sample conc. after prep 10-100 pg/L
Contains analyte listed below

2,3,7,8-Tetrachloro-*p*-dibenzodioxin

WS-PT PCBs as Decachlorobiphenyl

OPE-PCB-001-AT $ 47 / **2 mL**
OPE-PCB-001-AV $ 47 / **2 mL**
Sample conc. after prep 0.10-10 µg/L
Contains one of the Aroclors listed below

Aroclor 1242
Aroclor 1254
Aroclor 1260

WS-PT Herbicides

OPE-HERB-001-AT $ 53 / **2 mL**
OPE-HERB-001-AV $ 53 / **2 mL**
Sample conc. after prep 1.0-175 µg/L
Contains 8 analytes listed below

Acifluorfen
2,4-D
Dalapon
Dicamba
Dinoseb
Pentachlorophenol
Picloram
2,4,5-TP *(Silvex)*

NELAC/CA Organic PT Samples

WS-PT EDB/DBCP/TCP

OPE-EDB-002-AT $ 47 / **2 mL**
OPE-EDB-002-AV $ 47 / **2 mL**
Sample conc. after prep 0.05-20 µg/L
Contains 3 analytes listed below

1,2-Dibromo-3-chloropropane
Ethylene dibromide
1,2,3-Trichloropropane

WS-PT Oxygenates

OPE-OXY-001-AT $ 47 / **2 mL**
OPE-OXY-001-AV $ 47 / **2 mL**
Sample conc. after prep 5.0-50 µg/L
Contains 4 analytes listed below

ETBE
Diisopropylether
MTBE
TAME

WS-PT Phthalates

OPE-SOC-006-AT $ 68 / **2 mL**
OPE-SOC-006-AV $ 68 / **2 mL**
Sample conc. after prep 1-100 µg/L
Contains 7 analytes listed below

Benzyl butyl phthalate
Dibutyl phthalate
Diethyl phthalate
Dimethyl phthalate
Di-*n*-octyl phthalate
bis(2-Ethylhexyl)adipate
bis(2-Ethylhexyl)phthalate

SUFFIX KEY
"AT" = Pre-Test
"AV" = Values Included

WS-PT PCBs

OPE-PCB-004-AT $ 53 / **2 mL**
OPE-PCB-004-AV $ 53 / **2 mL**
Sample conc. after prep 0.2-5 µg/L
Contains 1 of Aroclors listed below

Aroclor 1016/1242
Aroclor 1232
Aroclor 1248
Aroclor 1254
Aroclor 1260

WS-PT Herbicide

OPE-HERB-002-AT $ 42 / **2 mL**
OPE-HERB-002-AV $ 42 / **2 mL**
Sample conc. after prep 1.0-50 µg/L
Contains analyte listed below

Bentazon

Water Supply (WS) Inorganic

for AccuTest & AccuValue

Water Supply (WS) Inorganic Parameters

WS-PT Trace Metals #1

IPE-MET-001-AT $ 47 / **2 x 20 mL**
IPE-MET-001-AV $ 47 / **2 x 20 mL**
Sample conc. after prep
Contains 18 analytes listed below

Analyte List	Sample range
Aluminum	20-4500 µg/L
Antimony	2-1000 µg/L
Arsenic	2-200 µg/L
Barium	20-3500 µg/L
Beryllium	0.5-200 µg/L
Cadmium	1-200 µg/L
Calcium	3500-110000 µg/L
Chromium	5-500 µg/L
Copper	20-2250 µg/L
Iron	20-4500 µg/L
Lead	2-200 µg/L
Manganese	10-1200 µg/L
Mercury	0.5-20 µg/L
Nickel	5-600 µg/L
Selenium	2-125 µg/L
Silver	2-750 µg/L
Thallium	1-100 µg/L
Zinc	50-3500 µg/L

WS-PT Trace Metals #2

IPE-MET-002-AT $ 22 / **20 mL**
IPE-MET-002-AV $ 22 / **20 mL**
Sample conc. after prep
Contains 2 analytes listed below

Analyte List	Sample range
Boron	20-2250 µg/L
Molybdenum	3-500 µg/L

WS-PT Inorganic Disinfection By-Products

IPE-DBP-001-AT $ 32 / **20 mL**
IPE-DBP-001-AV $ 32 / **20 mL**
Sample conc. after prep
Contains 4 analytes listed below

Analyte List	Sample range
Chlorate	20-200 µg/L
Chlorite	5-1000 µg/L
Bromate	2-60 µg/L
Bromide	10- 600 µg/ L

WS-PT Inorganic Minerals

IPE-MIN-001-AT * $ 42 / **3 x 20 mL**
IPE-MIN-001-AV * $ 42 / **3 x 20 mL**
Sample conc. after prep
Contains 13 analytes listed below

Analyte List	Sample range
Alkalinity as $CaCO_3$	10-300 mg/L
Chloride	10-500 mg/L
Conductivity	25- 2500 µmhos
Dissolved Solids	50-5000 mg/L
Fluoride	1-10 mg/L
Total Hardness as $CaCO_3$	15- 600 mg/L
Ca Hardness as $CaCO_3$	40- 500 mg/L
Langliers Index	5-125 mg/L
Nitrate as N	0.5-20 mg/L
pH	5-10 units
Potassium	2-250 mg/L
Sodium	5 -500 mg/L
Sulfate	2-600 mg/L

*** Designed for NELAC/CA**

WS-PT Sulfate/TOC

IPE-MIN-002-AT $ 32 / **20 mL**
IPE-MIN-002-AV $ 32 / **20 mL**
Sample conc. after prep
Contains 2 analytes listed below

Analyte List	Sample range
Sulfate	5-600 mg/L
TOC	0.8-6 mg/L

WS-PT Residual Free Chlorine

IPE-TRC-001-AT $ 37 / **20 mL**
IPE-TRC-001-AV $ 37 / **20 mL**
Sample conc. after prep
Contains analyte listed below

Analyte List	Sample range
Residual Free Chlorine	0.2-6.0 mg/L

WS-PT Inorganic Solids

IPE-SOL-001-AT $ 37 / **4 mL**
IPE-SOL-001-AV $ 37 / **4 mL**
Sample conc. after prep
Contains 3 analytes listed below

Analyte List	Sample range
Suspended Solids	5-200 mg/L
Dissolved Solids	50-5000 mg/L
Total solids	50-5200 mg/L

WS-PT Cyanide

IPE-CN-001-AT $ 32 / **20 mL**
IPE-CN-001-AV $ 32 / **20 mL**
Sample conc. after prep
Contains analyte listed below

Analyte List	Sample range
Total Cyanide	0.1-0.5 mg/L

WS-PT Inorganic Hardness

IPE-HARD-001-AT $ 37 / **20 mL**
IPE-HARD-001-AV $ 37 / **20 mL**
Sample conc. after prep
Contains 4 analytes listed below

Analyte List	Sample range
Calcium	3.5-110 mg/L
Magnesium	0.5-23 mg/L
Total Hardness as $CaCO_3$	15-600 mg/L
Ca Hardness as $CaCO_3$	40- 500 mg/L

WS-PT Nitrate/Nitrite/ OrthoPhosphate/Fluoride

IPE-MIN-003-AT $ 42 / **20 mL**
IPE-MIN-003-AV $ 42 / **20 mL**
Sample conc. after prep
Contains 4 analytes listed below

Analyte List	Sample range
Nitrate-N	0.5-20 mg/L
Nitrite-N	0.1-10 mg/L
OrthoPhosphate- P	0.3-1.7 mg/L
Fluoride	0.9-10 mg/L

WS-PT Nitrite

IPE-MIN-004-AT $ 32 / **20 mL**
IPE-MIN-004-AV $ 32 / **20 mL**
Sample conc. after prep
Contains analyte listed below

Analyte List	Sample range
Nitrite-N	0.1-10 mg/L

NELAC/CA Inorganic PT Samples

WS-PT MBAS

IPE-MBAS-001-AT $ 37 / **20 mL**
IPE-MBAS-001-AV $ 37 / **20 mL**
Sample conc. after prep 0.05-2.0 mg/L
Contains analyte listed below

MBAS

WS-PT Silica

IPE-SILICA-001-AT $ 37 / **20 mL**
IPE-SILICA-001-AV $ 37 / **20 mL**
Sample conc. after prep 50-250 mg/L
Contains analyte listed below

Silica

WS-PT Inorganic Minerals

IPE-MIN-001-AT $ 42 / **2 x 20 mL**
IPE-MIN-001-AV $ 42 / **2 x 20 mL**
Sample conc. after prep
Contains 13 analytes listed below

Analyte List	Sample range
Alkalinity as $CaCO_3$	10-300 mg/L
Chloride	10-500 mg/L
Conductivity	25- 2500 µmhos
Dissolved Solids	50-5000 mg/L
Fluoride	1-10 mg/L
Total Hardness as $CaCO_3$	15- 600 mg/L
Ca Hardness as $CaCO_3$	40- 500 mg/L
Langliers Index	5-125 mg/L
Nitrate as N	0.5-20 mg/L
pH	5-10 units
Potassium	2-250 mg/L
Sodium	5 -500 mg/L
Sulfate	2-600 mg/L

WS-PT Perchlorate

IPE-PER-001-AT $ 47 / **20 mL**
IPE-PER-001-AV $ 47 / **20 mL**
Sample conc. after prep 10-50 µg/L
Contains analyte listed below

Perchlorate

WS-PT UV-254 Absorbance & TOC

IPE-UV/TOC-001-AT $ 42 / **20 mL**
IPE-UV/TOC-001-AV $ 42 / **20 mL**
Contains 2 analytes listed below

Analyte List	Sample range
UV-254 Absorbance	0.015 cm^{-1}-0.15 cm^{-1}
TOC	0.9 mg/L - 5 mg/L

Water Pollution (WP) Organic Parameters

WP-PT VOCs

OPE-VOC-002-AT $ 63 / **2 mL**
OPE-VOC-002-AV $ 63 / **2 mL**
Sample conc. after prep 2-250 µg/L
Product contains 15-22 randomly selected analytes listed below

Benzene	1,1-Dichloroethene
Bromodichloromethane	Dichloromethane
Bromoform	*trans*-1,2-Dichloroethene
Bromomethane	1,2-Dichloropropane
Carbon tetrachloride	cis-1,3-Dichloropropene
Chlorobenzene	*trans*-1,3-Dichloropropene
Chloroethane	Ethylbenzene
Chloroform	4-Methyl-2-pentanone (MIBK)
Chloromethane	1,1,2,2-Tetrachloroethane
Dibromochloromethane	Tetrachloroethene
1,2-Dichlorobenzene	Toluene
1,3-Dichlorobenzene	1,1,1-Trichloroethane
1,4-Dichlorobenzene	1,1,2-Trichloroethane
Dichlorodifluoromethane	Trichloroethene
1,1-Dichloroethane	Trichlorofluoromethane
1,2-Dichloroethane	Vinyl Chloride

WP-PT Aromatic VOCs

OPE-AVOC-001C-AT $ 42 / **2 mL**
OPE-AVOC-001C-AV $ 42 / **2 mL**
Sample conc. after prep 5-100 µg/L
Contains 6 analytes listed below

Benzene	1,2-Dichlorobenzene
Ethylbenzene	1,3-Dichlorobenzene
Toluene	1,4-Dichlorobenzene

WP-PT Halocarbon VOCs

OPE-HVOC-001C-AT $ 53 / **2 mL**
OPE-HVOC-001C-AV $ 53 / **2 mL**
Sample conc. after prep 5-200 µg/L
Contains 12 analytes listed below

Bromodichloromethane	Dibromochloromethane
Bromoform	1,2-Dichloroethane
Carbon tetrachloride	Dichloromethane
Chlorobenzene	Tetrachloroethene
Chloroform	Trichloroethene
1,1-Dichloroethene	1,1,1-Trichloroethane

SUFFIX KEY
"AT" = Pre-Test
"AV" = Values Included

WP-PT Pesticides

OPE-PEST-006-AT $ 47 / **2 mL**
OPE-PEST-006-AV $ 47 / **2 mL**
Sample conc. after prep 0.1-10 µg/L
Contains 7 analytes listed below

Aldrin	4,4'-DDT
Dieldrin	Heptachlor
4,4'-DDD	Heptachlor epoxide
4,4'-DDE	

WP-PT Chlordane

OPE-PEST-007C-AT $ 32 / **2 mL**
OPE-PEST-007C-AV $ 32 / **2 mL**
Sample conc. after prep 0.10-20 µg/L
Contains analyte listed below

Chlordane

WP-PT Pesticides

OPE-PEST-008-AT $ 63 / **2 mL**
OPE-PEST-008-AV $ 63 / **2 mL**
Sample conc. after prep 0.1-75 µg/L
Contains 7-17 randomly selected analytes from listed below

Aldrin	Endosulfan I
α-BHC	Endosulfan II
β-BHC	Endosulfan sulfate
δ-BHC	Endrin
γ-BHC	Endrin aldehyde
p,p'-DDD	Heptachlor
p,p'-DDE	Heptachlor epoxide
p,p'-DDT	Methoxychlor
Dieldrin	

WP-PT PCBs

OPE-PCB-002-SET-AT $ 47 / **2 x 2 mL**
OPE-PCB-002-SET-AV $ 47 / **2 x 2 mL**
Set contains one 2 mL ampule of OPE-PCB-002A (low conc.) & one 2 mL ampule of OPE-PCB-002B (high conc.)

Sample conc. after prep 0.10-15 µg/L
Each ampule in the set contains 1 of the Aroclors listed below

Aroclor 1232	Aroclor 1254
Aroclor 1016/1242	Aroclor 1260
Aroclor 1248	

WP-PT PCBs in Transformer Oil

OPE-PCB-003-SET-AT $ 73 / **2 x 5 mL**
OPE-PCB-003-SET-AV $ 73 / **2 x 5 mL**
Set contains one 5 mL ample of OPE-PCB-003A (low conc.) & one 5 mL ampule of OPE-PCB-003B (high conc.)

Sample conc. after prep 10-60 mg/kg
Each ampule in the set contains 1 of the Aroclors listed below

Aroclor 1016/1242	Aroclor 1254
Aroclor 1248	Aroclor 1260

WP-PT SOCs

OPE-SOC-004-AT $ 63 / **2 mL**
OPE-SOC-004-AV $ 63 / **2 mL**
Sample conc. after prep 10-200 µg/L
Contains 6-15 randomly selected analytes listed below

Acenaphthene	Indeno[1,2,3-cd]pyrene
Acenaphthylene	Phenanthrene
Anthracene	Pyrene
Benz[a]anthracene	Fluoranthene
Benzo[a]pyrene	Naphthalene
Benzo[b]fluoranthene	bis(2-Ethylhexyl)adipate
Benzo[k]fluoranthene	Butylbenzylphthalate
Benzo[g,h,i]perylene	bis(2-Ethylhexyl)phthalate
Chrysene	di-*n*-Butylphthalate
Dibenz[a,h]anthracene	Diethylphthalate
Fluorene	Dimethylphthalate

WP-PT SOC Acids

OPE-SOC-005-AT * $ 53 / **2 mL**
OPE-SOC-005-AV * $ 53 / **2 mL**
Sample conc. after prep 10-200 µg/L
Product contains 5-8 randomly selected analytes listed below

4-Chloro-3-methylphenol	2-Nitrophenol
2-Chlorophenol	4-Nitrophenol
o-Cresol	Pentachlorophenol
2,4-Dichlorophenol	Phenol
2,4-Dimethylphenol	2,4,6-Trichlorophenol
2,4-Dinitrophenol	
2-Methyl-4,6-dinitrophenol	

*** Designed for NELAC/CA**

Water Pollution (WP) / DMR-QA Inorganic Parameters

WP-PT Cyanide

IPE-CN-002-AT $ 32 / **20 mL**
IPE-CN-002-AV $ 32 / **20 mL**
Sample conc. after prep
Contains analyte listed below

Analyte List	Sample range
Total Cyanide	0.02-1.2 mg/L

WP-PT Inorganic Hardness

IPE-HARD-002-AT $ 35 / **20 mL**
IPE-HARD-002-AV $ 35 / **20 mL**
Sample conc. after prep
Contains 4 analytes listed below

Analyte List	Sample range
Calcium	3.5-150 mg/L
Magnesium	0.5-50 mg/L
Total Hardness as $CaCO_3$	15-600 mg/L
Ca Hardness as $CaCO_3$	15- 575 mg/L

WP-PT Trace Metals

IPE-MET-003-AT $ 47 / **2 x 20 mL**
IPE-MET-003-AV $ 47 / **2 x 20 mL**
Sample conc. after prep
Contains 23 analytes listed below

Analyte List	Sample range
Aluminum	50-4500 µg/L
Antimony	10-1000 µg/L
Arsenic	10-1000 µg/L
Barium	50-3500 µg/L
Beryllium	5-1000 µg/L
Boron	50-2500 µg/L
Cadmium	5-1000 µg/L
Chromium	15-1500 µg/L
Cobalt	10-1500 µg/L
Copper	10-1000 µg/L
Iron	25-4500 µg/L
Lead	30-4000 µg/L
Manganese	50-4500 µg/L
Mercury	0.5-40 µg/L
Molybdenum	20-700 µg/L
Nickel	50-3500 µg/L
Selenium	20-2500 µg/L
Silver	10-750 µg/L
Strontium	2-1000 µg/L
Thallium	10-1000 µg/L
Titanium	25-500 µg/L
Vanadium	50-11500 µg/L
Zinc	25-2500 µg/L

WP-PT Inorganic Minerals

IPE-MIN-005-AT $ 53 / **2 x 20 mL**
IPE-MIN-005-AV $ 53 / **2 x 20 mL**
Sample conc. after prep
Contains 12 analytes listed below

Analyte List	Sample range
Alkalinity as $CaCO_3$	5-150 mg/L
Calcium	2-150 mg/L
Chloride	10-500 mg/L
Conductivity	25- 2500 µmhos
Total Dissolved Solids	25-2400 mg/L
Fluoride	0.2-10 mg/L
Total Hardness as $CaCO_3$	15- 600 mg/L
Ca Hardness as $CaCO_3$	15- 575 mg/L
Magnesium	0.5-50 mg/L
Potassium	2-250 mg/L
Sodium	5 -500 mg/L
Sulfate	2-600 mg/L

WP-PT Demand

IPE-MIN-006-AT $ 42 / **20 mL**
IPE-MIN-006-AV $ 42 / **20 mL**
Sample conc. after prep
Contains 4 analytes listed below

Analyte List	Sample range
COD	10-500 mg/L
BOD	10-275 mg/L
cBOD	10-275 mg/L
TOC	5-125 mg/L

WP-PT Nutrients #1

IPE-MIN-007-AT $ 22 / **20 mL**
IPE-MIN-007-AV $ 22 / **20 mL**
Sample conc. after prep
Contains 3 analytes listed below

Analyte List	Sample range
Nitrate-N	0.2-50 mg/L
Ammonia-N	0.1-20 mg/L
OrthoPhosphate- P	0.01-6 mg/L

WP-PT Nutrients #2

IPE-MIN-008-AT $ 22 / **20 mL**
IPE-MIN-008-AV $ 22 / **20 mL**
Sample conc. after prep
Contains both analytes listed below

Analyte List	Sample range
Total Phosphorous	0.10-15 mg/L
Total Kjeldahl nitrogen as N	0.3-40 mg/L

WP-PT Oil & Grease & Total Petroleum Hydrocarbon (TPH)

IPE-OILG-001-AT * $ 32 / **5 mL**
IPE-OILG-001-AV * $ 32 / **5 mL**
Sample conc. after prep
Contains 2 analytes listed below

*** Designed for NELAC/CA**

Analyte List	Sample range
Total Oil & Grease	5-100 mg/L
TPH	5-100 mg/L

Technical Note

To be used by gravimetric oil and grease methods. In addition, this PT sample can now be used for TPH analysis by gravimetric methods including the EPA method 1664. The sample contains analytes typically present in the environment.

WP-PT pH

IPE-PH-001-AT $ 27 / **20 mL**
IPE-PH-001-AV $ 27 / **20 mL**
Sample conc. after prep
Contains analyte listed below

Analyte List	Sample range
pH	2-12 units

WP-PT Total Phenolics

IPE-PHEN-001-AT $ 32 / **20 mL**
IPE-PHEN-001-AV $ 32 / **20 mL**
Sample conc. after prep
Contains analyte listed below

Analyte List	Sample range
Total Phenolics	0.03-6 mg/L

WP-PT Inorganic Solids

IPE-SOL-002-AT $ 37 / **4 mL**
IPE-SOL-002-AV $ 37 / **4 mL**
Sample conc. after prep
Contains 3 analytes listed below

Analyte List	Sample range
Suspended Solids	5-200 mg/L
Dissolved Solids	25-2400 mg/L
Total Solids	30-3000 mg/L

WP-PT Total Residual Chlorine

IPE-TRC-002-AT $ 32 / **20 mL**
IPE-TRC-002-AV $ 32 / **20 mL**
Sample conc. after prep
Contains analyte listed below

Analyte List	Sample range
Total Residual Chlorine	0.10-6.0 mg/L

Water Pollution (WP)

for AccuTest & AccuValue

NELAC/CA Organic PT Samples

WP-PT CARB

OPE-CARB-003-AT $ 58 / **2 mL**
OPE-CARB-003-AV $ 58 / **2 mL**
Sample conc. after prep 5-50 µg/L
Contains 5 analytes listed below

Carbofuran
Karmex (Diuron)
Methomyl
Oxamyl
Propham

WP-PT SOCs

OPE-SOC-009-AT $ 68 / **2 mL**
OPE-SOC-009-AV $ 68 / **2 mL**
Sample conc. after prep 10-200 µg/L
Contains 7 analytes listed below

Benzyl butyl phthalate
Dibutyl phthalate
Diethyl phthalate
Dimethyl phthalate
Di-*n*-octyl phthalate
bis(2-ethylhexyl)adipate
bis(2-ethylhexyl)phthalate

NELAC/CA Inorganic PT Samples

WP-PT Hexavalent Chromium

IPE-HEX-001-AT $ 42 / **20 mL**
IPE-HEX-001-AV $ 42 / **20 mL**
Sample conc. after prep 50-100 µg/L
Contains analyte listed below

Hexavalent Chromium (Cr^{+6})

WP-PT Metals

IPE-MET-004-AT $ 98 / **20 mL**
IPE-MET-004-AV $ 98 / **20 mL**
Sample conc. after prep 10-400 µg/L
Contains 7 analytes listed below

Gold
Iridium
Palladium
Platinum
Rhodium
Ruthenium
Tin

WP-PT Boron (non-colorimetric method)

IPE-MET-005-AT $ 32 / **20 mL**
IPE-MET-005-AV $ 32 / **20 mL**
Sample conc. after prep 20-1500 µg/L
Contains analyte listed below

Boron

WP-PT MBAS

IPE-MBAS-002-AT $ 37 / **20 mL**
IPE-MBAS-002-AV $ 37 / **20 mL**
Sample conc. after prep 500-1000 µg/L
Contains analyte listed below

MBAS

WP-PT Bromide

IPE-MIN-009-AT $ 32 / **20 mL**
IPE-MIN-009-AV $ 32 / **20 mL**
Sample conc. after prep 50-500 µg/L
Contains analyte listed below

Bromide

WP-PT Nitrite

IPE-MIN-010-AT $ 32 / **20 mL**
IPE-MIN-010-AV $ 32 / **20 mL**
Sample conc. after prep 0.1-10 mg/L
Contains analyte listed below

Nitrite

WP-PT TOX

IPE-TOX-001-AT $ 32 / **20 mL**
IPE-TOX-001-AV $ 32 / **20 mL**
Sample conc. after prep 5-500 µg/L
Contains analyte listed below

TOX

WP-PT Silica

IPE-SILICA-002-AT $ 37 / **20 mL**
IPE-SILICA-002-AV $ 37 / **20 mL**
Sample conc. after prep 50-300 mg/L
Contains analyte listed below

Silica

WP-PT Settleable Solids

IPE-SSOL-001-AT $ 63 / **neat**
IPE-SSOL-001-AV $ 63 / **neat**
Sample conc. after prep 2 mL/L to 20 mL/L
Contains analyte listed below

Settleable solid

WP-PT Oil & Grease & Total Petroleum Hydrocarbon (TPH)

IPE-OILG-001-AT * $ 32 / **5 mL**
IPE-OILG-001-AV * $ 32 / **5 mL**
Sample conc. after prep
Contains 2 analytes listed below

Analyte List	Sample range
Total Oil & Grease	5-100 mg/L
TPH	5-100 mg/L

Technical Note

Product is to be used by gravimetric oil and grease methods. In addition, this PT sample can now be used for TPH analysis by gravimetric methods including the EPA Method 1664. The sample contains real world material typically present in the environment.

SUFFIX KEY
"AT" = Pre-Test
"AV" = Values Included

Organic Single Analytes and Select Mixtures

Singles are listed:

- **By each chemical and functional group in the Organic Single section.**
- **All analytes used in EPA methods are listed at the beginning of the EPA Methods section.**
- **An index of CAS numbers is in the back of the Catalog.**

Persistent Organic Pollutants (POPs) are persistent (resistant to environmental degradation), they bioaccumulate in animal tissue, and they are toxic to humans. A specific list was defined in 1995 by the United Nations, and this list was the center of the Stockholm Convention in 2001. The list originally included "the dirty dozen" and was expanded to include other pesticides, PBDEs, and some chemicals used in industrial processes.

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AccuStandard in the World of PCBs...

PCBs

History

Polychlorinated biphenyls (PCBs) have been the subject of numerous studies and investigations over the last several decades because of their enviromental persistency and bioaccumulation.

Their abundance as a pollutant stems from their worldwide manufacture as heavily-used industrial chemicals (in the USA, as Aroclors by Monsanto), with the main application as a di-electric fluid for capacitors and transformers. As late as 1984, about 758 million pounds were still in use in the United States alone.

Toxicity & BioAccumulation

The chemical formulation of PCBs, its physiological properties (liphophilicity causing bioaccumulation in body lipids and liver organs) and overall toxicity are quite similar to that of the banned pesticide, DDT.

One of the first signals of the effect of PCBs on the environment in the United States, was noted in 1970 on Great Gull Island at the entrance to Long Island Sound. Scientists observed a sharp increase in the number of abnormalities found in young sea gulls, such as feather loss, crossed beaks, and four legs. In addition, the egg shells were extremely thin.

In 1968, Japan documented the first of over 1200 human patients, many of them children, who developed acne-form skin eruptions (chloracne) and other clinical symptoms. These symptoms were eventually traced to the ingestion of the industrial PCB, Kannechlor 400, (trademark of the Kanegafuchi Chemical Industry Company) which had been blended with Rice Oil (Yusho) used in cooking oil.

The effect was thus termed Yusho Disease. The average amount of actual PCBs consumed by the victims was estimated at 2 grams. By 1973, 22 of the 1200 victims had died, 41% from malignant tumors, suggesting a possible excess mortality from that cause.

Since then, additional studies have been performed discovering many more occurrences and correlations.

Regulatory Actions

The overwhelming problem with PCBs is their continuing environmental impact. Their stability, and widespread prior use, has caused global contamination of soils, rivers and other waterways that could affect our food and water supplies for years to come.

This problem has become of paramount concern to the US EPA, which prohibited, under Section 6(e) of the Toxic Substances Control Act, the use of PCBs, except in totally enclosed systems, after July 1, 1978; the manufacture of PCBs, after January 1, 1979 and the processing and distribution in commerce of PCBs after July 1, 1979. PCBs used as industrial chemicals were totally prohibited after July 1, 1984.

In order to facilitate environmental monitoring, toxicity studies, and possible destruction of PCBs present in the environment, the EPA permits the synthesis and distribution of small quantities for research purposes (see box below).

In the course of the investigations, it was determined that some of the 209 congeners that constitute the industrial PCB product behave differently than others and it is very helpful, even essential, to the scientific and regulatory communities, that individual congeners be available. For this reason, the EPA granted manufacturing and export exemptions to a few, select standards manufacturers.

The Founder of AccuStandard, Inc. was the first to obtain this exemption. AccuStandard is the leader in synthesizing PCBs and indeed, is the first, and so far only, manufacturer to have synthesized all 209 congeners. Our expertise can assist you in your PCB investigations.

AccuStandard meets or exceeds the specifications of those chemical compounds that are listed in the "Specifications for Standard Grade Reference Material" section of Reagent Chemicals,

Tenth Edition by the American Chemical Society (ACS).

PCB Groupings and Formulations

Toxicity and Abundance

PCB Congeners can be grouped according to their presence in the technical mixtures (i.e. Aroclors) and according to their toxicity, generally falling into the following pattern:

Congeners that contain fewer chlorine substitutions in the ortho positions are more toxic than those having more chlorines in those positions. The most toxic are the tetra, penta and hexachlorobiphenyl congeners that are unsubstituted in the ortho position (Dioxin-like).

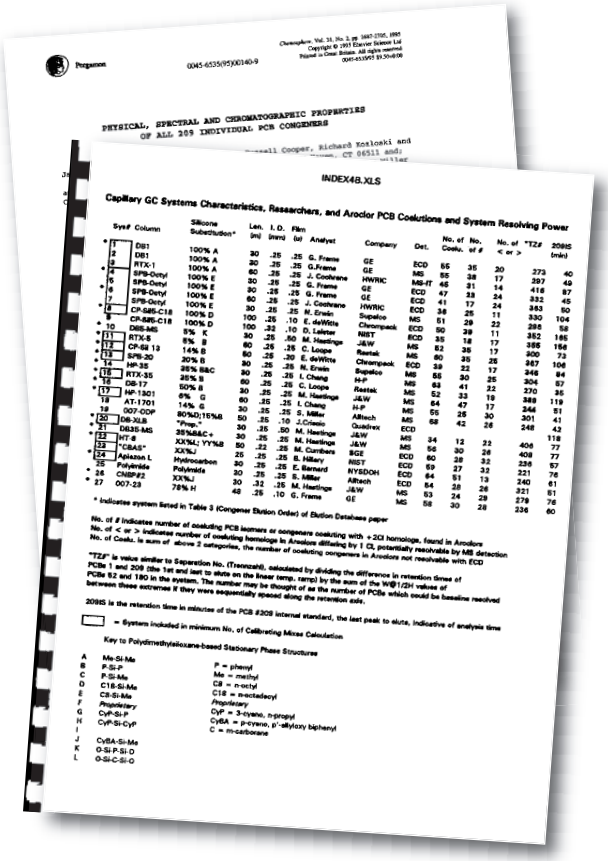
Analytical Convenience

To obtain meaningful analytical data, the congeners need to be formulated into groupings of solutions that are all resolved on a gas chromatographic column. The "holy grail" of columns, the single column by which all 209 congeners are separated has, to this date, eluded all GC column manufacturers.

There are 2 columns that are closest to achieving the "holy grail" status of separating all the PCB congeners. They are Agilent DB-XLB & SGE's HT 8 which resolve all but 4 pairs of significant congeners and 5 pairs of minor congeners.

George Frame and his co-workers at General Electric Company have coordinated a seminal study of specially formulated PCB groups - five of which are composed of the congeners contained in Aroclors, the remaining four mixtures contain those congeners generally absent in Aroclors. AccuStandard prepared and supplied the nine mixtures used in Dr. Frame's study from its inventory of the 209 pure congeners.

The above nine mixtures were then tested on 17 different columns by independent laboratories and column manufacturers. The resulting chromatographic retention time and response data was compiled and published. This information has proven invaluable for identification and quantification of the different Aroclors as well as for congener specific analysis.



Physical, Spectral, and Chromatographic Properties of all 209 Individual PCB Congeners

AccuStandard's FT/IR, Mass Spectral data, melting point and chromatographic information along with chromatographic data from George Frame's study is available in the book.

PCB-BOOK-002 $ 25

Chlorobiphenyl Congeners (PCBs)

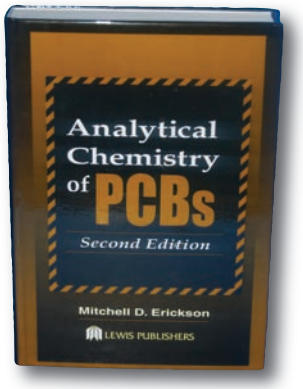
- All 209 possible congeners are available in Neat and Solution form
- All congeners are 99+% pure by GC/FID & GC/MS

209 Solutions in a Set *Exclusive*

C-35-SET	35 µg/mL in Isooctane	$ 2,750 / **set of 209 x 1 mL**
C-100-SET	100 µg/mL in Isooctane	$ 2,950 / **set of 209 x 1 mL**

Chlorobiphenyl Congeners (PCBs) 99+% Pure

			Neat		Solutions in Isooctane			
					35 µg/mL	1 mL	100 µg/mL	1 mL
No.	Compound	CAS No.	Cat. No.	Price / Unit	Cat. No.	Price	Cat. No.	Price
1	2-Chlorobiphenyl	2051-60-7	C-001N	$ 14 / 50 mg	C-001S	$ 15	C-001S-TP	$ 15
2	3-Chlorobiphenyl	2051-61-8	C-002N	14 / 50 mg	C-002S	15	C-002S-TP	15
3	4-Chlorobiphenyl	2051-62-9	C-003N	14 / 50 mg	C-003S	15	C-003S-TP	15
4	2,2'-Dichlorobiphenyl	13029-08-8	C-004N	34 / 25 mg	C-004S	15	C-004S-TP	15
5	2,3-Dichlorobiphenyl	16605-91-7	C-005N	25 / 50 mg	C-005S	15	C-005S-TP	15
6	2,3'-Dichlorobiphenyl	25569-80-6	C-006N	25 / 5 mg	C-006S	30	C-006S-TP	30
7	2,4-Dichlorobiphenyl	33284-50-3	C-007N	25 / 25 mg	C-007S	15	C-007S-TP	15
8	2,4'-Dichlorobiphenyl	34883-43-7	C-008N	58 / 25 mg	C-008S	30	C-008S-TP	30
9	2,5-Dichlorobiphenyl	34883-39-1	C-009N	25 / 50 mg	C-009S	15	C-009S-TP	15
10	2,6-Dichlorobiphenyl	33146-45-1	C-010N	25 / 25 mg	C-010S	15	C-010S-TP	15
11	3,3'-Dichlorobiphenyl	2050-67-1	C-011N	34 / 50 mg	C-011S	15	C-011S-TP	15
12	3,4-Dichlorobiphenyl	2974-92-7	C-012N	25 / 50 mg	C-012S	15	C-012S-TP	15
13	3,4'-Dichlorobiphenyl	2974-90-5	C-013N	55 / 5 mg	C-013S	30	C-013S-TP	30
14	3,5-Dichlorobiphenyl	34883-41-5	C-014N	32 / 50 mg	C-014S	15	C-014S-TP	15
15	4,4'-Dichlorobiphenyl	2050-68-2	C-015N	18 / 10 mg	C-015S	15	C-015S-TP	15
16	2,2',3-Trichlorobiphenyl	38444-78-9	C-016N	55 / 5 mg	C-016S	30	C-016S-TP	30
17	2,2',4-Trichlorobiphenyl	37680-66-3	C-017N	55 / 5 mg	C-017S	30	C-017S-TP	30
18	2,2',5-Trichlorobiphenyl	37680-65-2	C-018N	40 / 25 mg	C-018S	15	C-018S-TP	15
19	2,2',6-Trichlorobiphenyl	38444-73-4	C-019N	55 / 5 mg	C-019S	30	C-019S-TP	30
20	2,3,3'-Trichlorobiphenyl	38444-84-7	C-020N	30 / 5 mg	C-020S	30	C-020S-TP	30
21	2,3,4-Trichlorobiphenyl	55702-46-0	C-021N	44 / 25 mg	C-021S	15	C-021S-TP	15
22	2,3,4'-Trichlorobiphenyl	38444-85-8	C-022N	55 / 5 mg	C-022S	30	C-022S-TP	30
23	2,3,5-Trichlorobiphenyl	55720-44-0	C-023N	55 / 5 mg	C-023S	30	C-023S-TP	30
24	2,3,6-Trichlorobiphenyl	55702-45-9	C-024N	57 / 10 mg	C-024S	30	C-024S-TP	30
25	2,3',4-Trichlorobiphenyl	55712-37-3	C-025N	55 / 5 mg	C-025S	30	C-025S-TP	30
26	2,3',5-Trichlorobiphenyl	38444-81-4	C-026N	49 / 25 mg	C-026S	15	C-026S-TP	15
27	2,3',6-Trichlorobiphenyl	38444-76-7	C-027N	55 / 5 mg	C-027S	30	C-027S-TP	30
28	2,4,4'-Trichlorobiphenyl	7012-37-5	C-028N	50 / 10 mg	C-028S	30	C-028S-TP	30
29	2,4,5-Trichlorobiphenyl	15862-07-4	C-029N	38 / 50 mg	C-029S	15	C-029S-TP	15
30	2,4,6-Trichlorobiphenyl	35693-92-6	C-030N	44 / 50 mg	C-030S	15	C-030S-TP	15
31	2,4',5-Trichlorobiphenyl	16606-02-3	C-031N	49 / 25 mg	C-031S	15	C-031S-TP	15
32	2,4',6-Trichlorobiphenyl	38444-77-8	C-032N	55 / 5 mg	C-032S	30	C-032S-TP	30
33	2',3,4-Trichlorobiphenyl	38444-86-9	C-033N	22 / 10 mg	C-033S	15	C-033S-TP	15
34	2',3,5-Trichlorobiphenyl	37680-68-5	C-034N	55 / 5 mg	C-034S	30	C-034S-TP	30
35	3,3',4-Trichlorobiphenyl	37680-69-6	C-035N	55 / 5 mg	C-035S	30	C-035S-TP	30
36	3,3',5-Trichlorobiphenyl	38444-87-0	C-036N	55 / 5 mg	C-036S	30	C-036S-TP	30
37	3,4,4'-Trichlorobiphenyl	38444-90-5	C-037N	55 / 5 mg	C-037S	30	C-037S-TP	30
38	3,4,5-Trichlorobiphenyl	53555-66-1	C-038N	55 / 5 mg	C-038S	30	C-038S-TP	30
39	3,4',5-Trichlorobiphenyl	38444-88-1	C-039N	55 / 5 mg	C-039S	30	C-039S-TP	30



PCB Book
Analytical Chemistry of PCBs
BOOK-PCB-001 $ 225

Analytical Chemistry of PCBs
This updated and expanded Second Edition of Dr. Erickson's Analytical Chemistry of PCBs appears a decade after the first and is completely revised and updated. The changes from the First Edition reflect the significant growth in the area and a growing appreciation of the importance of PCB analysis to our culture. This book is a comprehensive review of the analytical chemistry of PCBs. It is part history, part annotated bibliography, part comparison, and part guidance. Featuring a new chapter on analyst/customer interactions and several new appendices, the Second Edition is an invaluable resource for both chemists with no experience in PCB analysis and seasoned PCB researchers.

In 1993 AccuStandard completed the synthesis of all 209 congeners as individuals (each in a pure form).

Chlorobiphenyl Congeners (PCBs) 99+% Pure

					Solutions in Isooctane			
No.	Compound	CAS No.	Neat Cat. No.	Price / Unit	35 µg/mL Cat. No.	1 mL Price	100 µg/mL Cat. No.	1 mL Price
40	2,2',3,3'-Tetrachlorobiphenyl	38444-93-8	C-040N	$ 52 / 50 mg	C-040S	$ 15	C-040S-TP	$ 15
41	2,2',3,4-Tetrachlorobiphenyl	52663-59-9	C-041N	55 / 5 mg	C-041S	30	C-041S-TP	30
42	2,2',3,4'-Tetrachlorobiphenyl	36559-22-5	C-042N	55 / 5 mg	C-042S	30	C-042S-TP	30
43	2,2',3,5-Tetrachlorobiphenyl	70362-46-8	C-043N	55 / 5 mg	C-043S	30	C-043S-TP	30
44	2,2',3,5'-Tetrachlorobiphenyl	41464-39-5	C-044N	60 / 25 mg	C-044S	15	C-044S-TP	15
45	2,2',3,6-Tetrachlorobiphenyl	70362-45-7	C-045N	75 / 5 mg	C-045S	30	C-045S-TP	30
46	2,2',3,6'-Tetrachlorobiphenyl	41464-47-5	C-046N	55 / 5 mg	C-046S	30	C-046S-TP	30
47	2,2',4,4'-Tetrachlorobiphenyl	2437-79-8	C-047N	52 / 50 mg	C-047S	15	C-047S-TP	15
48	2,2',4,5-Tetrachlorobiphenyl	70362-47-9	C-048N	55 / 5 mg	C-048S	30	C-048S-TP	30
49	2,2',4,5'-Tetrachlorobiphenyl	41464-40-8	C-049N	42 / 20 mg	C-049S	15	C-049S-TP	15
50	2,2',4,6-Tetrachlorobiphenyl	62796-65-0	C-050N	25 / 5 mg	C-050S	30	C-050S-TP	30
51	2,2',4,6'-Tetrachlorobiphenyl	68194-04-7	C-051N	75 / 5 mg	C-051S	30	C-051S-TP	30
52	2,2',5,5'-Tetrachlorobiphenyl	35693-99-3	C-052N	22 / 10 mg	C-052S	15	C-052S-TP	15
53	2,2',5,6'-Tetrachlorobiphenyl	41464-41-9	C-053N	32 / 25 mg	C-053S	15	C-053S-TP	15
54	2,2',6,6'-Tetrachlorobiphenyl	15968-05-5	C-054N	60 / 50 mg	C-054S	15	C-054S-TP	15
55	2,3,3',4-Tetrachlorobiphenyl	74338-24-2	C-055N	55 / 5 mg	C-055S	30	C-055S-TP	30
56	2,3,3',4'-Tetrachlorobiphenyl	41464-43-1	C-056N	55 / 5 mg	C-056S	30	C-056S-TP	30
57	2,3,3',5-Tetrachlorobiphenyl	70424-67-8	C-057N	75 / 5 mg	C-057S	30	C-057S-TP	30
58	2,3,3',5'-Tetrachlorobiphenyl	41464-49-7	C-058N	55 / 5 mg	C-058S	30	C-058S-TP	30
59	2,3,3',6-Tetrachlorobiphenyl	74472-33-6	C-059N	125 / 5 mg	C-059S	30	C-059S-TP	30
60	2,3,4,4'-Tetrachlorobiphenyl	33025-41-1	C-060N	30 / 5 mg	C-060S	30	C-060S-TP	30
61	2,3,4,5-Tetrachlorobiphenyl	33284-53-6	C-061N	38 / 50 mg	C-061S	15	C-061S-TP	15
62	2,3,4,6-Tetrachlorobiphenyl	54230-22-7	C-062N	55 / 5 mg	C-062S	30	C-062S-TP	30
63	2,3,4',5-Tetrachlorobiphenyl	74472-34-7	C-063N	75 / 5 mg	C-063S	30	C-063S-TP	30
64	2,3,4',6-Tetrachlorobiphenyl	52663-58-8	C-064N	105 / 5 mg	C-064S	30	C-064S-TP	30
65	2,3,5,6-Tetrachlorobiphenyl	33284-54-7	C-065N	35 / 25 mg	C-065S	15	C-065S-TP	15
66	2,3',4,4'-Tetrachlorobiphenyl	32598-10-0	C-066N	55 / 20 mg	C-066S	30	C-066S-TP	30
67	2,3',4,5-Tetrachlorobiphenyl	73557-53-8	C-067N	75 / 5 mg	C-067S	30	C-067S-TP	30
68	2,3',4,5'-Tetrachlorobiphenyl	73575-52-7	C-068N	55 / 5 mg	C-068S	30	C-068S-TP	30
69	2,3',4,6-Tetrachlorobiphenyl	60233-24-1	C-069N	55 / 5 mg	C-069S	30	C-069S-TP	30
70	2,3',4',5-Tetrachlorobiphenyl	32598-11-1	C-070N	23 / 10 mg	C-070S	15	C-070S-TP	15
71	2,3',4',6-Tetrachlorobiphenyl	41464-46-4	C-071N	55 / 5 mg	C-071S	30	C-071S-TP	30
72	2,3',5,5'-Tetrachlorobiphenyl	41464-42-0	C-072N	30 / 25 mg	C-072S	15	C-072S-TP	15
73	2,3',5',6-Tetrachlorobiphenyl	74338-23-1	C-073N	75 / 5 mg	C-073S	30	C-073S-TP	30
74	2,4,4',5-Tetrachlorobiphenyl	32690-93-0	C-074N	75 / 5 mg	C-074S	30	C-074S-TP	30
75	2,4,4',6-Tetrachlorobiphenyl	32598-12-2	C-075N	55 / 5 mg	C-075S	30	C-075S-TP	30
76	2',3,4,5-Tetrachlorobiphenyl	70362-48-0	C-076N	55 / 5 mg	C-076S	30	C-076S-TP	30
77	3,3',4,4'-Tetrachlorobiphenyl	32598-13-3	C-077N	28 / 25 mg	C-077S	15	C-077S-TP	15
78	3,3',4,5-Tetrachlorobiphenyl	70362-49-1	C-078N	55 / 5 mg	C-078S	30	C-078S-TP	30
79	3,3',4,5'-Tetrachlorobiphenyl	41464-48-6	C-079N	55 / 5 mg	C-079S	30	C-079S-TP	30
80	3,3',5,5'-Tetrachlorobiphenyl	33284-52-5	C-080N	45 / 5 mg	C-080S	30	C-080S-TP	30
81	3,4,4',5-Tetrachlorobiphenyl	70362-50-4	C-081N	55 / 5 mg	C-081S	30	C-081S-TP	30
82	2,2',3,3',4-Pentachlorobiphenyl	52663-62-4	C-082N	55 / 5 mg	C-082S	30	C-082S-TP	30
83	2,2',3,3',5-Pentachlorobiphenyl	60145-20-2	C-083N	55 / 5 mg	C-083S	30	C-083S-TP	30
84	2,2',3,3',6-Pentachlorobiphenyl	52663-60-2	C-084N	55 / 5 mg	C-084S	30	C-084S-TP	30
85	2,2',3,4,4'-Pentachlorobiphenyl	65510-45-4	C-085N	55 / 5 mg	C-085S	30	C-085S-TP	30
86	2,2',3,4,5-Pentachlorobiphenyl	55312-69-1	C-086N	55 / 5 mg	C-086S	30	C-086S-TP	30
87	2,2',3,4,5'-Pentachlorobiphenyl	38380-02-8	C-087N	47 / 10 mg	C-087S	30	C-087S-TP	30
88	2,2',3,4,6-Pentachlorobiphenyl	55215-17-3	C-088N	55 / 5 mg	C-088S	30	C-088S-TP	30
89	2,2',3,4,6'-Pentachlorobiphenyl	73575-57-2	C-089N	55 / 5 mg	C-089S	30	C-089S-TP	30
90	2,2',3,4',5-Pentachlorobiphenyl	68194-07-0	C-090N	75 / 5 mg	C-090S	30	C-090S-TP	30
91	2,2',3,4',6-Pentachlorobiphenyl	68194-05-8	C-091N	55 / 5 mg	C-091S	30	C-091S-TP	30
92	2,2',3,5,5'-Pentachlorobiphenyl	52663-61-3	C-092N	55 / 5 mg	C-092S	30	C-092S-TP	30
93	2,2',3,5,6-Pentachlorobiphenyl	73575-56-1	C-093N	55 / 5 mg	C-093S	30	C-093S-TP	30
94	2,2',3,5,6'-Pentachlorobiphenyl	73575-55-0	C-094N	100 / 5 mg	C-094S	30	C-094S-TP	30
95	2,2',3,5',6-Pentachlorobiphenyl	38379-99-6	C-095N	55 / 5 mg	C-095S	30	C-095S-TP	30
96	2,2',3,6,6'-Pentachlorobiphenyl	73575-54-9	C-096N	55 / 5 mg	C-096S	30	C-096S-TP	30
97	2,2',3',4,5-Pentachlorobiphenyl	41464-51-1	C-097N	46 / 10 mg	C-097S	30	C-097S-TP	30
98	2,2',3',4,6-Pentachlorobiphenyl	60233-25-2	C-098N	55 / 5 mg	C-098S	30	C-098S-TP	30
99	2,2',4,4',5-Pentachlorobiphenyl	38380-01-7	C-099N	55 / 5 mg	C-099S	30	C-099S-TP	30
100	2,2',4,4',6-Pentachlorobiphenyl	39485-83-1	C-100N	55 / 5 mg	C-100S	30	C-100S-TP	30
101	2,2',4,5,5'-Pentachlorobiphenyl	37680-73-2	C-101N	32 / 10 mg	C-101S	30	C-101S-TP	30
102	2,2',4,5,6'-Pentachlorobiphenyl	68194-06-9	C-102N	55 / 5 mg	C-102S	30	C-102S-TP	30
103	2,2',4,5',6-Pentachlorobiphenyl	60145-21-3	C-103N	45 / 10 mg	C-103S	30	C-103S-TP	30
104	2,2',4,6,6'-Pentachlorobiphenyl	56558-16-8	C-104N	50 / 5 mg	C-104S	30	C-104S-TP	30
105	2,3,3',4,4'-Pentachlorobiphenyl	32598-14-4	C-105N	55 / 5 mg	C-105S	30	C-105S-TP	30
106	2,3,3',4,5-Pentachlorobiphenyl	70424-69-0	C-106N	55 / 5 mg	C-106S	30	C-106S-TP	30

Chlorobiphenyl Congeners (PCBs) continued on Next Page

Chlorobiphenyl Congeners (PCBs) 99+% Pure

					Solutions in Isooctane			
No.	Compound	CAS No.	Neat Cat. No.	Price / Unit	35 µg/mL Cat. No.	1 mL Price	100 µg/mL Cat. No.	1 mL Price
107	2,3,3',4',5-Pentachlorobiphenyl	70424-68-9	C-107N	$ 55 / 5 mg	C-107S	$ 30	C-107S-TP	$ 30
108	2,3,3',4,5'-Pentachlorobiphenyl	70362-41-3	C-108N	55 / 5 mg	C-108S	30	C-108S-TP	30
109	2,3,3',4,6-Pentachlorobiphenyl	74472-35-8	C-109N	105 / 5 mg	C-109S	30	C-109S-TP	30
110	2,3,3',4',6-Pentachlorobiphenyl	38380-03-9	C-110N	55 / 5 mg	C-110S	30	C-110S-TP	30
111	2,3,3',5,5'-Pentachlorobiphenyl	39635-32-0	C-111N	105 / 5 mg	C-111S	30	C-111S-TP	30
112	2,3,3',5,6-Pentachlorobiphenyl	74472-36-9	C-112N	55 / 5 mg	C-112S	30	C-112S-TP	30
113	2,3,3',5',6-Pentachlorobiphenyl	68194-10-5	C-113N	105 / 5 mg	C-113S	30	C-113S-TP	30
114	2,3,4,4',5-Pentachlorobiphenyl	74472-37-0	C-114N	55 / 5 mg	C-114S	30	C-114S-TP	30
115	2,3,4,4',6-Pentachlorobiphenyl	74472-38-1	C-115N	45 / 5 mg	C-115S	30	C-115S-TP	30
116	2,3,4,5,6-Pentachlorobiphenyl	18259-05-7	C-116N	26 / 10 mg	C-116S	30	C-116S-TP	30
117	2,3,4',5,6-Pentachlorobiphenyl	68194-11-6	C-117N	55 / 5 mg	C-117S	30	C-117S-TP	30
118	2,3',4,4',5-Pentachlorobiphenyl	31508-00-6	C-118N	50 / 5 mg	C-118S	30	C-118S-TP	30
119	2,3',4,4',6-Pentachlorobiphenyl	56558-17-9	C-119N	50 / 5 mg	C-119S	30	C-119S-TP	30
120	2,3',4,5,5'-Pentachlorobiphenyl	68194-12-7	C-120N	55 / 5 mg	C-120S	30	C-120S-TP	30
121	2,3',4,5',6-Pentachlorobiphenyl	56558-18-0	C-121N	46 / 5 mg	C-121S	30	C-121S-TP	30
122	2',3,3',4,5-Pentachlorobiphenyl	76842-07-4	C-122N	55 / 5 mg	C-122S	30	C-122S-TP	30
123	2',3,4,4',5-Pentachlorobiphenyl	65510-44-3	C-123N	55 / 5 mg	C-123S	30	C-123S-TP	30
124	2',3,4,5,5'-Pentachlorobiphenyl	70424-70-3	C-124N	55 / 5 mg	C-124S	30	C-124S-TP	30
125	2',3,4,5,6'-Pentachlorobiphenyl	74472-39-2	C-125N	55 / 5 mg	C-125S	30	C-125S-TP	30
126	3,3',4,4',5-Pentachlorobiphenyl	57465-28-8	C-126N	55 / 5 mg	C-126S	30	C-126S-TP	30
127	3,3',4,5,5'-Pentachlorobiphenyl	39635-33-1	C-127N	55 / 5 mg	C-127S	30	C-127S-TP	30
128	2,2',3,3',4,4'-Hexachlorobiphenyl	38380-07-3	C-128N	60 / 20 mg	C-128S	15	C-128S-TP	15
129	2,2',3,3',4,5-Hexachlorobiphenyl	55215-18-4	C-129N	55 / 5 mg	C-129S	30	C-129S-TP	30
130	2,2',3,3',4,5'-Hexachlorobiphenyl	52663-66-8	C-130N	55 / 5 mg	C-130S	30	C-130S-TP	30
131	2,2',3,3',4,6-Hexachlorobiphenyl	61798-70-7	C-131N	55 / 5 mg	C-131S	30	C-131S-TP	30
132	2,2',3,3',4,6'-Hexachlorobiphenyl	38380-05-1	C-132N	55 / 5 mg	C-132S	30	C-132S-TP	30
133	2,2',3,3',5,5'-Hexachlorobiphenyl	35694-04-3	C-133N	55 / 5 mg	C-133S	30	C-133S-TP	30
134	2,2',3,3',5,6-Hexachlorobiphenyl	52704-70-8	C-134N	55 / 5 mg	C-134S	30	C-134S-TP	30
135	2,2',3,3',5,6'-Hexachlorobiphenyl	52744-13-5	C-135N	105 / 5 mg	C-135S	30	C-135S-TP	30
136	2,2',3,3',6,6'-Hexachlorobiphenyl	38411-22-2	C-136N	60 / 20 mg	C-136S	30	C-136S-TP	30
137	2,2',3,4,4',5-Hexachlorobiphenyl	35694-06-5	C-137N	50 / 5 mg	C-137S	30	C-137S-TP	30
138	2,2',3,4,4',5'-Hexachlorobiphenyl	35065-28-2	C-138N	50 / 5 mg	C-138S	30	C-138S-TP	30
139	2,2',3,4,4',6-Hexachlorobiphenyl	56030-56-9	C-139N	75 / 5 mg	C-139S	30	C-139S-TP	30
140	2,2',3,4,4',6'-Hexachlorobiphenyl	59291-64-4	C-140N	55 / 5 mg	C-140S	30	C-140S-TP	30
141	2,2',3,4,5,5'-Hexachlorobiphenyl	52712-04-6	C-141N	50 / 5 mg	C-141S	30	C-141S-TP	30
142	2,2',3,4,5,6-Hexachlorobiphenyl	41411-61-4	C-142N	105 / 5 mg	C-142S	30	C-142S-TP	30
143	2,2',3,4,5,6'-Hexachlorobiphenyl	68194-15-0	C-143N	50 / 5 mg	C-143S	30	C-143S-TP	30
144	2,2',3,4,5',6-Hexachlorobiphenyl	68194-14-9	C-144N	105 / 5 mg	C-144S	30	C-144S-TP	30
145	2,2',3,4,6,6'-Hexachlorobiphenyl	74472-40-5	C-145N	55 / 5 mg	C-145S	30	C-145S-TP	30
146	2,2',3,4',5,5'-Hexachlorobiphenyl	51908-16-8	C-146N	125 / 5 mg	C-146S	30	C-146S-TP	30
147	2,2',3,4',5,6-Hexachlorobiphenyl	68194-13-8	C-147N	55 / 5 mg	C-147S	30	C-147S-TP	30
148	2,2',3,4',5,6'-Hexachlorobiphenyl	74472-41-6	C-148N	75 / 5 mg	C-148S	30	C-148S-TP	30
149	2,2',3,4',5',6-Hexachlorobiphenyl	38380-04-0	C-149N	76 / 5 mg	C-149S	30	C-149S-TP	30
150	2,2',3,4',6,6'-Hexachlorobiphenyl	68194-08-1	C-150N	55 / 5 mg	C-150S	30	C-150S-TP	30
151	2,2',3,5,5',6-Hexachlorobiphenyl	52663-63-5	C-151N	50 / 5 mg	C-151S	30	C-151S-TP	30
152	2,2',3,5,6,6'-Hexachlorobiphenyl	68194-09-2	C-152N	55 / 5 mg	C-152S	30	C-152S-TP	30
153	2,2',4,4',5,5'-Hexachlorobiphenyl	35065-27-1	C-153N	43 / 10 mg	C-153S	15	C-153S-TP	15
154	2,2',4,4',5,6'-Hexachlorobiphenyl	60145-22-4	C-154N	50 / 5 mg	C-154S	30	C-154S-TP	30
155	2,2',4,4',6,6'-Hexachlorobiphenyl	33979-03-2	C-155N	60 / 50 mg	C-155S	15	C-155S-TP	15
156	2,3,3',4,4',5-Hexachlorobiphenyl	38380-08-4	C-156N	50 / 5 mg	C-156S	30	C-156S-TP	30
157	2,3,3',4,4',5'-Hexachlorobiphenyl	69782-90-7	C-157N	55 / 5 mg	C-157S	30	C-157S-TP	30
158	2,3,3',4,4',6-Hexachlorobiphenyl	74472-42-7	C-158N	55 / 5 mg	C-158S	30	C-158S-TP	30
159	2,3,3',4,5,5'-Hexachlorobiphenyl	39635-35-3	C-159N	75 / 5 mg	C-159S	30	C-159S-TP	30
160	2,3,3',4,5,6-Hexachlorobiphenyl	41411-62-5	C-160N	75 / 5 mg	C-160S	30	C-160S-TP	30
161	2,3,3',4,5',6-Hexachlorobiphenyl	74474-43-8	C-161N	55 / 5 mg	C-161S	30	C-161S-TP	30
162	2,3,3',4',5,5'-Hexachlorobiphenyl	39635-34-2	C-162N	75 / 5 mg	C-162S	30	C-162S-TP	30
163	2,3,3',4',5,6-Hexachlorobiphenyl	74472-44-9	C-163N	55 / 5 mg	C-163S	30	C-163S-TP	30
164	2,3,3',4',5',6-Hexachlorobiphenyl	74472-45-0	C-164N	55 / 5 mg	C-164S	30	C-164S-TP	30
165	2,3,3',5,5',6-Hexachlorobiphenyl	74472-46-1	C-165N	55 / 5 mg	C-165S	30	C-165S-TP	30
166	2,3,4,4',5,6-Hexachlorobiphenyl	41411-63-6	C-166N	55 / 5 mg	C-166S	30	C-166S-TP	30
167	2,3',4,4',5,5'-Hexachlorobiphenyl	52663-72-6	C-167N	47 / 5 mg	C-167S	30	C-167S-TP	30
168	2,3',4,4',5',6-Hexachlorobiphenyl	59291-65-5	C-168N	55 / 5 mg	C-168S	30	C-168S-TP	30
169	3,3',4,4',5,5'-Hexachlorobiphenyl	32774-16-6	C-169N	45 / 5 mg	C-169S	30	C-169S-TP	30

Other solvents, concentrations and quantities are available upon request.

Chlorobiphenyl Congeners (PCBs) 99+% Pure

No.	Compound	CAS No.	Neat Cat. No.	Price / Unit	Solutions in Isooctane: 35 µg/mL Cat. No.	1 mL Price	100 µg/mL Cat. No.	1 mL Price
170	2,2',3,3',4,4',5-Heptachlorobiphenyl	35065-30-6	C-170N	$ 55 / 5 mg	C-170S	$ 30	C-170S-TP	$ 30
171	2,2',3,3',4,4',6-Heptachlorobiphenyl	52663-71-5	C-171N	55 / 5 mg	C-171S	30	C-171S-TP	30
172	2,2',3,3',4,5,5'-Heptachlorobiphenyl	52663-74-8	C-172N	75 / 5 mg	C-172S	30	C-172S-TP	30
173	2,2',3,3',4,5,6-Heptachlorobiphenyl	68194-16-1	C-173N	150 / 5 mg	C-173S	30	C-173S-TP	30
174	2,2',3,3',4,5,6'-Heptachlorobiphenyl	38411-25-5	C-174N	55 / 5 mg	C-174S	30	C-174S-TP	30
175	2,2',3,3',4,5',6-Heptachlorobiphenyl	40186-70-7	C-175N	75 / 5 mg	C-175S	30	C-175S-TP	30
176	2,2',3,3',4,6,6'-Heptachlorobiphenyl	52663-65-7	C-176N	55 / 5 mg	C-176S	30	C-176S-TP	30
177	2,2',3,3',4',5,6-Heptachlorobiphenyl	52663-70-4	C-177N	55 / 5 mg	C-177S	30	C-177S-TP	30
178	2,2',3,3',5,5',6-Heptachlorobiphenyl	52663-67-9	C-178N	75 / 5 mg	C-178S	30	C-178S-TP	30
179	2,2',3,3',5,6,6'-Heptachlorobiphenyl	52663-64-6	C-179N	55 / 5 mg	C-179S	30	C-179S-TP	30
180	2,2',3,4,4',5,5'-Heptachlorobiphenyl	35065-29-3	C-180N	45 / 5 mg	C-180S	30	C-180S-TP	30
181	2,2',3,4,4',5,6-Heptachlorobiphenyl	74472-47-2	C-181N	55 / 5 mg	C-181S	30	C-181S-TP	30
182	2,2',3,4,4',5,6'-Heptachlorobiphenyl	60145-23-5	C-182N	40 / 5 mg	C-182S	30	C-182S-TP	30
183	2,2',3,4,4',5',6-Heptachlorobiphenyl	52663-69-1	C-183N	55 / 5 mg	C-183S	30	C-183S-TP	30
184	2,2',3,4,4',6,6'-Heptachlorobiphenyl	74472-48-3	C-184N	55 / 5 mg	C-184S	30	C-184S-TP	30
185	2,2',3,4,5,5',6-Heptachlorobiphenyl	52712-05-7	C-185N	55 / 5 mg	C-185S	30	C-185S-TP	30
186	2,2',3,4,5,6,6'-Heptachlorobiphenyl	74472-49-4	C-186N	50 / 5 mg	C-186S	30	C-186S-TP	30
187	2,2',3,4',5,5',6-Heptachlorobiphenyl	52663-68-0	C-187N	55 / 5 mg	C-187S	30	C-187S-TP	30
188	2,2',3,4',5,6,6'-Heptachlorobiphenyl	74487-85-7	C-188N	50 / 5 mg	C-188S	30	C-188S-TP	30
189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	39635-31-9	C-189N	55 / 5 mg	C-189S	30	C-189S-TP	30
190	2,3,3',4,4',5,6-Heptachlorobiphenyl	41411-64-7	C-190N	55 / 5 mg	C-190S	30	C-190S-TP	30
191	2,3,3',4,4',5',6-Heptachlorobiphenyl	74472-50-7	C-191N	75 / 5 mg	C-191S	30	C-191S-TP	30
192	2,3,3',4,5,5',6-Heptachlorobiphenyl	74472-51-8	C-192N	75 / 5 mg	C-192S	30	C-192S-TP	30
193	2,3,3',4',5,5',6-Heptachlorobiphenyl	69782-91-8	C-193N	55 / 5 mg	C-193S	30	C-193S-TP	30
194	2,2',3,3',4,4',5,5'-Octachlorobiphenyl	35694-08-7	C-194N	50 / 5 mg	C-194S	30	C-194S-TP	30
195	2,2',3,3',4,4',5,6-Octachlorobiphenyl	52663-78-2	C-195N	55 / 5 mg	C-195S	30	C-195S-TP	30
196	2,2',3,3',4,4',5,6'-Octachlorobiphenyl	42740-50-1	C-196N	75 / 5 mg	C-196S	30	C-196S-TP	30
197	2,2',3,3',4,4',6,6'-Octachlorobiphenyl	33091-17-7	C-197N	75 / 5 mg	C-197S	30	C-197S-TP	30
198	2,2',3,3',4,5,5',6-Octachlorobiphenyl	68194-17-2	C-198N	75 / 5 mg	C-198S	30	C-198S-TP	30
199	2,2',3,3',4,5,5',6'-Octachlorobiphenyl	52663-75-9	C-199N-R1	55 / 5 mg	C-199S-R1	30	C-199S-TP-R1	30
200	2,2',3,3',4,5,6,6'-Octachlorobiphenyl	52663-73-7	C-200N-R1	105 / 5 mg	C-200S-R1	30	C-200S-TP-R1	30
201	2,2',3,3',4,5',6,6'-Octachlorobiphenyl	40186-71-8	C-201N-R1	65 / 5 mg	C-201S-R1	30	C-201S-TP-R1	30
202	2,2',3,3',5,5',6,6'-Octachlorobiphenyl	2136-99-4	C-202N	50 / 5 mg	C-202S	30	C-202S-TP	30
203	2,2',3,4,4',5,5',6-Octachlorobiphenyl	52663-76-0	C-203N	55 / 5 mg	C-203S	30	C-203S-TP	30
204	2,2',3,4,4',5,6,6'-Octachlorobiphenyl	74472-52-9	C-204N	55 / 5 mg	C-204S	30	C-204S-TP	30
205	2,3,3',4,4',5,5',6-Octachlorobiphenyl	74472-53-0	C-205N	55 / 5 mg	C-205S	30	C-205S-TP	30
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	40186-72-9	C-206N	64 / 5 mg	C-206S	30	C-206S-TP	30
207	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	52663-79-3	C-207N	50 / 5 mg	C-207S	30	C-207S-TP	30
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	52663-77-1	C-208N	50 / 5 mg	C-208S	30	C-208S-TP	30
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	2051-24-3	C-209N	12 / 10 mg	C-209S	15	C-209S-TP	15

Technical Note

The congener numbering system is now being used. The only changes from the BZ numbering system affect congeners #199 (formerly BZ#201), #200 (formerly BZ#199) and #201 (formerly BZ#200).

Have PCB Questions?

AccuStandard chemists have been involved in the synthesis of PCBs and related compounds for over 35 years. Our experience and expertise in this area can help you solve related analytical problems.
We are the only company to synthesize all 209 congeners.

Method 1668 Congener Set of 209 Clorinated Biphenyl Congeners by HRGC/HRMS

Complete set of congener specific determination of all 209 chlorinated biphenyl congeners for calibration on a SPB-Octyl capillary column

Set continued on Next Page

M-1668A-0.01X-SET $ 700 / **5 x 1 mL (M-1668A-1-0.01X, M-1668A-2-0.01X, M-1668A-3-0.01X, M-1668A-4-0.01X, M-1668A-5-0.01X)**

PCB Congener Mix #1

M-1668A-1-0.01X **1 x 1 mL**
At stated conc. in Isooctane 83 comps.

3-Chlorobiphenyl	(2.5 µg/mL)	2,3',4,5,5'-Pentachlorobiphenyl	(5.0 µg/mL)
2,6-Dichlorobiphenyl	(2.5 µg/mL)	2',3,4,5,5'-Pentachlorobiphenyl	(5.0 µg/mL)
2,5-Dichlorobiphenyl	(2.5 µg/mL)	2,3,3',4,5-Pentachlorobiphenyl	(5.0 µg/mL)
2,3'-Dichlorobiphenyl	(2.5 µg/mL)	2',3,3',4,5-Pentachlorobiphenyl	(5.0 µg/mL)
2,4'-Dichlorobiphenyl	(2.5 µg/mL)	2,3,3',4,4'-Pentachlorobiphenyl	(5.0 µg/mL)
3,5-Dichlorobiphenyl	(2.5 µg/mL)	3,3',4,5,5'-Pentachlorobiphenyl	(5.0 µg/mL)
3,3'-Dichlorobiphenyl	(2.5 µg/mL)	2,2',3,5,6,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,4,6-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,3',6,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3',6-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,4',5,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,4',6-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,5,5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2',3,5-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,4,5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2,3',5-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,4,5,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,4',5-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,4,5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2',3,4-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,3',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
3,3',5-Trichlorobiphenyl	(2.5 µg/mL)	2,3,3',4,5',6-Hexachlorobiphenyl	(5.0 µg/mL)
3,4,5-Trichlorobiphenyl	(2.5 µg/mL)	2,2',4,4',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
3,3',4-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,3',4,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',4,6-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,6-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3,4,4',5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',5,5'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3,3',4,5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',4,5'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3',4,4',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,4,4',6-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3,3',4,4',5-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',5,6,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,3',5,5'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,6,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,3,3',5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',5,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,3,4',5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,3',4,4'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4,4',5',6-Heptachlorobiphenyl	(5.0 µg/mL)
3,3',4,5'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4',5,6-Heptachlorobiphenyl	(5.0 µg/mL)
3,3',4,5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',6-Heptachlorobiphenyl	(5.0 µg/mL)
3,4,4',5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5,5'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,6,6'-Pentachlorobiphenyl	(5.0 µg/mL)	2,3,3',4,4',5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',4,5',6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',5-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,5',6-Pentachlorobiphenyl	(5.0 µg/mL)	2,3,3',4,4',5,6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5',6,6'-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,4,6'-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,4,4',5,6,6'-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,5,5'-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5,6,6'-Octachlorobiphenyl	(7.5 µg/mL)
2,3,3',5',6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5,5',6-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,3',5-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',5',6-Octachlorobiphenyl	(7.5 µg/mL)
2',3,4,4',6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',5,6-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,4,5'-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',5,5'-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,4,4'-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	(7.5 µg/mL)
2,2',3,3',4-Pentachlorobiphenyl	(5.0 µg/mL)		

PCB Congener Mix #2

M-1668A-2-0.01X **1 x 1 mL**
At stated conc. in Isooctane 54 comps.

2,4-Dichlorobiphenyl	(2.5 µg/mL)
2,3-Dichlorobiphenyl	(2.5 µg/mL)
3,4-Dichlorobiphenyl	(2.5 µg/mL)
2,2',5-Trichlorobiphenyl	(2.5 µg/mL)
2,3,6-Trichlorobiphenyl	(2.5 µg/mL)
2,3,5-Trichlorobiphenyl	(2.5 µg/mL)
2,4,4'-Trichlorobiphenyl	(2.5 µg/mL)
2,3,4'-Trichlorobiphenyl	(2.5 µg/mL)
3,4',5-Trichlorobiphenyl	(2.5 µg/mL)
2,2',5,6'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',4,6'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3',5',6-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',4,5-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,4,6-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3',4',6-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3',4,5'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,3',5'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,4,5-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,3',4-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,4,4'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',3,5,6'-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',4,4',6-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',6-Pentachlorobiphenyl	(5.0 µg/mL)
2',3,4,5',6-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',4,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,6-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,4',5,6-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,3',5,5'-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,5'-Pentachlorobiphenyl	(5.0 µg/mL)
2,3',4,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,4,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',6,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,6,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',5,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',4,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',5,5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2,3',4,4',5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',5-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',4,4'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',4',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,4',5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',6,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,5,6,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',5,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,5,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',5,6-Heptachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,5,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',4,4',6,6'-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,4,4',5,5',6-Octachlorobiphenyl	(7.5 µg/mL)

PCB Congener Mix #3

M-1668A-3-0.01X **1 x 1 mL**
At stated conc. in Isooctane 29 comps.

3,4'-Dichlorobiphenyl	(2.5 µg/mL)	2,2',3,4,5-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',4-Trichlorobiphenyl	(2.5 µg/mL)	2,3,4,5,6-Pentachlorobiphenyl	(5.0 µg/mL)
2,4,5-Trichlorobiphenyl	(2.5 µg/mL)	2,3,3',4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,3'-Trichlorobiphenyl	(2.5 µg/mL)	2,2',4,4',5,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,6'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4',5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,5,6-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4,4',6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',6-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,3'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4,5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3',4,5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3,3',4',5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2',3,4,5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3,3',4,4',6-Hexachlorobiphenyl	(5.0 µg/mL)
3,3',5,5'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4,4',5,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,5,6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5,6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',4,5,5'-Pentachlorobiphenyl	(5.0 µg/mL)	2,3,3',4',5,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,3,3',5,6-Pentachlorobiphenyl	(5.0 µg/mL)		

Method 1668 (continued) Set of 209 Congeners by HRGC/HRMS

PCB Congener Mix #4

M-1668A-4-0.01X — **1 x 1 mL**
At stated conc. in Isooctane — 15 comps.

2,3',4-Trichlorobiphenyl	(2.5 µg/mL)
2,3,4-Trichlorobiphenyl	(2.5 µg/mL)
2,3',4,6-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',4,4'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',3,4'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,4',6-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3',4',5-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',4,5,6'-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3',4,5-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,4,4',6-Pentachlorobiphenyl	(5.0 µg/mL)
2',3,4,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',4,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',4',5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',5,5'-Heptachlorobiphenyl	(5.0 µg/mL)

PCB Congener Mix #5

M-1668A-5-0.01X — **1 x 1 mL**
At stated conc. in Isooctane — 28 comps.

2-Chlorobiphenyl	(2.5 µg/mL)
4-Chlorobiphenyl	(2.5 µg/mL)
2,2'-Dichlorobiphenyl	(2.5 µg/mL)
4,4'-Dichlorobiphenyl	(2.5 µg/mL)
2,2',6-Trichlorobiphenyl	(2.5 µg/mL)
2,2',3-Trichlorobiphenyl	(2.5 µg/mL)
3,4,4'-Trichlorobiphenyl	(2.5 µg/mL)
2,2',6,6'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',3,5-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',3,5'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,4,4',5-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,3',4'-Tetrachlorobiphenyl	(5.0 µg/mL)
3,3',4,4'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',4,6,6'-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',4,6-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,5,6'-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,3',4',6-Pentachlorobiphenyl	(5.0 µg/mL)
3,3',4,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',4,4',6,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',5'-Hexachlorobiphenyl	(5.0 µg/mL)
3,3',4,4',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',5,6,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,4',5,5'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	(7.5 µg/mL)
2,3,3',4,4',5,5',6-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	(7.5 µg/mL)
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	(7.5 µg/mL)
Decachlorobiphenyl	(7.5 µg/mL)

Method 1668A/1668 Combined Congener Standards

M-1668A-C-NT-LOC-WD — $ 150 / **1 x 1 mL**
M-1668A-C-NT-LOC-WD-PAK — ***SAVE 20%*** $ 600 / **5 x 1 mL**
20 µg/mL each in Isooctane — 33 comps.

2-Chlorobiphenyl	2,2',4,4',6,6'-Hexachlorobiphenyl
4-Chlorobiphenyl	2,3,3',4,4',5-Hexachlorobiphenyl
2,2'-Dichlorobiphenyl	2,3,3',4,4',5'-Hexachlorobiphenyl
4,4'-Dichlorobiphenyl	2,3',4,4',5,5'-Hexachlorobiphenyl
2,2',6-Trichlorobiphenyl	3,3',4,4',5,5'-Hexachlorobiphenyl
2,3,5-Trichlorobiphenyl	2,2',3,3',4,4',5-Heptachlorobiphenyl
2',3,5-Trichlorobiphenyl	2,2',3,4,4',5,5'-Heptachlorobiphenyl
3,4,4'-Trichlorobiphenyl	2,2',3,4,4',5,6'-Heptachlorobiphenyl
2,2',6,6'-Tetrachlorobiphenyl	2,2',3,4',5,5',6-Heptachlorobiphenyl
3,3',4,4'-Tetrachlorobiphenyl	2,2',3,4',5,6,6'-Heptachlorobiphenyl
3,4,4',5-Tetrachlorobiphenyl	2,3,3',4,4',5,5'-Heptachlorobiphenyl
2,2',4,6,6'-Pentachlorobiphenyl	2,2',3,3',5,5',6,6'-Octachlorobiphenyl
2,3,3',4,4'-Pentachlorobiphenyl	2,3,3',4,4',5,5',6-Octachlorobiphenyl
2,3,4,4',5-Pentachlorobiphenyl	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl
2,3',4,4',5-Pentachlorobiphenyl	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl
2',3,4,4',5-Pentachlorobiphenyl	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl
3,3',4,4',5-Pentachlorobiphenyl	

GPC Calibration Solution

CLP-027-R2-WL-10ML — $ 25 / **1 x 10 mL**
At stated conc. in CH_2Cl_2 — 5 comps.

Corn Oil	(25 mg/mL)
bis(2-Ethylhexyl)phthalate	(0.5 mg/mL)
Methoxychlor	(0.1 mg/mL)
Perylene	(0.02 mg/mL)
Sulfur	(0.08 mg/mL)

Level of Chlorination Calibration/Spike Set

Determination of Chlorobiphenyl content at each level of chlorination

Calibration/Spike Set

M-1668A-LOC-SET — $ 150 / **2 x 1 mL (M-1668A-NAT, M-1668A-PAR)**

Native PCB Calibration Mix

M-1668A-NAT — **1 x 1 mL**
At stated conc. in Isooctane — 19 comps.

4-Chlorobiphenyl	(5 µg/mL)
4,4'-Dichlorobiphenyl	(5 µg/mL)
2,4,4'-Trichlorobiphenyl	(5 µg/mL)
3,3',4,4'-Tetrachlorobiphenyl	(1 µg/mL)
2,3,3',4,4'-Pentachlorobiphenyl	(5 µg/mL)
2,3,4,4',5-Pentachlorobiphenyl	(5 µg/mL)
2,3',4,4',5-Pentachlorobiphenyl	(5 µg/mL)
2',3,4,4',5-Pentachlorobiphenyl	(5 µg/mL)
3,3',4,4',5-Pentachlorobiphenyl	(5 µg/mL)
2,3,3',4,4',5-Hexachlorobiphenyl	(10 µg/mL)
2,3,3',4,4',5'-Hexachlorobiphenyl	(10 µg/mL)
2,3',4,4',5,5'-Hexachlorobiphenyl	(10 µg/mL)
3,3',4,4',5,5'-Hexachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5-Heptachlorobiphenyl	(10 µg/mL)
2,2',3,4,4',5,5'-Heptachlorobiphenyl	(10 µg/mL)
2,3,3',4,4',5,5'-Heptachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	(20 µg/mL)

PAR PCB Spike Mix

M-1668A-PAR — **1 x 1 mL**
At stated conc. in Isooctane — 19 comps.

4-Chlorobiphenyl	(10 µg/mL)
4,4'-Dichlorobiphenyl	(10 µg/mL)
2,4,4'-Trichlorobiphenyl	(10 µg/mL)
3,3',4,4'-Tetrachlorobiphenyl	(0.2 µg/mL)
2,3,3',4,4'-Pentachlorobiphenyl	(10 µg/mL)
2,3,4,4',5-Pentachlorobiphenyl	(10 µg/mL)
2,3',4,4',5-Pentachlorobiphenyl	(10 µg/mL)
2',3,4,4',5-Pentachlorobiphenyl	(10 µg/mL)
3,3',4,4',5-Pentachlorobiphenyl	(1 µg/mL)
2,3,3',4,4',5-Hexachlorobiphenyl	(10 µg/mL)
2,3,3',4,4',5'-Hexachlorobiphenyl	(10 µg/mL)
2,3',4,4',5,5'-Hexachlorobiphenyl	(10 µg/mL)
3,3',4,4',5,5'-Hexachlorobiphenyl	(2 µg/mL)
2,2',3,3',4,4',5-Heptachlorobiphenyl	(2 µg/mL)
2,2',3,4,4',5,5'-Heptachlorobiphenyl	(10 µg/mL)
2,3,3',4,4',5,5'-Heptachlorobiphenyl	(2 µg/mL)
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	(20 µg/mL)

Canadian Methods

A second set of four formulations has been selected by the Institute for Biological Sciences of Canada and can be purchased individually or as a complete set (C-CAN-SET). The concentration levels for these formulations are selected so that 1 mL of standard diluted into 100 mL will show equal response by ECD.

PCB Congener (Canadian RM) Set

C-CAN-SET — $ 150 / **4 x 1 mL** (set includes **C-CAN-01, C-CAN-02, C-CAN-03, C-CAN-04**)

PCB Congeners Mix #1

C-CAN-01 — $ 45 / **1 x 1 mL**
At stated conc. in Isooctane — 14 comps.

No.		
18	2,2',5-Trichlorobiphenyl	(11.8 µg/mL)
31	2,4',5-Trichlorobiphenyl	(6.6 µg/mL)
40	2,2',3,3'-Tetrachlorobiphenyl	(4.9 µg/mL)
44	2,2',3,5'-Tetrachlorobiphenyl	(5.9 µg/mL)
49	2,2',4,5'-Tetrachlorobiphenyl	(7.6 µg/mL)
54	2,2',6,6'-Tetrachlorobiphenyl	(16.6 µg/mL)
77	3,3',4,4'-Tetrachlorobiphenyl	(5.5 µg/mL)
86	2,2',3,4,5-Pentachlorobiphenyl	(2.9 µg/mL)
87	2,2',3,4,5'-Pentachlorobiphenyl	(3.8 µg/mL)
121	2,3',4,5',6-Pentachlorobiphenyl	(3.1 µg/mL)
153	2,2',4,4',5,5'-Hexachlorobiphenyl	(2.1 µg/mL)
156	2,3,3',4,4',5-Hexachlorobiphenyl	(1.5 µg/mL)
159	2,3,3',4,5,5'-Hexachlorobiphenyl	(1.2 µg/mL)
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	(1.7 µg/mL)

PCB Congeners Mix #2

C-CAN-02 — $ 45 / **1 x 1 mL**
At stated conc. in Isooctane — 15 comps.

No.		
15	4,4'-Dichlorobiphenyl	(91.9 µg/mL)
52	2,2',5,5'-Tetrachlorobiphenyl	(15.2 µg/mL)
60	2,3,4,4'-Tetrachlorobiphenyl	(3.9 µg/mL)
103	2,2',4,5',6-Pentachlorobiphenyl	(10.8 µg/mL)
105	2,3,3',4,4'-Pentachlorobiphenyl	(4 µg/mL)
128	2,2',3,3',4,4'-Hexachlorobiphenyl	(4.9 µg/mL)
143	2,2',3,4,5,6'-Hexachlorobiphenyl	(5.7 µg/mL)
154	2,2',4,4',5,6'-Hexachlorobiphenyl	(6.2 µg/mL)
173	2,2',3,3',4,5,6-Heptachlorobiphenyl	(2.3 µg/mL)
182	2,2',3,4,4',5,6'-Heptachlorobiphenyl	(3.8 µg/mL)
202	2,2',3,3',5,5',6,6'-Octachlorobiphenyl	(3.6 µg/mL)
205	2,3,3',4,4',5,5',6-Octachlorobiphenyl	(3.2 µg/mL)
207	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	(3.8 µg/mL)
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	(2.4 µg/mL)
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	(2.8 µg/mL)

PCB Congeners Mix #3

C-CAN-03 — $ 45 / **1 x 1 mL**
At stated conc. in Isooctane — 15 comps.

No.		
15	4,4'-Dichlorobiphenyl	(138.1 µg/mL)
114	2,3,4,4',5-Pentachlorobiphenyl	(6.3 µg/mL)
129	2,2',3,3',4,5-Hexachlorobiphenyl	(8.3 µg/mL)
137	2,2',3,4,4',5-Hexachlorobiphenyl	(7.4 µg/mL)
153	2,2',4,4',5,5'-Hexachlorobiphenyl	(7.3 µg/mL)
171	2,2',3,3',4,4',6-Heptachlorobiphenyl	(5.2 µg/mL)
183	2,2',3,4,4',5',6-Heptachlorobiphenyl	(6.6 µg/mL)
185	2,2',3,4,5,5',6-Heptachlorobiphenyl	(3.5 µg/mL)
189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	(4.7 µg/mL)
191	2,3,3',4,4',5',6-Heptachlorobiphenyl	(5 µg/mL)
201	2,2',3,3',4,5',6,6'-Octachlorobiphenyl	(7 µg/mL)
199	2,2',3,3',4,5,5',6'-Octachlorobiphenyl	(4.8 µg/mL)
203	2,2',3,4,4',5,5',6-Octachlorobiphenyl	(5.1 µg/mL)
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	(6.7 µg/mL)
209	Decachlorobiphenyl	(5.1 µg/mL)

PCB Congeners Mix #4

C-CAN-04 — $ 45 / **1 x 1 mL**
At stated conc. in Isooctane — 15 comps.

No.		
14	4,4'-Dichlorobiphenyl	(76.7 µg/mL)
101	2,2',4,5,5'-Pentachlorobiphenyl	(8.9 µg/mL)
118	2,3',4,4',5-Pentachlorobiphenyl	(3.9 µg/mL)
138	2,2',3,4,4',5'-Hexachlorobiphenyl	(4.2 µg/mL)
141	2,2',3,4,5,5'-Hexachlorobiphenyl	(2.8 µg/mL)
151	2,2',3,5,5',6-Hexachlorobiphenyl	(5 µg/mL)
153	2,2',4,4',5,5'-Hexachlorobiphenyl	(3.3 µg/mL)
170	2,2',3,3',4,4',5-Heptachlorobiphenyl	(3 µg/mL)
180	2,2',3,4,4',5,5'-Heptachlorobiphenyl	(2.8 µg/mL)
187	2,2',3,4',5,5',6-Heptachlorobiphenyl	(3.2 µg/mL)
194	2,2',3,3',4,4',5,5'-Octachlorobiphenyl	(2.4 µg/mL)
195	2,2',3,3',4,4',5,6-Octachlorobiphenyl	(2.6 µg/mL)
196	2,2',3,3',4,4',5,6'-Octachlorobiphenyl	(3.3 µg/mL)
199	2,2',3,3',4,5,5',6'-Octachlorobiphenyl	(3.6 µg/mL)
209	Decachlorobiphenyl	(2.7 µg/mL)

Quebec Ministry of Environment Congener Mix

C-QME-01 — $ 125 / **1 x 1 mL**
At stated conc. in Isooctane — 41 comps.

No.		
17	2,2',4-Trichlorobiphenyl	(500 ng/mL)
18	2,2',5-Trichlorobiphenyl	(2000 ng/mL)
28	2,4,4'-Trichlorobiphenyl	(2000 ng/mL)
31	2,4',5-Trichlorobiphenyl	(1500 ng/mL)
33	2',3,4-Trichlorobiphenyl	(2000 ng/mL)
44	2,2',3,5'-Tetrachlorobiphenyl	(2000 ng/mL)
49	2,2',4,5'-Tetrachlorobiphenyl	(2000 ng/mL)
52	2,2',5,5'-Tetrachlorobiphenyl	(2000 ng/mL)
70	2,3',4',5-Tetrachlorobiphenyl	(2000 ng/mL)
74	2,4,4',5-Tetrachlorobiphenyl	(2000 ng/mL)
82	2,2',3,3',4-Pentachlorobiphenyl	(500 ng/mL)
87	2,2',3,4,5'-Pentachlorobiphenyl	(2000 ng/mL)
95	2,2',3,5',6-Pentachlorobiphenyl	(1000 ng/mL)
99	2,2',4,4',5-Pentachlorobiphenyl	(2000 ng/mL)
101	2,2',4,5,5'-Pentachlorobiphenyl	(2000 ng/mL)
105	2,3,3',4,4'-Pentachlorobiphenyl	(500 ng/mL)
110	2,3,3',4',6-Pentachlorobiphenyl	(2000 ng/mL)
118	2,3',4,4',5-Pentachlorobiphenyl	(2000 ng/mL)
128	2,2',3,3',4,4'-Hexachlorobiphenyl	(2000 ng/mL)
132	2,2',3,3',4,6'-Hexachlorobiphenyl	(1000 ng/mL)
138	2,2',3,4,4',5'-Hexachlorobiphenyl	(2000 ng/mL)
149	2,2',3,4',5',6-Hexachlorobiphenyl	(2000 ng/mL)
151	2,2',3,5,5',6-Hexachlorobiphenyl	(2000 ng/mL)
153	2,2',4,4',5,5'-Hexachlorobiphenyl	(2000 ng/mL)
156	2,3,3',4,4',5-Hexachlorobiphenyl	(2000 ng/mL)
158	2,3,3',4,4',6-Hexachlorobiphenyl	(500 ng/mL)
169	3,3',4,4',5,5'-Hexachlorobiphenyl	(2000 ng/mL)
170	2,2',3,3',4,4',5-Heptachlorobiphenyl	(2000 ng/mL)
171	2,2',3,3',4,4',6-Heptachlorobiphenyl	(2000 ng/mL)
177	2,2',3,3',4',5,6-Heptachlorobiphenyl	(2000 ng/mL)
180	2,2',3,4,4',5,5'-Heptachlorobiphenyl	(2000 ng/mL)
183	2,2',3,4,4',5',6-Heptachlorobiphenyl	(2000 ng/mL)
187	2,2',3,4',5,5',6-Heptachlorobiphenyl	(2000 ng/mL)
191	2,3,3',4,4',5',6-Heptachlorobiphenyl	(2000 ng/mL)
194	2,2',3,3',4,4',5,5'-Octachlorobiphenyl	(2000 ng/mL)
195	2,2',3,3',4,4',5,6-Octachlorobiphenyl	(2000 ng/mL)
199	2,2',3,3',4,5,5',6'-Octachlorobiphenyl	(1500 ng/mL)
205	2,3,3',4,4',5,5',6-Octachlorobiphenyl	(2000 ng/mL)
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	(2000 ng/mL)
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	(2000 ng/mL)
209	Decachlorobiphenyl	(2000 ng/mL)

Integrated Atmospheric Deposition Network (IADN)

The Integrated Atmospheric Deposition Network is composed of five agencies: the US EPA, Environment Canada's (EC) Metrological Service of Canada, EC's National Water Research Institute (NWRI), EC's Ecosystem Health Division of Ontario Region (EHD), and the Ontario Ministry of Environment (OME) whose goal it is to cooperatively implement the Great Lakes Water Quality Agreement.

This agreement requires certain chemicals to be monitored. The tier 1 group specifically called for the measurement of PCB congeners. AccuStandard was requested to develop a set of IADN PCB congener standards to meet this specific chemical list.

IADN Congener Set

C-IADN-SET $ 500 / **3 x 1 mL** (C-IADN-01, C-IADN-02, C-IADN-03)

IADN Congener Standard #1

C-IADN-01 **1 x 1 mL**
30 µg/mL each in Isooctane 28 comps.

2,2'-Dichlorobiphenyl
2,4-Dichlorobiphenyl
2,6-Dichlorobiphenyl
4,4'-Dichlorobiphenyl
2,2',5-Trichlorobiphenyl
2,4,4'-Trichlorobiphenyl
2,4',6-Trichlorobiphenyl
2,2',3,4-Tetrachlorobiphenyl
2,2',3,6-Tetrachlorobiphenyl
2,2',5,5'-Tetrachlorobiphenyl
2,3,3',4'-Tetrachlorobiphenyl
2,3',4,4'-Tetrachlorobiphenyl
2,4,4',5-Tetrachlorobiphenyl
3,4,4',5-Tetrachlorobiphenyl
2,2',3,4,4'-Pentachlorobiphenyl
2,2',3,4',6-Pentachlorobiphenyl
2,2',3',4,5-Pentachlorobiphenyl
2,2',4,5,5'-Pentachlorobiphenyl
2,3,4,4',5-Pentachlorobiphenyl
2',3,4,4',5-Pentachlorobiphenyl
2,2',3,3',4,6-Hexachlorobiphenyl
2,2',3,4,4',5'-Hexachlorobiphenyl
2,2',4,4',5,5'-Hexachlorobiphenyl
2,3',4,4',5,5'-Hexachlorobiphenyl
2,2',3,3',4,4',6-Heptachlorobiphenyl
2,2',3,4,4',5,5'-Heptachlorobiphenyl
2,2',3,3',4,5,6,6'-Octachlorobiphenyl
2,3,3',4,4',5,5',6-Octachlorobiphenyl

IADN Congener Standard #2

C-IADN-02 **1 x 1 mL**
30 µg/mL each in Isooctane 28 comps.

2,3-Dichlorobiphenyl
2,4'-Dichlorobiphenyl
3,4-Dichlorobiphenyl
2,2',3-Trichlorobiphenyl
2,2',6-Trichlorobiphenyl
2,3',5-Trichlorobiphenyl
2',3,4-Trichlorobiphenyl
2,2',3,4'-Tetrachlorobiphenyl
2,2',4,4'-Tetrachlorobiphenyl
2,2',4,5'-Tetrachlorobiphenyl
2,3,4,4'-Tetrachlorobiphenyl
2,3',4',5-Tetrachlorobiphenyl
2',3,4,5-Tetrachlorobiphenyl
2,2',3,3',5-Pentachlorobiphenyl
2,2',3,4,5'-Pentachlorobiphenyl
2,2',3,5,5'-Pentachlorobiphenyl
2,2',4,4',5-Pentachlorobiphenyl
2,3,3',4,4'-Pentachlorobiphenyl
2,3',4,4',5-Pentachlorobiphenyl
3,3',4,4',5-Pentachlorobiphenyl
2,2',3,3',4,6'-Hexachlorobiphenyl
2,2',3,4,5',6-Hexachlorobiphenyl
2,3,3',4,4',5-Hexachlorobiphenyl
3,3',4,4',5,5'-Hexachlorobiphenyl
2,2',3,3',4,4,5,5'-Heptachlorobiphenyl
2,3,3',4,4',5,6-Heptachlorobiphenyl
2,2',3,3',4,5,5',6'-Octachlorobiphenyl
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl

IADN Congener Standard #3

C-IADN-03 **1 x 1 mL**
30 µg/mL each in Isooctane 28 comps.

2,3'-Dichlorobiphenyl
2,5-Dichlorobiphenyl
3,4'-Dichlorobiphenyl
2,2',4-Trichlorobiphenyl
2,3,4'-Trichlorobiphenyl
2,4',5-Trichlorobiphenyl
3,4,4'-Trichlorobiphenyl
2,2',3,5'-Tetrachlorobiphenyl
2,2',4,5-Tetrachlorobiphenyl
2,2',5,6'-Tetrachlorobiphenyl
2,3,4',6-Tetrachlorobiphenyl
2,3',4',6-Tetrachlorobiphenyl
3,3',4,4'-Tetrachlorobiphenyl
2,2',3,3',6-Pentachlorobiphenyl
2,2',3,4,6'-Pentachlorobiphenyl
2,2',3,5',6-Pentachlorobiphenyl
2,2',4,4',6-Pentachlorobiphenyl
2,3,3',4',6-Pentachlorobiphenyl
2,3',4,4',6-Pentachlorobiphenyl
2,2',3,3',4,4'-Hexachlorobiphenyl
2,2',3,3',5,6'-Hexachlorobiphenyl
2,2',3,4',5',6-Hexachlorobiphenyl
2,3,3',4',5,6-Hexachlorobiphenyl
2,2',3,3',4,4',5-Heptachlorobiphenyl
2,2',3,3',4,5,6'-Heptachlorobiphenyl
2,2',3,3',4,4',5,5'-Octachlorobiphenyl
2,2',3,3',5,5',6,6'-Octachlorobiphenyl
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl

PCB Congener Content Evaluation

These Congener Calibration mixes have been formulated to meet the proposed International standard titled "Insulating Liquids - Contamination by PCBs - Method of Determination by Capillary Column Gas Chromatography".

Mix #1

AE-00059 $ 25 / **1 x 1 mL**
AE-00059-10ML $ 95 / **1 x 10 mL**
10 µg/mL each in Isooctane 6 comps.

No.	
28	2,4,4'-Trichlorobiphenyl
52	2,2',5,5'-Tetrachlorobiphenyl
101	2,2',4,5,5'-Pentachlorobiphenyl
138	2,2',3,4,4',5'-Hexachlorobiphenyl
153	2,2',4,4',5,5'-Hexachlorobiphenyl
180	2,2',3,4,4',5,5'-Heptachlorobiphenyl

Mix #2

AE-00060 $ 25 / **1 x 1 mL**
AE-00060-10ML $ 95 / **1 x 10 mL**
10 µg/mL each in Isooctane 3 comps.

No.	
77	3,3',4,4'-Tetrachlorobiphenyl
126	3,3',4,4',5-Pentachlorobiphenyl
169	3,3',4,4',5,5'-Hexachlorobiphenyl

Congener Calibration Mix

AE-00061 $ 45 / **1 x 1 mL**
AE-00061-10ML $ 210 / **1 x 10 mL**
10 µg/mL each in Isooctane 14 comps.

No.	
18	2,2',5-Trichlorobiphenyl
28	2,4,4'-Trichlorobiphenyl
31	2,4',5-Trichlorobiphenyl
44	2,2',3,5'-Tetrachlorobiphenyl
52	2,2',5,5'-Tetrachlorobiphenyl
101	2,2',4,5,5'-Pentachlorobiphenyl
118	2,3',4,4',5-Pentachlorobiphenyl
138	2,2',3,4,4',5'-Hexachlorobiphenyl
149	2,2',3,4',5,6-Hexachlorobiphenyl
153	2,2',4,4',5,5'-Hexachlorobiphenyl
170	2,2',3,3',4,4',5-Heptachlorobiphenyl
180	2,2',3,4,4',5,5'-Heptachlorobiphenyl
194	2,2',3,3',4,4',5,5'-Octachlorobiphenyl
209	Decachlorobiphenyl

Internal Standards

Each at 100 µg/mL in Isooctane

C-030S-TP $ 25 / **1 x 1 mL**
2,4,6-Trichlorobiphenyl

C-209S-TP $ 25 / **1 x 1 mL**
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl

Technical Note

These Congener Content Evaluation Mixes have proven useful for European Laboratories estimating the PCB content of a sample when following EU guideline 96/59/EU for cleanup of PCBs.

Congener Specific PCB Analysis

Toxicity and Abundance Based PCB Congener Formulations

A study was conducted in 1989 by McFarland and J. Clarke [1], (Environmental Occurrence, Abundance, and Potential Toxicity of Polychlorinated Biphenyl Congeners: Consideration for a Congener - Specific Analysis) The data that formed the basis for conclusions in the study have been referenced by the National Oceanic & Atmospheric Administration (NOAA) which came out with a method in the same year.

Abundance Analysis

Five of the solutions AccuStandard offers are formulated to assist the investigator or analytical Chemist in their own studies and can be purchased individually or as a complete set (C-SCA-SET). According to the study the 36 congeners contained in these five groups are considered environmentally threatening due to their frequency of occurrence in environmental samples, abundance in the Aroclors and potential toxicity.

Group 1a: comprises the three congeners present to a small extent in the Aroclors that are the most toxic and have been characterized as pure 3-Methyl cholanthrene - type (3-MC) inducers.

Group 1b: congeners are mixed-type inducers but are of somewhat lesser toxicity and are very abundant in the Aroclors as well as in the environment. It includes Congener # 105 which, while not as prevalent, is potentially almost as toxic as the Group 1a congeners.

Group 2: includes the congeners which are Phenobarbital - type (PB) inducers for Mixed-Function Oxidase enzymes. These are less toxic but more abundant in the environment. They represent 25-41% of total PCB content found in animal tissue.

Group 3: congeners are weak- or non-inducers representing about 10% of the PCB content of tissues.

Group 4: congeners have some potential for toxicity but have very low presence in tissue.

Toxicity Analysis

A sixth solution is prepared for the analyst who is investigating the presence of PCB congeners in food and human tissues. Specific congeners are selected by K.C. Jones [2] as outlined in his article referenced below which is titled, "Determination of polychlorinated biphenyls in human food stuffs and tissues: Suggestions for a selective congener analytical approach".

Literature Reference
1. V.A. McFarland and J.U. Clarke, Environmental Health Perspectives, vol. 81, pp 225-239 (1989). 2. K.C. Jones, Sci. Total Environment, vol. 68, pp 141-159 (1988).

Formulations for Toxicity & Abundance Studies

Complete Set of PCB Congeners

C-SCA-SET $ 120 / **5 x 1 mL** (includes **C-SCA-01, C-SCA-02, C-SCA-03, C-SCA-04, C-SCA-05**)

Mix #1 Group 1a (3 MC Type Inducers)

C-SCA-01 $ 30 / **1 x 1 mL**
10 µg/mL each in Isooctane (BZ#) 3 comps.

3,3',4,4'-Tetrachlorobiphenyl (77)
3,3',4,4',5-Pentachlorobiphenyl (126)
3,3',4,4',5,5'-Hexachlorobiphenyl (169)

Mix #2 Group 1b (Mixed Type Inducers)

C-SCA-02 $ 30 / **1 x 1 mL**
10 µg/mL each in Isooctane (BZ#) 6 comps.

2,3,3',4,4'-Pentachlorobiphenyl (105)
2,3',4,4',5-Pentachlorobiphenyl (118)
2,2',3,3',4,4'-Hexachlorobiphenyl (128)
2,2',3,4,4',5'-Hexachlorobiphenyl (138)
2,3,3',4,4',5-Hexachlorobiphenyl (156)
2,2',3,3',4,4',5-Heptachlorobiphenyl (170)

Mix #3 Group 2 (PB Type Inducers)

C-SCA-03 $ 30 / **1 x 1 mL**
10 µg/mL each in Isooctane (BZ#) 7 comps.

2,2',3,4,5'-Pentachlorobiphenyl (87)
2,2',4,4',5-Pentachlorobiphenyl (99)
2,2',4,5,5'-Pentachlorobiphenyl (101)
2,2',4,4',5,5'-Hexachlorobiphenyl (153)
2,2',3,4,4',5,5'-Heptachlorobiphenyl (180)
2,2',3,4,4',5',6-Heptachlorobiphenyl (183)
2,2',3,3',4,4',5,5'-Octachlorobiphenyl (194)

Mix #4 Group 3 (Non-Inducer Type)

C-SCA-04 $ 35 / **1 x 1 mL**
10 µg/mL each in Isooctane (BZ#) 10 comps.

2,2',5-Trichlorobiphenyl (18)
2,2',3,5'-Tetrachlorobiphenyl (44)
2,2',4,5'-Tetrachlorobiphenyl (49)
2,2',5,5'-Tetrachlorobiphenyl (52)
2,3',4',5-Tetrachlorobiphenyl (70)
2,4,4',5-Tetrachlorobiphenyl (74)
2,2',3,5,5',6-Hexachlorobiphenyl (151)
2,2',3,3',4',5,6-Heptachlorobiphenyl (177)
2,2',3,4',5,5',6-Heptachlorobiphenyl (187)
2,2',3,3',4,5,5',6'-Octachlorobiphenyl (199)

Mix #5 Group 4 (Mixed Type Inducers present at very low levels)

C-SCA-05 $ 35 / **1 x 1 mL**
10 µg/mL each in Isooctane 10 comps.

3,4,4'-Trichlorobiphenyl (37)
3,4,4',5-Tetrachlorobiphenyl (81)
2,3,4,4',5-Pentachlorobiphenyl (114)
2,3',4,4',6-Pentachlorobiphenyl (119)
2',3,4,4',5-Pentachlorobiphenyl (123)
2,3,3',4,4',5'-Hexachlorobiphenyl (157)
2,3,3',4,4',6-Hexachlorobiphenyl (157)
2,3',4,4',5,5'-Hexachlorobiphenyl (167)
2,3',4,4',5',6-Hexachlorobiphenyl (168)
2,3,3',4,4',5,5'-Heptachlorobiphenyl (189)

Mix #6 (Food & Human Tissue analysis)

C-SCA-06 $ 60 / **1 x 1 mL**
10 µg/mL each in Isooctane 32 comps.

2,4'-Dichlorobiphenyl (8)
2,4,4'-Trichlorobiphenyl (28)
3,4,4'-Trichlorobiphenyl (37)
2,2',3,5'-Tetrachlorobiphenyl (44)
2,2',4,5'-Tetrachlorobiphenyl (49)
2,2',5,5'-Tetrachlorobiphenyl (52)
2,3,4,4'-Tetrachlorobiphenyl (60)
2,3',4,4'-Tetrachlorobiphenyl (66)
2,3',4',5-Tetrachlorobiphenyl (70)
2,4,4',5-Tetrachlorobiphenyl (74)
3,3',4,4'-Tetrachlorobiphenyl (77)
2,2',3,3',4-Pentachlorobiphenyl (82)
2,2',3,4,5'-Pentachlorobiphenyl (87)
2,2',4,4',5-Pentachlorobiphenyl (99)
2,2',4,5,5'-Pentachlorobiphenyl (101)
2,3,3',4,4'-Pentachlorobiphenyl (105)
2,3,4,4',5-Pentachlorobiphenyl (114)
2,3',4,4',5-Pentachlorobiphenyl (118)
3,3',4,4',5-Pentachlorobiphenyl (126)
2,2',3,3',4,4'-Hexachlorobiphenyl (128)
2,2',3,4,4',5'-Hexachlorobiphenyl (138)
2,2',4,4',5,5'-Hexachlorobiphenyl (153)
2,3,3',4,4',5-Hexachlorobiphenyl (156)
2,3,3',4,4',6-Hexachlorobiphenyl (158)
2,3,4,4',5,6-Hexachlorobiphenyl (166)
3,3',4,4',5,5'-Hexachlorobiphenyl (169)
2,2',3,3',4,4',5-Heptachlorobiphenyl (170)
2,2',3,3',5,6,6'-Heptachlorobiphenyl (179)
2,2',3,4,4',5,5'-Heptachlorobiphenyl (180)
2,2',3,4,4',5',6-Heptachlorobiphenyl (183)
2,2',3,4',5,5',6-Heptachlorobiphenyl (187)
2,3,3',4,4',5,5'-Heptachlorobiphenyl (189)

Non-Ortho Substituted PCBs

C-SCA-DIOXLIK $ 35 / **1 x 1 mL**
10 µg/mL each in Isooctane 4 comps.

3,3',4,4'-Tetrachlorobiphenyl (77)
3,3',4,4',5-Pentachlorobiphenyl (126)
3,3',4,4',5,5'-Hexachlorobiphenyl (169)
3,4,4',5-Tetrachlorobiphenyl (81)

Internal Standard

C-EU-IS-10ML $ 75 / **1 x 10 mL**
At stated conc. in Isooctane 2 comps.

2,4,6-Trichlorobiphenyl
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl

Dutch Seven PCBs Standard

PCB-DUTCH7-SET $ 125 / **7 x 1 mL**
100 µg/mL each in Isooctane

PCB-DUTCH7 $ 25 / **1 x 1 mL**
10 µg/mL each in Isooctane 7 comps.

2,4,4'-Trichlorobiphenyl
2,2',5,5'-Tetrachlorobiphenyl
2,2',4,5,5'-Pentachlorobiphenyl
2,3',4,4',5-Pentachlorobiphenyl
2,2',3,4,4',5'-Hexachlorobiphenyl
2,2',4,4',5,5'-Hexachlorobiphenyl
2,2',3,4,4',5,5'-Heptachlorobiphenyl

NEW

PCB Congener Mix for West Coast Fish Studies

C-WCFS $ 95 / **1 x 1 mL**
25 µg/mL each in Isooctane 24 comps.

2,4',5-Trichlorobiphenyl
2',3,4-Trichlorobiphenyl
2,2',4,5'-Tetrachlorobiphenyl
2,3,3',4'-Tetrachlorobiphenyl
2,3,4,4'-Tetrachlorobiphenyl
2,3',4',5-Tetrachlorobiphenyl
2,2',3,4,5'-Pentachlorobiphenyl
2,2',3,5',6-Pentachlorobiphenyl
2,2',3',4,5-Pentachlorobiphenyl
2,2',4,4',5-Pentachlorobiphenyl
2,3,3',4',6-Pentachlorobiphenyl
2,2',3,3',4,6'-Hexachlorobiphenyl
2,2',3,4,5,5'-Hexachlorobiphenyl
2,2',3,4',5',6-Hexachlorobiphenyl
2,2',3,5,5',6-Hexachlorobiphenyl
2,3,3',4,4',5-Hexachlorobiphenyl
2,3,3',4,4',6-Hexachlorobiphenyl
2,2',3,3',4,5,6'-Heptachlorobiphenyl
2,2',3,3',4',5,6-Heptachlorobiphenyl
2,2',3,3',4,4',5,5'-Octachlorobiphenyl
2,2',3,3',4,5,5',6'-Octachlorobiphenyl
2,2',3,4,4',5,5',6-Octachlorobiphenyl
2,2',3,4,4',5',6-Heptachlorobiphenyl
2,4,4',5-Tetrachlorobiphenyl

WHO/NIST/NOAA Congener List

C-WNN $ 60 / **1 x 1 mL**
C-WNN-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
10 µg/mL each in Isooctane 28 comps.

2,4'-Dichlorobiphenyl
2,2',5-Trichlorobiphenyl
2,4,4'-Trichlorobiphenyl
2,2',3,5'-Tetrachlorobiphenyl
2,2',5,5'-Tetrachlorobiphenyl
2,3',4,4'-Tetrachlorobiphenyl
3,3',4,4'-Tetrachlorobiphenyl
3,4,4',5-Tetrachlorobiphenyl
2,2',4,5,5'-Pentachlorobiphenyl
2,3,3',4,4'-Pentachlorobiphenyl
2,3,4,4',5-Pentachlorobiphenyl
2,3',4,4',5-Pentachlorobiphenyl
2',3,4,4',5-Pentachlorobiphenyl
3,3',4,4',5-Pentachlorobiphenyl
2,2',3,3',4,4'-Hexachlorobiphenyl
2,2',3,4,4',5'-Hexachlorobiphenyl
2,2',4,4',5,5'-Hexachlorobiphenyl
2,3,3',4,4',5-Hexachlorobiphenyl
2,3,3',4,4',5'-Hexachlorobiphenyl
2,3',4,4',5,5'-Hexachlorobiphenyl
3,3',4,4',5,5'-Hexachlorobiphenyl
2,2',3,3',4,4',5-Heptachlorobiphenyl
2,2',3,4,4',5,5'-Heptachlorobiphenyl
2,2',3,4',5,5',6-Heptachlorobiphenyl
2,3,3',4,4',5,5'-Heptachlorobiphenyl
2,2',3,3',4,4',5,6-Octachlorobiphenyl
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl
Decachlorobiphenyl

World Health Organization Congener Mix

C-WHO-01 $ 40 / **1 x 1 mL**
2.0 µg/mL each in Isooctane 12 comps.

3,3',4,4'-Tetrachlorobiphenyl
3,4,4',5-Tetrachlorobiphenyl
2,3,3',4,4'-Pentachlorobiphenyl
2,3,4,4',5-Pentachlorobiphenyl
2,3',4,4',5-Pentachlorobiphenyl
2',3,4,4',5-Pentachlorobiphenyl
3,3',4,4',5-Pentachlorobiphenyl
2,3,3',4,4',5-Hexachlorobiphenyl
2,3,3',4,4',5'-Hexachlorobiphenyl
2,3',4,4',5,5'-Hexachlorobiphenyl
3,3',4,4',5,5'-Hexachlorobiphenyl
2,3,3',4,4',5,5'-Heptachlorobiphenyl

DCMA-PCB Isomer Mixture

M-002 $ 35 / **1 x 1 mL**
M-002-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
At stated conc. in Hexane 10 comps.

2-Chlorobiphenyl	(100 µg/mL)	2,2',3,3',6,6'-Hexachlorobiphenyl	(10 µg/mL)
3,3'-Dichlorobiphenyl	(100 µg/mL)	2,2',3,4,5,5',6-Heptachlorobiphenyl	(5 µg/mL)
2,4,5-Trichlorobiphenyl	(10 µg/mL)	2,2',3,3',4,4',5,5'-Octachlorobiphenyl	(5 µg/mL)
2,2',4,4'-Tetrachlorobiphenyl	(10 µg/mL)	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	(5 µg/mL)
2,3',4,5',6-Pentachlorobiphenyl	(10 µg/mL)	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	(5 µg/mL)

Technical Note

The Dry Color Manufacturer's Association (DCMA) recommends that its members use this type of mixture to monitor their process streams for PCBs. The DCMA-PCB congener method is made from pure PCB congeners in Hexane.

CEN's Workgroup #22 for PCBs in Waste Oil

PCB-W22 $ 35 / **1 x 1 mL**
10 µg/mL each in Isooctane 15 comps.
PCB-W22-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
PCB-W22-SET $ 225 / **15 x 1 mL**
100 µg/mL in Isooctane (Set of Individual Solutions)

No.	
(18)	2,2',5-Trichlorobiphenyl (01)
(20)	2,3,3'-Trichlorobiphenyl (02)
(28)	2,4,4'-Trichlorobiphenyl (03)
(31)	2,4',5-Trichlorobiphenyl (04)
(44)	2,2',3,5'-Tetrachlorobiphenyl (05)
(52)	2,2',5,5'-Tetrachlorobiphenyl (06)
(101)	2,2',4,5,5'-Pentachlorobiphenyl (07)
(105)	2,3,3',4,4'-Pentachlorobiphenyl (08)
(118)	2,3',4,4',5-Pentachlorobiphenyl (09)
(138)	2,2',3,4,4',5'-Hexachlorobiphenyl (10)
(149)	2,2',3,4',5',6-Hexachlorobiphenyl (11)
(153)	2,2',4,4',5,5'-Hexachlorobiphenyl (12)
(170)	2,2',3,3',4,4',5-Heptachlorobiphenyl (13)
(180)	2,2',3,4,4',5,5'-Heptachlorobiphenyl (14)
(194)	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (15)

Technical Note

The Commite' Europeen de Normalisation (CEN) has assigned Workgroup Number 22 in Hamburg, Germany to develop a method for "PCBs" in waste oil.

Dioxin-Like Congeners

NEW

C-DIOXLIK	Level 1 -01	Level 2 -02	Level 3 -03	Level 4 -04	Level 5 -05	Level 6 -06	Level 7 -07	Level 8 -08	Level 9 -09	Level 10 -10	Level 11 -11	Level 12 -12
	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL
3,3',4,4'-Tetrachlorobiphenyl (77)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
3,4,4',5-Tetrachlorobiphenyl (81)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
2,3,3',4,4'-Pentachlorobiphenyl (105)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
2,3,4,4',5-Pentachlorobiphenyl (114)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
2,3',4,4',5-Pentachlorobiphenyl (118)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
2',3,4,4',5-Pentachlorobiphenyl (123)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
3,3',4,4',5-Pentachlorobiphenyl (126)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
2,3,3',4,4',5-Hexachlorobiphenyl (156)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
2,3,3',4,4',5'-Hexachlorobiphenyl (157)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
2,3',4,4',5,5'-Hexachlorobiphenyl (167)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
3,3',4,4',5,5'-Hexachlorobiphenyl (169)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
2,2',3,3',4,4',5-Heptachlorobiphenyl (170)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
2,2',3,4,4',5,5'-Heptachlorobiphenyl (180)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250
2,3,3',4,4',5,5'-Heptachlorobiphenyl (189)	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100	250

C-DIOXLIK1-SET $ 950 / **5 x 1 mL**
Set includes

C-DIOXLIK-02
C-DIOXLIK-04
C-DIOXLIK-06
C-DIOXLIK-08
C-DIOXLIK-10

C-DIOXLIK2-SET $ 950 / **5 x 1 mL**
Set includes

C-DIOXLIK-03
C-DIOXLIK-05
C-DIOXLIK-07
C-DIOXLIK-09
C-DIOXLIK-11

C-DIOXLIK3-SET $ 950 / **5 x 1 mL**
Set includes

C-DIOXLIK-04
C-DIOXLIK-06
C-DIOXLIK-08
C-DIOXLIK-10
C-DIOXLIK-12

Individual Levels 4, 6, 8, 10 12

C-DIOXLIK3-04 $ 225 / **1 mL**
C-DIOXLIK3-06 $ 225 / **1 mL**
C-DIOXLIK3-08 $ 225 / **1 mL**
C-DIOXLIK3-10 $ 225 / **1 mL**
C-DIOXLIK3-12 $ 225 / **1 mL**

PCB Congener Calibration Mixtures

9 Mixtures Contain All 209 Congeners Present in Aroclors

PCB Congener Mix #1

C-CS-01 $ 155 / **1 x 1 mL**
10 µg/mL each in Isooctane 39 comps.

No.	
1	2-Chlorobiphenyl
2	3-Chlorobiphenyl †
3	4-Chlorobiphenyl
4	**2,2'-Dichlorobiphenyl**
6	**2,3'-Dichlorobiphenyl**
8	**2,4'-Dichlorobiphenyl**
9	2,5-Dichlorobiphenyl
16	**2,2',3-Trichlorobiphenyl**
18	**2,2',5-Trichlorobiphenyl**
19	2,2',6-Trichlorobiphenyl
22	**2,3,4'-Trichlorobiphenyl**
25	2,3',4-Trichlorobiphenyl
28	**2,4,4'-Trichlorobiphenyl**
44	**2,2'3,5'-Tetrachlorobiphenyl**
52	**2,2',5,5'-Tetrachlorobiphenyl**
56	**2,3,3',4'-Tetrachlorobiphenyl**
66	**2,3',4,4'-Tetrachlorobiphenyl**
67	2,3',4,5-Tetrachlorobiphenyl
71	2,3',4',6-Tetrachlorobiphenyl
74	**2,4,4',5-Tetrachlorobiphenyl**
82	**2,2',3,3',4-Pentachlorobiphenyl**
87	**2,2',3,4,5'-Pentachlorobiphenyl**
99	**2,2',4,4',5-Pentachlorobiphenyl**
110	**2,3,3',4',6-Pentachlorobiphenyl**
138	**2,2',3,4,4',5'-Hexachlorobiphenyl**
146	**2,2',3,4',5,5'-Hexachlorobiphenyl**
147	2,2',3,4',5,6-Hexachlorobiphenyl †
153	**2,2',4,4',5,5'-Hexachlorobiphenyl**
173	2,2',3,3',4,5,6-Heptachlorobiphenyl
174	**2,2',3,3',4,5,6'-Heptachlorobiphenyl**
177	**2,2',3,3',4',5,6-Heptachlorobiphenyl**
179	**2,2',3,3',5,6,6'-Heptachlorobiphenyl**
180	**2,2',3,4,4',5,5'-Heptachlorobiphenyl**
187	**2,2',3,4',5,5',6-Heptachlorobiphenyl**
194	**2,2',3,3',4,4',5,5'-Octachlorobiphenyl**
195	2,2',3,3',4,4',5,6-Octachlorobiphenyl
199	2,2',3,3',4,5,5',6'-Octachlorobiphenyl
203	**2,2',3,4,4',5,5',6-Octachlorobiphenyl**
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl

PCB Congener Mix #4

C-CS-04 $ 125 / **1 x 1 mL**
10 µg/mL each in Isooctane 22 comps.

No.	
13	3,4'-Dichlorobiphenyl
14	3,5-Dichlorobiphenyl †
35	3,3',4-Trichlorobiphenyl
51	2,2',4,6'-Tetrachlorobiphenyl
53	2,2',5,6'-Tetrachlorobiphenyl
54	2,2',6,6'-Tetrachlorobiphenyl †
73	2,3',5',6-Tetrachlorobiphenyl †
75	2,4,4',6-Tetrachlorobiphenyl
81	3,4,4',5-Tetrachlorobiphenyl †
90	2,2',3,4',5-Pentachlorobiphenyl †
100	2,2',4,4',6-Pentachlorobiphenyl †
117	2,3,4',5,6-Pentachlorobiphenyl
122	2',3,3',4,5-Pentachlorobiphenyl
124	2',3,4,5,5'-Pentachlorobiphenyl
130	2,2',3,3',4,5'-Hexachlorobiphenyl
154	2,2',4,4',5,6'-Hexachlorobiphenyl †
163	**2,3,3',4',5,6-Hexachlorobiphenyl**
165	2,3,3',5,5',6-Hexachlorobiphenyl †
175	2,2',3,3',4,5',6-Heptachlorobiphenyl
200	2,2',3,3',4,5,6,6'-Octachlorobiphenyl
201	2,2',3,3',4,5',6,6'-Octachlorobiphenyl
202	2,2',3,3',5,5',6,6'-Octachlorobiphenyl

PCB Congener Mix #2

C-CS-02 $ 150 / **1 x 1 mL**
10 µg/mL each in Isooctane 36 comps.

No.	
5	2,3-Dichlorobiphenyl
7	2,4-Dichlorobiphenyl
10	2,6-Dichlorobiphenyl
17	**2,2',4-Trichlorobiphenyl**
24	2,3,6-Trichlorobiphenyl
26	**2,3',5-Trichlorobiphenyl**
31	**2,4',5-Trichlorobiphenyl**
32	**2,4',6-Trichlorobiphenyl**
37	**3,4,4'-Trichlorobiphenyl**
41	2,2',3,4-Tetrachlorobiphenyl
45	**2,2',3,6-Tetrachlorobiphenyl**
46	2,2',3,6'-Tetrachlorobiphenyl
48	**2,2',4,5-Tetrachlorobiphenyl**
60	**2,3,4,4'-Tetrachlorobiphenyl**
70	**2,3',4',5-Tetrachlorobiphenyl**
83	2,2',3,3',5-Pentachlorobiphenyl
84	**2,2',3,3',6-Pentachlorobiphenyl**
95	**2,2',3,5',6-Pentachlorobiphenyl**
103	2,2',4,5',6-Pentachlorobiphenyl †
107	2,3,3',4',5-Pentachlorobiphenyl
115	2,3,4,4',6-Pentachlorobiphenyl
131	2,2',3,3',4,6-Hexachlorobiphenyl
132	**2,2',3,3',4,6'-Hexachlorobiphenyl**
135	**2,2',3,3',5,6'-Hexachlorobiphenyl**
141	**2,2',3,4,5,5'-Hexachlorobiphenyl**
149	**2,2',3,4',5',6-Hexachlorobiphenyl**
164	2,3,3',4',5',6-Hexachlorobiphenyl
170	**2,2',3,3',4,4',5-Heptachlorobiphenyl**
171	**2,2',3,3',4,4',6-Heptachlorobiphenyl**
172	2,2',3,3',4,5,5'-Heptachlorobiphenyl
178	2,2',3,3',5,5',6-Heptachlorobiphenyl
183	**2,2',3,4,4',5',6-Heptachlorobiphenyl**
193	2,3,3',4',5,5',6-Heptachlorobiphenyl
196	2,2',3,3',4,4',5',6-Octachlorobiphenyl
197	2,2',3,3',4,4',6,6'-Octachlorobiphenyl
205	2,3,3',4,4',5,5',6-Octachlorobiphenyl

PCB Congener Mix #5

C-CS-05 $ 100 / **1 x 1 mL**
10 µg/mL each in Isooctane 20 comps.

No.	
12	3,4-Dichlorobiphenyl
33	**2',3,4-Trichlorobiphenyl**
49	**2,2',4,5'-Tetrachlorobiphenyl**
59	2,3,3',6-Tetrachlorobiphenyl
63	2,3,4',5-Tetrachlorobiphenyl
64	**2,3,4',6-Tetrachlorobiphenyl**
77	3,3',4,4'-Tetrachlorobiphenyl
85	**2,2',3,4,4'-Pentachlorobiphenyl**
91	2,2',3,4',6-Pentachlorobiphenyl
97	**2,2',3',4,5-Pentachlorobiphenyl**
104	2,2',4,6,6'-Pentachlorobiphenyl †
114	2,3,4,4',5-Pentachlorobiphenyl
123	2',3,4,4',5-Pentachlorobiphenyl
129	2,2',3,3',4,5-Hexachlorobiphenyl
137	2,2',3,4,4',5-Hexachlorobiphenyl
156	**2,3,3',4,4',5-Hexachlorobiphenyl**
167	2,3',4,4',5,5'-Hexachlorobiphenyl
176	2,2',3,3',4,6,6'-Heptachlorobiphenyl
185	2,2',3,4,5,5',6-Heptachlorobiphenyl
189	2,3,3',4,4',5,5'-Heptachlorobiphenyl

PCB Congener Mix #3

C-CS-03 $ 125 / **1 x 1 mL**
10 µg/mL each in Isooctane 27 comps.

No.	
15	**4,4'-Dichlorobiphenyl**
20	2,3,3'-Trichlorobiphenyl
27	2,3',6-Trichlorobiphenyl
29	2,4,5-Trichlorobiphenyl
34	2',3,5-Trichlorobiphenyl
40	2,2',3,3'-Tetrachlorobiphenyl
42	**2,2',3,4'-Tetrachlorobiphenyl**
47	**2,2',4,4'-Tetrachlorobiphenyl**
69	2,3',4,6-Tetrachlorobiphenyl †
92	2,2',3,5,5'-Pentachlorobiphenyl
93	2,2',3,5,6-Pentachlorobiphenyl †
101	**2,2',4,5,5'-Pentachlorobiphenyl**
105	**2,3,3',4,4'-Pentachlorobiphenyl**
118	**2,3',4,4',5-Pentachlorobiphenyl**
119	2,3',4,4',6-Pentachlorobiphenyl
128	**2,2',3,3',4,4'-Hexachlorobiphenyl**
134	2,2',3,3',5,6-Hexachlorobiphenyl
136	**2,2',3,3',6,6'-Hexachlorobiphenyl**
144	2,2',3,4,5',6-Hexachlorobiphenyl
151	**2,2',3,5,5',6-Hexachlorobiphenyl**
157	2,3,3',4,4',5'-Hexachlorobiphenyl
158	2,3,3',4,4',6-Hexachlorobiphenyl
190	2,3,3',4,4',5,6-Heptachlorobiphenyl
191	**2,3,3',4,4',5',6-Heptachlorobiphenyl**
207	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl †
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl †

Reference Key

non-Bold	=	Congener in any of Aroclors 1242, 1254 or 1260 @ < 1.0 Wt.%
Bold	=	**Congener in any of Aroclors 1242, 1254 or 1260 @ > 1.0 Wt.%**
†	=	Congener not in any of the 3 Aroclors @ > 0.05 Wt.%

Bold congeners related to mixes #6, 7 & 8 marginally above 0.05 Wt.%, except #43 @ 0.24 Wt.% in Aroclor 1242.

Some "non-Aroclor" congeners assigned to Mixes 1-5 to reduce coelutions and number of mixes needed.

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

9 Mixtures Contain All 209 Congeners
Not Present in Aroclors

PCB Congener Mix #6

C-CS-06 $ 90 / **1 x 1 mL**
10 µg/mL each in Isooctane 18 comps.

No.	
11	3,3'-Dichlorobiphenyl †
21	2,3,4-Trichlorobiphenyl †
38	3,4,5-Trichlorobiphenyl †
50	2,2',4,6-Tetrachlorobiphenyl †
57	2,3,3',5-Tetrachlorobiphenyl †
61	2,3,4,5-Tetrachlorobiphenyl †
65	2,3,5,6-Tetrachlorobiphenyl †
86	2,2',3,4,5-Pentachlorobiphenyl †
102	2,2',4,5,6'-Pentachlorobiphenyl †
113	2,3,3',5',6-Pentachlorobiphenyl †
126	3,3',4,4',5-Pentachlorobiphenyl †
127	3,3',4,5,5'-Pentachlorobiphenyl †
133	2,2',3,3',5,5'-Hexachlorobiphenyl †
139	2,2',3,4,4',6-Hexachlorobiphenyl †
145	2,2',3,4,6,6'-Hexachlorobiphenyl †
161	2,3,3',4,5',6-Hexachlorobiphenyl †
169	3,3',4,4',5,5'-Hexachlorobiphenyl †
181	2,2',3,4,4',5,6-Heptachlorobiphenyl

PCB Congener Mix #7

C-CS-07 $ 75 / **1 x 1 mL**
10 µg/mL each in Isooctane 14 comps.

No.	
36	3,3',5-Trichlorobiphenyl †
72	2,3',5,5'-Tetrachlorobiphenyl †
78	3,3',4,5-Tetrachlorobiphenyl †
79	3,3',4,5'-Tetrachlorobiphenyl †
89	2,2',3,4,6'-Pentachlorobiphenyl †
96	2,2',3,6,6'-Pentachlorobiphenyl †
98	2,2',3',4,6-Pentachlorobiphenyl †
106	2,3,3',4,5-Pentachlorobiphenyl †
108	2,3,3',4,5'-Pentachlorobiphenyl †
152	2,2',3,5,6,6'-Hexachlorobiphenyl †
166	2,3,4,4',5,6-Hexachlorobiphenyl †
182	2,2',3,4,4',5,6'-Heptachlorobiphenyl †
184	2,2',3,4,4',6,6'-Heptachlorobiphenyl †
204	2,2',3,4,4',5,6,6'-Octachlorobiphenyl †

PCB Congener Mix #8

C-CS-08 $ 75 / **1 x 1 mL**
10 µg/mL each in Isooctane 12 comps.

No.	
30	2,4,6-Trichlorobiphenyl †
43	2,2',3,5-Tetrachlorobiphenyl †
55	2,3,3',4-Tetrachlorobiphenyl †
58	2,3,3',5'-Tetrachlorobiphenyl †
76	2',3,4,5-Tetrachlorobiphenyl †
109	2,3,3',4,6-Pentachlorobiphenyl †
112	2,3,3',5,6-Pentachlorobiphenyl †
120	2,3',4,5,5'-Pentachlorobiphenyl †
159	2,3,3',4,5,5'-Hexachlorobiphenyl †
186	2,2',3,4,5,6,6'-Heptachlorobiphenyl †
192	2,3,3',4,5,5',6-Heptachlorobiphenyl †
198	2,2',3,3',4,5,5',6-Octachlorobiphenyl †

PCB Congener Mix #9

C-CS-09 $ 100 / **1 x 1 mL**
10 µg/mL each in Isooctane 21 comps.

No.	
23	2,3,5-Trichlorobiphenyl †
39	3,4',5-Trichlorobiphenyl †
62	2,3,4,6-Tetrachlorobiphenyl †
68	2,3',4,5'-Tetrachlorobiphenyl †
80	3,3',5,5'-Tetrachlorobiphenyl †
88	2,2',3,4,6-Pentachlorobiphenyl †
94	2,2',3,5,6'-Pentachlorobiphenyl †
111	2,3,3',5,5'-Pentachlorobiphenyl †
116	2,3,4,5,6-Pentachlorobiphenyl †
121	2,3',4,5',6-Pentachlorobiphenyl †
125	2',3,4,5,6'-Pentachlorobiphenyl †
140	2,2',3,4,4',6'-Hexachlorobiphenyl †
142	2,2',3,4,5,6-Hexachlorobiphenyl †
143	2,2',3,4,5,6'-Hexachlorobiphenyl †
148	2,2',3,4',5,6'-Hexachlorobiphenyl †
150	2,2',3,4',6,6'-Hexachlorobiphenyl †
155	2,2',4,4',6,6'-Hexachlorobiphenyl †
160	2,3,3',4,5,6-Hexachlorobiphenyl †
162	2,3,3',4',5,5'-Hexachlorobiphenyl †
168	2,3',4,4',5',6-Hexachlorobiphenyl †
188	2,2',3,4',5,6,6'-Heptachlorobiphenyl †

Congener Calibration Solution Sets

Mixes containing all 209 PCB congeners.

C-CSQ-SET $ 650 / **9 x 1 mL**

1 mL each of:

C-CS-01	**C-CS-04**	**C-CS-07**
C-CS-02	**C-CS-05**	**C-CS-08**
C-CS-03	**C-CS-06**	**C-CS-09**

Mixes for congeners found in Aroclor® 1242, 1254 and 1260

C-CSA-SET $ 475 / **5 x 1 mL**

1 mL each of:

C-CS-01	**C-CS-04**
C-CS-02	**C-CS-05**
C-CS-03	

Mixes for non-Aroclor congeners

C-CSN-SET $ 250 / **4 x 1 mL**

1 mL each of:

C-CS-06	**C-CS-08**
C-CS-07	**C-CS-09**

PCB Congener Calibration Mixtures

Method 680 PCB Analytes

Internal Standards

M-680-IS $ 15 / **1 x 1 mL**
M-680-IS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
75 µg/mL each in Hexane 2 comps.

M-680-IS-10X $ 25 / **1 x 1 mL**
M-680-IS-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
750 µg/mL each in Hexane 2 comps.

Chrysene-d_{12}
Phenanthrene-d_{10}

PCB Locator Mixture

M-PCBL $ 25 / **1 x 1 mL**
M-PCBL-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in Isooctane 5 comps.

Aroclor 1242	(0.5 µg/mL)
Aroclor 1260	(0.5 µg/mL)
2-Chlorobiphenyl	(0.1 µg/mL)
3-Chlorobiphenyl	(0.1 µg/mL)
Decachlorobiphenyl	(0.1 µg/mL)

Retention Time Calibration Standard

M-680-RT $ 25 / **1 x 1 mL**
M-680-RT-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
100 µg/mL each in Hexane 3 comps.

3,3',4,4'-Tetrachlorobiphenyl
2,2',4,6,6'-Pentachlorobiphenyl
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl

See EPA section Method 680 for complete analyte list.

PCB Isomer Calibration Mix

M-680A $ 40 / **1 x 1 mL**
At stated conc. in Hexane 9 comps.

No.		
1	2-Chlorobiphenyl	(50 µg/mL)
5	2,3-Dichlorobiphenyl	(50 µg/mL)
29	2,4,5-Trichlorobiphenyl	(50 µg/mL)
50	2,2',4,6-Tetrachlorobiphenyl	(100 µg/mL)
87	2,2',3,4,5'-Pentachlorobiphenyl	(100 µg/mL)
154	2,2',4,4',5,6'-Hexachlorobiphenyl	(100 µg/mL)
188	2,2',3,4',5,6,6'-Heptachlorobiphenyl	(150 µg/mL)
201	2,2',3,3',4,5',6,6'-Octachlorobiphenyl	(150 µg/mL)
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	(250 µg/mL)

Technical Note

The EPA has designated the following isomers for use in quantifying PCB's by GC/MS. The PCBs are identified and measured as isomer groups (i.e., by level of chlorination). A concentration is measured for each PCB isomer group; total PCB concentration in each sample extract is obtained by summing isomer group concentrations.

Internal Standard

M-680B $ 15 / **1 x 1 mL**
250 µg/mL in Toluene

Chrysene-d_{12}

Tuning Standard

M-680-TS $ 10 / **1 x 1 mL**
M-680-TS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
10 µg/mL in CH_2Cl_2

Decafluorotriphenylphosphine *(DFTPP)*

PCB Isomer Calibration Set

M-680-SET $ 45 / **2 x 1 mL**
Includes: M-680A (Mix) M-680B (Internal Standard)

Level of Chlorination	Isomer Selected	Congener Number	RF Value vs. Chrysene-d_{12}	Mean RF Value vs. Chrysene-d_{12}
1	2-mono	1	0.899	0.925
2	2,3-di	5	0.651	0.642
3	2,4,5-tri	29	0.411	0.411
4	2,2'4,6-tetra	50	0.305	0.431
5	2,2',3,4,5'-penta	87	0.299	0.287
6	2,2',4,4',5,6'-hexa	154	0.254	0.254
7	2,2',3,4',5,6,6'-hepta	188	0.164	0.160
8	2,2',3,3',4,5',6,6'-octa	201	0.207	0.191
9,10	2,2',3,3',4,4',5,5',6,6'-deca	209	0.144	0.150

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Instrument Test Solutions

PCB Window Defining Mixture

C-WDM $ 60 / **1 x 1 mL**
C-WDM-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
2.5 µg/mL each in Isooctane 20 comps.

No.	
0	Biphenyl
1	2-Chlorobiphenyl
3	4-Chlorobiphenyl
10	2,6-Dichlorobiphenyl
15	4,4'-Dichlorobiphenyl
19	2,2',6-Trichlorobiphenyl
37	3,4,4'-Trichlorobiphenyl
54	2,2',6,6'-Tetrachlorobiphenyl
77	3,3',4,4'-Tetrachlorobiphenyl
104	2,2',4,6,6'-Pentachlorobiphenyl
126	3,3',4,4',5-Pentachlorobiphenyl
155	2,2',4,4',6,6'-Hexachlorobiphenyl
169	3,3',4,4',5,5'-Hexachlorobiphenyl
188	2,2',3,4',5,6,6'-Heptachlorobiphenyl
189	2,3,3'4,4',5,5'-Heptachlorobiphenyl
202	2,2',3,3',5,5',6,6'-Octachlorobiphenyl
205	2,3,3',4,4',5,5',6-Octachlorobiphenyl
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl

PCB Calibration Check Solution

C-CCSEC $ 60 / **1 x 1 mL**
C-CCSEC-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
100 µg/mL each in Acetone 20 comps.

C-CCSEC-R $ 40 / **1 x 1 mL**
C-CCSEC-R-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
C-CCSEC plus 2,2',3,3',4,5',6,6'-Octachlorobiphenyl
Special Blend 21 comps.

No.	
8	2,4'-Dichlorobiphenyl
18	2,2',5-Trichlorobiphenyl
28	2,4,4'-Trichlorobiphenyl
44	2,2',3,5'-Tetrachlorobiphenyl
52	2,2',5,5'-Tetrachlorobiphenyl
66	2,3',4,4'-Tetrachlorobiphenyl
77	3,3',4,4'-Tetrachlorobiphenyl
101	2,2',4,5,5'-Pentachlorobiphenyl
105	2,3,3',4,4'-Pentachlorobiphenyl
118	2,3',4,4',5-Pentachlorobiphenyl
126	3,3',4,4',5-Pentachlorobiphenyl
128	2,2',3,3',4,4'-Hexachlorobiphenyl
138	2,2',3,4,4',5'-Hexachlorobiphenyl
153	2,2',4,4',5,5'-Hexachlorobiphenyl
170	2,2',3,3',4,4',5-Heptachlorobiphenyl
180	2,2',3,4,4',5,5'-Heptachlorobiphenyl
187	2,2',3,4',5,5',6-Heptachlorobiphenyl
195	2,2',3,3',4,4',5,6-Octachlorobiphenyl
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl

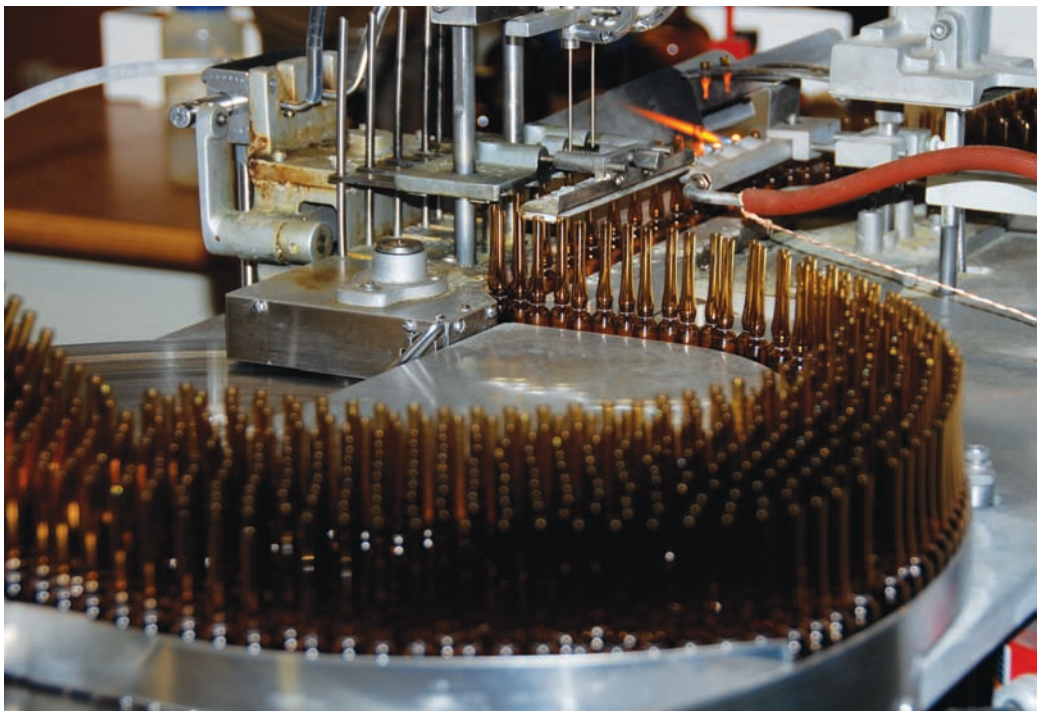
PCB/Selective Ion Monitoring Solution

PCB-SIM $ 45 / **1 x 1 mL**
PCB-SIM-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
At stated conc. in Hexane 12 comps.

No.		
1	2-Chlorobiphenyl	(10 µg/mL)
5	2,3-Dichlorobiphenyl	(10 µg/mL)
29	2,4,5-Trichlorobiphenyl	(10 µg/mL)
104	2,2',4,6,6'-Pentachlorobiphenyl	(20 µg/mL)
87	2,2',3,4,5'-Pentachlorobiphenyl	(20 µg/mL)
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	(40 µg/mL)
50	2,2',4,6-Tetrachlorobiphenyl	(20 µg/mL)
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	(50 µg/mL)
77	3,3',4,4'-Tetrachlorobiphenyl	(20 µg/mL)
200	2,2',3,3',4,5',6,6'-Octachlorobiphenyl	(30 µg/mL)
186	2,2',3,4',5,6,6'-Heptachlorobiphenyl	(30 µg/mL)
154	2,2',4,4',5,6'-Hexachlorobiphenyl	(20 µg/mL)

Technical Note

For use with Phenyl methyl silicone type columns.



Aroclors

Aroclor Solutions in Isooctane and Methanol, 2 Concentrations (Individuals and Sets)

Aroclor #	35 µg/mL in Isooctane 1 mL		PAK 5 x 1 mL		100 µg/mL in Isooctane 1 mL	35 µg/mL in Methanol 1 mL		PAK 5 x 1 mL		100 µg/mL in Methanol 1 mL	
Aroclor 1016	C-216S	$ 15	C-216S-PAK	$ 60	C-216S-TP	$ 15	C-216S-M	$ 15	C-216S-M-PAK	$ 60	C-216S-M-2.85X	$ 12
Aroclor 1221	C-221S	15	C-221S-PAK	60	C-221S-TP	15	C-221S-M	15	C-221S-M-PAK	60	C-221S-M-2.85X	12
Aroclor 1232	C-232S	15	C-232S-PAK	60	C-232S-TP	15	C-232S-M	15	C-232S-M-PAK	60	C-232S-M-2.85X	10
Aroclor 1242	C-242S	15	C-242S-PAK	60	C-242S-TP	15	C-242S-M	15	C-242S-M-PAK	60	C-242S-M-2.85X	15
Aroclor 1248	C-248S	15	C-248S-PAK	60	C-248S-TP	15	C-248S-M	15	C-248S-M-PAK	60	C-248S-M-2.85X	12
Aroclor 1254	C-254S	15	C-254S-PAK	60	C-254S-TP	15	C-254S-M	15	C-254S-M-PAK	60	C-254S-M-2.85X	12
Aroclor 1260	C-260S	15	C-260S-PAK	60	C-260S-TP	15	C-260S-M	15	C-260S-M-PAK	60	C-260S-M-2.85X	12
Aroclor 1262	C-262S	15	C-262S-PAK	60	C-262S-TP	15	C-262S-M	15	C-262S-M-PAK	60	C-262S-M-2.85X	12
Aroclor 1268	C-268S	15	C-268S-PAK	60	C-268S-TP	15	C-268S-M	15	C-268S-M-PAK	60	C-268S-M-2.85X	12
Set of 9 above	**Z-008S-SET**	78					**Z-008S-M-SET**	78				

Aroclor Solutions in Hexane, 2 Conc. (Individuals, Sets, PAKs)

Aroclor #	Hexane 1000 µg/mL	Price 1 mL	Hexane PAK *SAVE 20%*	Price 5 x 1 mL
Aroclor 1016	C-216S-H-10X	$ 20	C-216S-H-10X-PAK	$ 80
Aroclor 1221	C-221S-H-10X	20	C-221S-H-10X-PAK	80
Aroclor 1232	C-232S-H-10X	20	C-232S-H-10X-PAK	80
Aroclor 1242	C-242S-H-10X	20	C-242S-H-10X-PAK	80
Aroclor 1248	C-248S-H-10X	20	C-248S-H-10X-PAK	80
Aroclor 1254	C-254S-H-10X	20	C-254S-H-10X-PAK	80
Aroclor 1260	C-260S-H-10X	20	C-260S-H-10X-PAK	80
Aroclor 1262	C-262S-H-10X	20	C-262S-H-10X-PAK	80
Aroclor 1268	C-268S-H-10X	20	C-268S-H-10X-PAK	80
Set of 9 above	**Z-008S-H-10X-SET**	120		

Aroclor Neats (Individuals)

Aroclor #	Neat	Price / Unit
Aroclor 1016	C-216N	$ 40 / 50 mg
Aroclor 1221	C-221N-50MG	50 / 50 mg
Aroclor 1232	----------	----------
Aroclor 1242	C-242N-50MG	25 / 50 mg
Aroclor 1248	C-248N-50MG	40 / 50 mg
Aroclor 1254	C-254N-50MG	55 / 50 mg
Aroclor 1260	C-260N-50MG	40 / 50 mg
Aroclor 1262	C-262N-50MG	40 / 50 mg
Aroclor 1268	----------	----------

Solutions in PCB-Free Transformer Oil (Individuals, 2 Concentrations)

Aroclor # CAS No.	Conc. ppm w/w	Individual Cat. No.	Price 1 mL	PAK *SAVE 20%* Cat. No.	Price 5 x 1 mL
Aroclor 1016	50	C-216-ST-1	$ 30	C-216-ST-1-PAK	$ 120
12674-11-2	500	C-216-ST-2	50	C-216-ST-2-PAK	200
Aroclor 1221	50	C-221-ST-1	30	C-221-ST-1-PAK	120
11104-28-2	500	C-221-ST-2	50	C-221-ST-2-PAK	200
Aroclor 1232	50	C-232-ST-1	50	C-232-ST-1-PAK	200
11141-16-5	500	C-232-ST-2	75	C-232-ST-2-PAK	300
Aroclor 1242	50	C-242-ST-1	30	C-242-ST-1-PAK	120
53469-21-9	500	C-242-ST-2	50	C-242-ST-2-PAK	200
Aroclor 1248	50	C-248-ST-1	30	C-248-ST-1-PAK	120
12672-29-6	500	C-248-ST-2	50	C-248-ST-2-PAK	200
Aroclor 1254	50	C-254-ST-1	30	C-254-ST-1-PAK	120
11097-69-1	500	C-254-ST-2	50	C-254-ST-2-PAK	200
Aroclor 1260	50	C-260-ST-1	30	C-260-ST-1-PAK	120
11096-82-5	500	C-260-ST-2	50	C-260-ST-2-PAK	200
Aroclor 1262	50	C-262-ST-1	30	C-262-ST-1-PAK	120
37324-23-5	500	C-262-ST-2	50	C-262-ST-2-PAK	200
Aroclor 1268	50	C-268-ST-1	30	C-268-ST-1-PAK	120
11100-14-4	500	C-268-ST-2	75	C-268-ST-2-PAK	300

Aroclor-free Transformer Oil is available as:

T-W130 $ 10 / **1 x 1 mL**

Technical Note

Major Isomer Components of Aroclor 1254

Aroclor® 1254 was the most commonly used of the industrial PCB fluids. This list contains congeners which constitute the majority of the components in this material. They are offered in both neat form and solution. Solutions are in 35 µg/mL in isooctane.

For 1254 only the following congeners may be found at > 0.5% by weight by BZ Number:

BZ#s 44,49, 52, 56, 64, 66, 70, 74, 82, 84, 85, 87, 91, 92, 95, 97, 99, 101, 105, 110, 118, 128, 130, 132, 135, 136, 138, 141, 146, 149, 151, 153, 156, 158, 163, 170, 180.

- The coplanar polychlorinated biphenyl (PCB) congeners; 3,3',4,4'-Tetrachlorobiphenyl (BZ# 77), 3,3',4,4',5-Pentachlorobiphenyl (BZ# 126), and 3,3',4,4',5,5'-Hexachlorobiphenyl (BZ# 169) are recognized as the most toxic components of Aroclors.
- The major problem in isolation of these PCB congeners is the separation of 2,3,3',4',6-Pentachlorobiphenyl (BZ# 110) from 3,3',4,4'-Tetrachlorobiphenyl (BZ# 77).
- A simple cleanup procedure using alumina is proposed for the fractionation of the Aroclors on alumina which allows the isolation and analysis of the coplanar PCB congeners (1).
- The proposed internal standard 3,3',4,4'-Tetrabromobiphenyl (B-077S) enhances the accuracy of the procedure.

The novel compound 3,3',4,4'-Tetrabromobiphenyl is used as an Internal Standard to identify and quantify the coplanar components of Aroclors [1].

(1) Analysis of coplanar PCB congeners in Aroclors using alumina column cleanup. Jerry W. Anderson, ManTech Environmental Technology, Inc., R.S. Kerr Environmental Research Laboratory, U.S. Environmental Protection Agency, P.O. Box 1198, Ada, OK 74820 - Pittsburgh Conference, March 1992, New Orleans

B-077S $ 30 / **1 x 1 mL**
35 µg/mL in Isooctane
3,3',4,4'-Tetrabromobiphenyl

Aroclors Similar but Different

Reference Standards of Aroclor Mixtures (by GC Analysis)

Technical mixtures were manufactured by industry in many individual batches using set production conditions. The composition of the mixtures, as is evident from the chromatograms (fingerprints), will be similar but never exactly the same. Sometimes there is a variation in the manufacturing process thereby producing a more radical change in the composition of the product mixture.

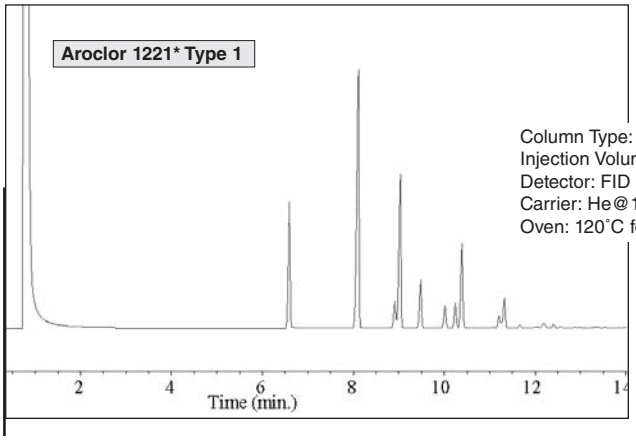
This is the case for Aroclors®, technical mixtures of PCBs made by Monsanto during the period of the 1930s through 1977. A certain batch of Aroclor 1254 (54% Chlorine by weight) that was being made by chlorinating biphenyls was chlorinated in two stages. Normally this was a single stage process. The resulting product of the two stage manufacturing process was a material containing significantly higher concentrations of the non-ortho substituted congeners, which also happen to be more toxic.

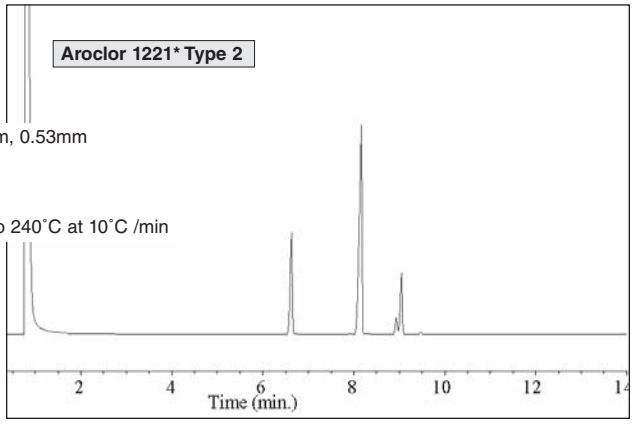
Identifying and quantifying Aroclor 1254 in the environment is confusing to the analyst when they encounter what on the surface appears to be 1254 but on closer examination is quite different.

For different reasons there also exist two types of Aroclor 1221. To help you clear up any confusion AccuStandard (as an exclusive) makes available both types of these Aroclors.

Aroclor 1221 Type 1 & 2 (21% Chlorine by weight)

Aroclor 1221 (21% Chlorine by weight) where two types exist. Type 1 is the one commonly available and contains measurable quantities of certain dichloro- and trichloro- congeners. The peaks found in gas chromatograms attributable to those congeners are absent in Type 2 of Aroclor 1221.

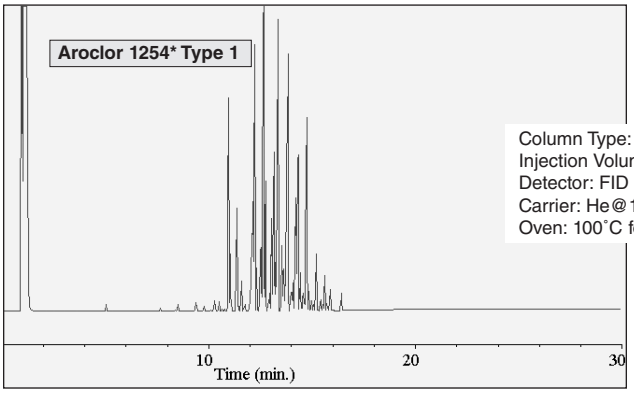


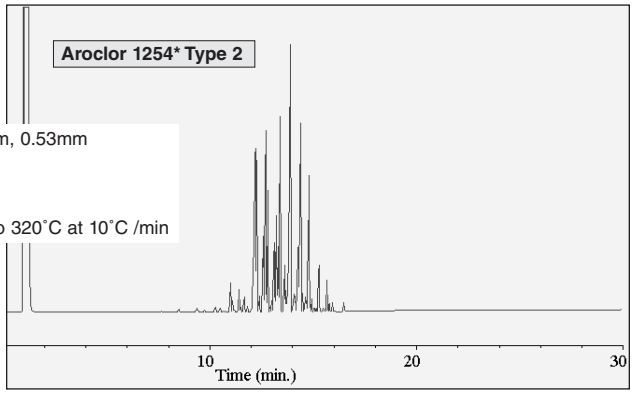


Column Type: DB-5, 30m, 0.53mm
Injection Volume: 0.5µl
Detector: FID
Carrier: He@10ml/min
Oven: 120˚C for 2 min to 240˚C at 10˚C /min

Aroclor 1254 Type 1 & 2 (54% Chlorine by weight)

The commonly occurring Aroclor 1254 (54% Chlorine by weight) is available as **C-254N** and **C-254S-TYPE1** (C-254S), and is the same as the C-254N and C-254S that you have been obtaining from **AccuStandard** for the past 16 years. The second type of Aroclor 1254, that was made by a different manufacturing process is available as **C-254S-TYPE2**.





Column Type: DB-5, 30m, 0.53mm
Injection Volume: 0.5µl
Detector: FID
Carrier: He@10ml/min
Oven: 100˚C for 2 min to 320˚C at 10˚C /min

Set of 1 each **C-221S-TYPE1*** and **C-221S-TYPE2***	**C-221-SET**	$ 40 / 2 x 1 mL
Set of 1 each **C-254S-TYPE1*** and **C-254S-TYPE2***	**C-254-SET**	$ 40 / 2 x 1 mL

Solutions in these sets are 35 µg/mL in Isooctane

* All Standards cited in this monograph are bonafide and unadulterated Monsanto product.

Hydroxy-Chlorobiphenyls

Hydroxy-Chlorobiphenyls

Compound	CAS No.	NEAT Cat. No.	Price / Unit	Each 100 µg/mL in Isooctane Cat. No.	Price / 1 mL
2-Hydroxy-5-chlorobiphenyl	607-12-5	HPCB-1001N	$ 20 / 5 mg	HPCB-1001S	$ 15
4-Hydroxy-2-chlorobiphenyl	23719-22-4	HPCB-1002N	20 / 5 mg	HPCB-1002S	15
4-Hydroxy-3-chlorobiphenyl	92-04-6	HPCB-1003N	20 / 5 mg	HPCB-1003S	15
4-Hydroxy-4'-chlorobiphenyl	28034-99-3	HPCB-1004N	40 / 10 mg	HPCB-1004S	20
2-Hydroxy-2',5'-dichlorobiphenyl	53905-30-9	HPCB-2001N	50 / 10 mg	HPCB-2001S	20
3-Hydroxy-2',5'-dichlorobiphenyl	53905-29-6	HPCB-2002N	50 / 10 mg	HPCB-2002S	20
4-Hydroxy-2',5'-dichlorobiphenyl	53905-28-5	HPCB-2003N	50 / 10 mg	HPCB-2003S	20
4-Hydroxy-3,5-dichlorobiphenyl	1137-59-3	HPCB-2004N	50 / 10 mg	HPCB-2004S	20
2-Hydroxy-2',3'-dichlorobiphenyl		HPCB-2005N	50 / 10 mg	HPCB-2005S	20
2-Hydroxy-3',4'-dichlorobiphenyl		HPCB-2006N	50 / 10 mg	HPCB-2006S	20
2-Hydroxy-2',4',6'-trichlorobiphenyl		HPCB-3001N	50 / 10 mg	HPCB-3001S	20
2-Hydroxy-2',5,5'-trichlorobiphenyl		HPCB-3002N	50 / 10 mg	HPCB-3002S	20
3-Hydroxy-2',4',6'-trichlorobiphenyl		HPCB-3003N	50 / 10 mg	HPCB-3003S	20
4-Hydroxy-2,2',5'-trichlorobiphenyl	53905-33-2	HPCB-3004N	40 / 5 mg	HPCB-3004S	30
4-Hydroxy-2',3,5'-trichlorobiphenyl		HPCB-3005N	50 / 5 mg	HPCB-3005S	20
4-Hydroxy-2',4',6'-trichlorobiphenyl	14962-28-8	HPCB-3006N	50 / 10 mg	HPCB-3006S	20
2-Hydroxy-2',3',4',5'-tetrachlorobiphenyl		HPCB-4001N	50 / 10 mg	HPCB-4001S	20
2-Hydroxy-2',3',5',6'-tetrachlorobiphenyl		HPCB-4002N	50 / 10 mg	HPCB-4002S	20
2-Hydroxy-2',4',5,6'-tetrachlorobiphenyl		HPCB-4003N	50 / 10 mg	HPCB-4003S	20
3-Hydroxy-2',3',4',5'-tetrachlorobiphenyl	67651-37-0	HPCB-4004N	50 / 10 mg	HPCB-4004S	20
3-Hydroxy-2',3',5',6'-tetrachlorobiphenyl		HPCB-4005N	50 / 10 mg	HPCB-4005S	20
4-Hydroxy-2,2',4',6'-tetrachlorobiphenyl	150304-08-8	HPCB-4006N	40 / 5 mg	HPCB-4006S	30
4-Hydroxy-2',3',4',5'-tetrachlorobiphenyl	67651-34-7	HPCB-4007N	50 / 10 mg	HPCB-4007S	20
4-Hydroxy-2',3,4',6'-tetrachlorobiphenyl		HPCB-4008N	50 / 5 mg	HPCB-4008S	20
4-Hydroxy-2',3,5,5'-tetrachlorobiphenyl		HPCB-4009N	50 / 10 mg	HPCB-4009S	20
4-Hydroxy-2',3',5',6'-tetrachlorobiphenyl	14962-32-4	HPCB-4010N	50 / 10 mg	HPCB-4010S	20
3-Hydroxy-2,2',6,6'-tetrachlorobiphenyl ***NEW***		----------	----------	HPCB-4012S	50
5-Hydroxy-2,2',4,6'-tetrachlorobiphenyl ***NEW***		----------	----------	HPCB-4014S	50
4,4'-Dihydroxy-2,2',6,6'-tetrachlorobiphenyl ***NEW***		----------	----------	HPCB-4015S	50
2-Hydroxy-2',3',4',5,5'-pentachlorobiphenyl	67651-36-9	HPCB-5001N	50 / 10 mg	HPCB-5001S	20
2-Hydroxy-2',3',5,5',6'-pentachlorobiphenyl		HPCB-5002N	50 / 10 mg	HPCB-5002S	20
4-Hydroxy-2,2',3',4',5'-pentachlorobiphenyl		HPCB-5003N	40 / 5 mg	HPCB-5003S	30
4-Hydroxy-2,2',3',5',6'-pentachlorobiphenyl		HPCB-5004N	40 / 5 mg	HPCB-5004S	30
4-Hydroxy-2',3,3',4',5'-pentachlorobiphenyl	67651-35-8	HPCB-5005N	50 / 5 mg	HPCB-5005S	20
4-Hydroxy-2',3,3',5',6'-pentachlorobiphenyl		HPCB-5006N	50 / 5 mg	HPCB-5006S	20
4-Hydroxy-2',3,4',5,6'-pentachlorobiphenyl		HPCB-5007N	50 / 10 mg	HPCB-5007S	20
2-Hydroxy-2',3,4',5',6-pentachlorobiphenyl ***NEW***		----------	----------	HPCB-5010S	50
3-Hydroxy-2,2',4',5,5'-pentachlorobiphenyl ***NEW***	69278-58-6	----------	----------	HPCB-5008S	50
4-Hydroxy-2,2',4',5,5'-pentachlorobiphenyl ***NEW***		----------	----------	HPCB-5009S	50
4-Hydroxy-2',3,3',4',5,5'-hexachlorobiphenyl	158076-63-2	HPCB-6001N	50 / 10 mg	HPCB-6001S	20
4-Hydroxy-2',3,3',5,5',6'-hexachlorobiphenyl		HPCB-6002N	50 / 10 mg	HPCB-6002S	20
4'-Hydroxy-2,2',3,3',4,5,5'-heptachlorobiphenyl ***NEW***		----------	----------	HPCB-7001S	50
3'-Hydroxy-2,2',3,4,4',5,5'-heptachlorobiphenyl ***NEW***		----------	----------	HPCB-7003S	50
5-Hydroxy-2,2',3,4,4',5',6-heptachlorobiphenyl ***NEW***		----------	----------	HPCB-7004S	50

Methoxy PCBs

Compound	Each 100 µg/mL in Isooctane Cat. No.	Price / 1 mL
2-Methoxy-5-chlorobiphenyl	MOPCB-1001S	$ 20
4-Methoxy-2-chlorobiphenyl	MOPCB-1002S	20
4-Methoxy-3-chlorobiphenyl	MOPCB-1003S	20
4-Methoxy-4'-chlorobiphenyl	MOPCB-1004S	25
3-Methoxy-2',5'-dichlorobiphenyl	MOPCB-2002S	25
4-Methoxy-2',5'-dichlorobiphenyl	MOPCB-2003S	25
4-Methoxy-3,5-dichlorobiphenyl	MOPCB-2004S	25
2-Methoxy-2',3'-dichlorobiphenyl	MOPCB-2005S	25
2-Methoxy-2',3'-dichlorobiphenyl	MOPCB-2006S	25
2-Methoxy-2',4',6'-trichlorobiphenyl	MOPCB-3001S	25
2-Methoxy-2',5,5'-trichlorobiphenyl	MOPCB-3002S	25
3-Methoxy-2',4',6'-trichlorobiphenyl	MOPCB-3003S	25
4-Methoxy-2,2',5'-trichlorobiphenyl	MOPCB-3004S	35
4-Methoxy-2',3,5'-trichlorobiphenyl	MOPCB-3005S	25
4-Methoxy-2',4',6'-trichlorobiphenyl	MOPCB-3006S	25

Compound	Each 100 µg/mL in Isooctane Cat. No.	Price / 1 mL
2-Methoxy-2',3',4',5'-tetrachlorobiphenyl	MOPCB-4001S	$ 25
2-Methoxy-2',3',5',6'-tetrachlorobiphenyl	MOPCB-4002S	25
2-Methoxy-2',4',5,6'-tetrachlorobiphenyl	MOPCB-4003S	25
3-Methoxy-2',3',4',5'-tetrachlorobiphenyl	MOPCB-4004S	25
3-Methoxy-2',3',5',6'-tetrachlorobiphenyl	MOPCB-4005S	25
4-Methoxy-2',3',4',5'-tetrachlorobiphenyl	MOPCB-4007S	25
4-Methoxy-2',3,4',6'-tetrachlorobiphenyl	MOPCB-4008S	25
4-Methoxy-2',3,5,5'-tetrachlorobiphenyl	MOPCB-4009S	25
2-Methoxy-2',3',4',5,5'-pentachlorobiphenyl	MOPCB-5001S	25
2-Methoxy-2',3',5,5',6'-pentachlorobiphenyl	MOPCB-5002S	25
4-Methoxy-2,2',3',4',5'-pentachlorobiphenyl	MOPCB-5003S	35
4-Methoxy-2,2',3',5',6'-pentachlorobiphenyl	MOPCB-5004S	35
4-Methoxy-2,2',4',5,5'-pentachlorobiphenyl	MOPCB-5009S	55
2-Methoxy-2',3,4',5',6-pentachlorobiphenyl	MOPCB-5010S	55
4-Methoxy-2',3,3',4',5,5'-hexachlorobiphenyl	MOPCB-6001S	25
4'-Methoxy-2,2',3,3',4,5,5'-heptachlorobiphenyl* ***NEW***	MOPCB-7001S-0.5X	55

* in 50 µg/mL

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

PCB Metabolites

Methylsulfonyl PCB Congeners

Compound	CAS No.	Each 50 µg/mL in Isooctane Cat. No.	Price / 1 mL
3-Methylsulfonyl-2,2',4',5-tetrachlorobiphenyl	116807-52-4	MSCB-3049	$ 150
3-Methylsulfonyl-2,2',5,5'-tetrachlorobiphenyl	60640-54-2	MSCB-3052	150
3-Methylsulfonyl-2,3',4',5-tetrachlorobiphenyl	116807-53-5	MSCB-3070	150
3-Methylsulfonyl-2,2',3',4',5-pentachlorobiphenyl	66640-58-2	MSCB-3087	150
3-Methylsulfonyl-2,2',4',5,6-pentachlorobiphenyl	149949-86-0	MSCB-3091	150
3-Methylsulfonyl-2,2',3',5,6'-pentachlorobiphenyl		MSCB-3095	150
3-Methylsulfonyl-2,2',4',5,5'-pentachlorobiphenyl	66640-60-6	MSCB-3101	150
3-Methylsulfonyl-2,3',4',5,6-pentachlorobiphenyl	116807-23-9	MSCB-3110	150
3-Methylsulfonyl-2,2',3',4',5,6-hexachlorobiphenyl	149949--90-6	MSCB-3132	150
3-Methylsulfonyl-2,2',3',4',5,5'-hexachlorobiphenyl	104086-18-2	MSCB-3141	150
3-Methylsulfonyl-2,2',4',5,5',6-hexachlorobiphenyl	149949-88-2	MSCB-3149	150
3-Methylsulfonyl-2,2',3',4',5,5',6-heptachlorobiphenyl		MSCB-3174	150
4-Methylsulfonyl-2,2',4',5-tetrachlorobiphenyl	69797-52-0	MSCB-4049	150
4-Methylsulfonyl-2,2',5,5'-tetrachlorobiphenyl	60640-55-3	MSCB-4052	150
4-Methylsulfonyl-2,3,4',6-tetrachlorobiphenyl	108736-08-9	MSCB-4064	150
4-Methylsulfonyl-2,3',4',5-tetrachlorobiphenyl	69797-51-9	MSCB-4070	150
4-Methylsulfonyl-2,2',3',4',5-pentachlorobiphenyl	66640-59-3	MSCB-4087	150
4-Methylsulfonyl-2,2',4',5,6-pentachlorobiphenyl	149949-87-1	MSCB-4091	150
4-Methylsulfonyl-2,2',3',5,6'-pentachlorobiphenyl		MSCB-4095	150
4-Methylsulfonyl-2,2',4',5,5'-pentachlorobiphenyl	66640-61-7	MSCB-4101	150
4-Methylsulfonyl-2,2',4',5,6'-pentachlorobiphenyl		MSCB-4103	150
4-Methylsulfonyl-2,3,3',4',6-pentachlorobiphenyl	149949-89-3	MSCB-4110	150
4-Methylsulfonyl-2,2',3,3',4',6-hexachlorobiphenyl	104086-16-0	MSCB-4132	150
4-Methylsulfonyl-2,2',3',4',5,5'-hexachlorobiphenyl	104086-19-3	MSCB-4141	150
4-Methylsulfonyl-2,2',3,4',5',6-hexachlorobiphenyl	116806-76-9	MSCB-4149	150
4-Methylsulfonyl-2,2',3',4',5,5',6-heptachlorobiphenyl	153310-30-6	MSCB-4174	150

Technical Note

An important group of persistent PCB metabolites, the methylsulfonyl PCBs ($MeSO_2$-PCBs) have been added. Only the 3- and 4-$MeSO_2$-PCBs with chlorine atoms in the 2,5- or 2,3,6-position have been found in environmental samples, and therefore only those are offered by AccuStandard.

Aroclor-free Transformer Oil is available as:

T-W130 $ 10 / **1 x 1 mL**

Hydroxy-Biphenyls

Compound	CAS No.	NEAT Cat. No.	Price / Unit	Solutions 100 µg/mL in MeOH Cat. No.	Price / 1 mL
2-Hydroxy-biphenyl	90-43-7	HBP-001N	$ 15 / 100 mg	HBP-001S	$ 15
3-Hydroxy-biphenyl	580-51-8	HBP-002N	15 / 100 mg	HBP-002S	15
4-Hydroxy-biphenyl	92-69-3	HBP-003N	15 / 100 mg	HBP-003S	15
2,2'-Dihydroxy-biphenyl	1806-29-7	HBP-004N	15 / 100 mg	HBP-004S	15
4,4'-Dihydroxy-biphenyl	92-88-6	HBP-006N	15 / 100 mg	HBP-006S	15
2,5-Dihydroxy-biphenyl	1079-21-6	HBP-009N	15 / 100 mg	HBP-009S	15

Purchasing Neat Standards

There are two ways to purchase neat standards: Nominal weight and exact weight. With exact weight, the standards will come with the exact weight contained in the vial indicated on the label. The catalog number will have an X-WT to indicate that this is an exact weight. Rinse the sample out of the vial and cap with solvent and dilute to acheive the desired concentration. Unless specified, neat samples are provided with nominal weights. Typically, the vials contain up to 10 to 20% more product, however it is not known when you receive your standard what the exact amount is in the vial. Below is a standard procedure for removing all the neat material from the vial and determining the exact weight of the material in the vial.

Small amounts (5-10 mg) of powder often are spread over the surface of the vial and cap. If the chemical is a liquid it may coat the walls as a thin layer invisible to the eye.
To recover all of the contents contained in a vial of neat material please use the procedure described below:

1. Wipe the outside of the vial (containing the Standard) clean and dry (including the cap).
2. Weigh the entire unit on an analytical balance. Record the weight to the nearest 0.1 mg.
3. Carefully transfer the contents to a volumetric flask using a suitable solvent. Rinse the cap and vial several times to assure a complete transfer.
4. Dry inside and outside of the vial and cap with mild heat or inert gas.
5. Weigh the empty dry vial on the same analytical balance to the nearest 0.1 mg and calculate by difference the amount of material transferred.

Halogenated Aromatics (other than PCBs)

Perchlorinated Terphenyls

Compound	CAS No.	Neat Cat. No.	Price / Unit	35 µg/mL in Toluene Cat. No.	Price / 1 mL
o-Terphenyl	84-15-1	T-001N	$ 13 / 100 mg	------	--
m-Terphenyl	92-06-8	T-002N	13 / 100 mg	------	--
p-Terphenyl	92-94-4	T-003N	13 / 100 mg	------	--
Tetradecachloro-*o*-terphenyl		------	----------	T-004S	$ 25
Tetradecachloro-*m*-terphenyl		------	----------	T-005S	25
Tetradecachloro-*p*-terphenyl		------	----------	T-006S	25
Aroclor 5432	63496-31	------	----------	T-432S	25
Aroclor 5442	12642-23-8	------	----------	T-442S	25
Aroclor 5460	11126-42-4	------	----------	T-460S	25
Aroclor 6050		------	----------	T-6050S	25

Perchlorinated Aromatics

Compound	CAS No.	Neat Cat. No.	Price / Unit	35 µg/mL in Toluene Cat. No.	Price / 1 mL
Decachlorobiphenyl	2051-24-3	C-209N	$ 12 / 10 mg	------	--
Hexachlorobenzene	118-74-1	A-012	10 / 100 mg	------	--
Octachlorodibenzofuran	39001-02-0	F-801N	30 / 50 mg	------	--
Octachlorodibenzo-p-dioxin	3268-87-9	D-801N	40 / 50 mg	------	--
Octachloronaphthalene	2234-13-1	N-003N	26 / 25 mg	------	--
Octachlorostyrene	29082-74-4	------	----------	PC-001S	$ 25
Perchlorinated p,p'-DDE		------	----------	PC-002S	25
Tetradecachloro-*o*-terphenyl		------	----------	T-004S	25
Tetradecachloro-*m*-terphenyl		------	----------	T-005S	25
Tetradecachloro-*p*-terphenyl		------	----------	T-006S	25

Polychlorinated Naphthalenes

Halowaxes (Kopper's PCNs)

Compound	CAS No.	Neat Cat. No.	Price / Unit	100 µg/mL in MeOH Cat. No.	Price / 1 mL
Halowax 1000 (26 %Cl)	58718-66-4	-------	--------	N-1000S	$ 20
Halowax 1001 (50 %Cl)	58718-67-5	-------	--------	N-1001S	20
Halowax 1013 (56 %Cl)	1321-64-8	-------	--------	N-1013S	20
Halowax 1014 (62 %Cl)	1335-87-1	-------	--------	N-1014S	20
Halowax 1051 (70 %Cl)	2234-13-1	-------	--------	N-1051S	20
Halowax 1099 (52 %Cl)	39450-05-0	-------	--------	N-1099S	20

Polychlorinated Naphthalene Congeners

Compound	CAS No.	Neat Cat. No.	Price / Unit
Naphthalene	91-20-3	H-152N	$ 12 / 100 mg
1-Chloronaphthalene	90-13-1	N-001N	12 / 100 mg
2-Chloronaphthalene	91-58-7	N-002N	12 / 100 mg
1,4-Dichloronaphthalene	1825-31-6	N-004N	25 / 10 mg
1,2,3,4-Tetrachloronaphthalene	20020-02-4	N-005N	30 / 10 mg

Chloronitrophenyl Ethers

Compound	CAS No.	1.0 mg/mL in Isooctane Cat. No.	Price / 1 mL
2-Chlorophenyl-4-nitrophenyl ether	209-61-4	E-005S	$ 15
3-Chlorophenyl-4-nitrophenyl ether	2303-23-3	E-006S	15
4-Chlorophenyl-4-nitrophenyl ether	1836-74-4	E-007S	15
2,4-Dichlorophenyl-3-methyl-4-nitrophenyl ether ***NEW***	42488-57-3	E-020S	15
2,4-Dibromophenyl-4-nitrophenyl ether	2671-93-4	E-004S	15
2,3-Dichlorophenyl-4-nitrophenyl ether	82239-20-1	E-008S	15
2,4-Dichlorophenyl-4-nitrophenyl ether	1836-75-5	E-009S	15
2,5-Dichlorophenyl-4-nitrophenyl ether	391-48-7	E-010S	15
2,6-Dichlorophenyl-4-nitrophenyl ether	2093-28-9	E-011S	15
3,4-Dichlorophenyl-4-nitrophenyl ether	22532-80-5	E-013S	15
3,5-Dichlorophenyl-4-nitrophenyl ether	21105-77-1	E-012S	15
4-Nitrophenyl phenyl ether	620-88-2	E-003S	15
2,3,4-Trichlorophenyl-4-nitrophenyl ether		E-014S	15
2,3,5-Trichlorophenyl-4-nitrophenyl ether		E-015S	15
2,3,6-Trichlorophenyl-4-nitrophenyl ether		E-016S	15
2,4,5-Trichlorophenyl-4-nitrophenyl ether	22532-68-9	E-017S	15
2,4,6-Trichlorophenyl-4-nitrophenyl ether	1836-77-7	E-018S	15
3,4,5-Trichlorophenyl-4-nitrophenyl ether		E-019S	15

Chlorodiphenyl Ether

Compound	CAS No.	Unit	Cat. No.	Price
Decachlorodiphenyl ether ***NEW***	31710-30-2	10 mg	CDE-209N	$ 30

Halogenated Aromatics (other than PCBs)

Compound	CAS No.	Conc	Matrix	Cat. No.	Price / 1 mL
Decafluorobiphenyl	434-90-2	10 µg/mL	Acetone	M-551.1-SS	$ 10
		0.1 mg/mL	AcCN	M-8310-SS	10
		0.2 mg/mL	CH_2Cl_2	M-625-04	20
		1 mg/mL	Acetone	M-551.1-SS-100X	20
		2 mg/mL	CH_2Cl_2	M-625-04-10X	22
4,4'-Dibromobiphenyl	92-86-4	0.1 mg/mL	Ethyl acetate	M-508.1-SS	15
		0.2 mg/mL	CH_2Cl_2	M-625-05	20
		1 mg/mL	Acetone	M-8111-IS-20X	10
		2 mg/mL	CH_2Cl_2	M-625-05-10X	20
4,4'-Dibromooctafluorobiphenyl	10386-84-2	0.2 mg/mL	CH_2Cl_2	M-625-06	20
		2 mg/mL	CH_2Cl_2	M-625-06-10X	20
2,2'-Difluorobiphenyl	388-82-9	0.2 mg/mL	CH_2Cl_2	M-625-07	20
		1 mg/mL	MeOH	M-1653-IIS	20
		2 mg/mL	CH_2Cl_2	M-625-07-10X	20
		5 mg/mL	Acetone	M-1653-IIS-R	20
2-Fluorobiphenyl	321-60-8	0.2 mg/mL	CH_2Cl_2	M-625-09	20
		2 mg/mL	CH_2Cl_2	M-625-09-10X	20
Halowax 1000	58718-66-4	5 mg/mL	MeOH	AS-E0472	32
		0.1 mg/mL	MeOH	N-1000S	20
Halowax 1001	58718-67-5	0.1 mg/mL	MeOH	N-1001S	20
		5 mg/mL	MeOH	AS-E0471	32
Halowax 1013	1321-64-8	0.1 mg/mL	MeOH	N-1013S	20
Halowax 1014	1335-87-1	0.1 mg/mL	MeOH	N-1014S	20
Halowax 1051		0.1 mg/mL	MeOH	N-1051S	20
Halowax 1099	39450-05-0	0.1 mg/mL	MeOH	N-1099S	20
		5 mg/mL	MeOH	AS-E0470	32
1,2,3,4,5,6,7,8-Octachloronaphthalene	2234-13-1	100 µg/mL	MeOH	N-003S	20
Tetradecachloro-o-terphenyl		35 µg/mL	Toluene	T-004S	25
Tetradecachloro-m-terphenyl		35 µg/mL	Toluene	T-005S	25
Tetradecachloro-p-terphenyl	31710-32-4	35 µg/mL	Toluene	T-006S	25

Dibenzo-p-dioxin Congeners

The Environmental Protection Agency published its final rule regulating dioxin-containing waste in the Federal Register - Volume 5, 1978-1979, January 14, 1985.

Dibenzo-p-dioxin Congeners Minimum purity 98%

Compound	CAS No.	NEAT Cat. No.	Price / Unit	SOLUTION Cat. No.	Conc.	Solvent	Price 1 mL
1-Chlorodibenzo-p-dioxin	39227-53-7	D-101N	$ 54 / 25 mg	D-101S	50 µg/mL	Isooctane	$ 15
2-Chlorodibenzo-p-dioxin	39227-54-8	D-102N	54 / 50 mg	D-102S	50 µg/mL	Isooctane	15
Dibenzo-p-dioxin	262-12-4	D-100N	44 / 10 mg	D-100S	50 µg/mL	Isooctane	15
1,2-Dichlorodibenzo-p-dioxin		------	----------	D-207S	50 µg/mL	Isooctane	40
1,3-Dichlorodibenzo-p-dioxin		D-205N	180 / 10 mg	D-205S	50 µg/mL	Isooctane	20
1,4-Dichlorodibenzo-p-dioxin		D-206N	180 / 10 mg	D-206S	50 µg/mL	Isooctane	20
1,6-Dichlorodibenzo-p-dioxin	38178-38-0	D-201N	70 / 5 mg	D-201S	50 µg/mL	Isooctane	30
2,3-Dichlorodibenzo-p-dioxin	29446-15-9	D-202N	130 / 5 mg	D-202S	50 µg/mL	Isooctane	20
2,7-Dichlorodibenzo-p-dioxin	33857-26-0	D-203N	95 / 25 mg	D-203S	50 µg/mL	Isooctane	20
2,8-Dichlorodibenzo-p-dioxin		D-204N	45 / 5 mg	D-204S	50 µg/mL	Isooctane	30
1,2,3-Trichlorodibenzo-p-dioxin	54536-17-3	D-301N	130 / 5 mg	D-301S	50 µg/mL	Isooctane	30
1,2,4-Trichlorodibenzo-p-dioxin	39227-58-2	D-302N	130 / 10 mg	D-302S	50 µg/mL	Isooctane	15
1,7,8-Trichlorodibenzo-p-dioxin	82306-65-8	D-303N	70 / 5 mg	D-303S	50 µg/mL	Isooctane	30
2,3,7-Trichlorodibenzo-p-dioxin	33857-28-2	D-304N	250 / 5 mg	D-304S	50 µg/mL	Isooctane	30
1,2,3,4-Tetrachlorodibenzo-p-dioxin	30746-58-8	D-401N	150 / 50 mg	D-401S	50 µg/mL	Toluene	15
1,2,7,8-Tetrachlorodibenzo-p-dioxin	34816-53-0	D-402N	200 / 5 mg	D-402S	50 µg/mL	Toluene	50
1,3,7,8-Tetrachlorodibenzo-p-dioxin	50585-46-1	D-403N	250 / 5 mg	D-403S	50 µg/mL	Toluene	85
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	D-404N	175 / 1 mg	APP-9-167	5 µg/mL	Toluene	50
		------	----------	M-613	10 µg/mL	Toluene	40
		------	----------	D-404S	50 µg/mL	Toluene	50
1,3,6,8-Tetrachlorodibenzo-p-dioxin	33423-92-6	D-405N	200 / 5 mg	D-405S	50 µg/mL	Toluene	85
1,2,8,9-Tetrachlorodibenzo-p-dioxin	116889-69-1	D-406N	250 / 5 mg	D-406S	50 µg/mL	Toluene	50
1,3,7,9-Tetrachlorodibenzo-p-dioxin	116889-70-4	D-407N	200 / 5 mg	D-407S	50 µg/mL	Toluene	50
1,2,6,8-Tetrachlorodibenzo-p-dioxin	67323-56-2	D-408N	700 / 1 mg	D-408S	50 µg/mL	Toluene	85
1,2,6,7-Tetrachlorodibenzo-p-dioxin	41903-57-5	D-409N	200 / 5 mg	D-409S	50 µg/mL	Toluene	50
1,2,3,4,7-Pentachlorodibenzo-p-dioxin	39227-61-7	D-503N	500 / 1 mg	D-503S	50 µg/mL	Toluene	150
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	D-501N	300 / 5 mg	APP-9-168	5 µg/mL	Toluene	50
		------	----------	D-501S	50 µg/mL	Toluene	50
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	71925-18-3	D-504N	900 / 1 mg	D-504S	50 µg/mL	Toluene	150
1,2,4,7,8-Pentachlorodibenzo-p-dioxin	58802-08-7	D-502N	300 / 5 mg	D-502S	50 µg/mL	Toluene	50
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	71998-76-0/ 82291-37-0	D-505N	900 / 1 mg	D-505S	50 µg/mL	Toluene	85
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	58200-66-1	D-603N	900 / 1 mg	D-603S	50 µg/mL	Toluene	150
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	D-601N	350 / 5 mg	APP-9-169	5 µg/mL	Toluene	50
		------	----------	D-601S	50 µg/mL	Toluene	50
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	D-602N	600 / 1 mg	D-602S	50 µg/mL	Toluene	85
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	39227-62-8/ 58802-09-8	D-604N	400 / 1 mg	D-604S	50 µg/mL	Toluene	50
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	D-605N	700 / 1 mg	D-605S	50 µg/mL	Toluene	85
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	D-701N	250 / 1 mg	D-701S	50 µg/mL	Toluene	85
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	58200-70-7	D-702N	200 / 5 mg	D-702S	50 µg/mL	Toluene	50
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	D-801N	80 / 50 mg	D-801S	50 µg/mL	Toluene	15

Brominated Dibenzo-p-Dioxins

NEW

Compound	Cat. No.	Conc.	Matrix	Price / 1 mL
1,3,7-Tribromodibenzo-p-dioxin	BDD-301S	10 µg/mL	Toluene	$ 165
	BDD-301S-2.5X	25 µg/mL	Toluene	250
1,3,8-Tribromodibenzo-p-dioxin	BDD-302S	10 µg/mL	Toluene	165
	BDD-302S-2.5X	25 µg/mL	Toluene	250
1,2,3,7-Tetrabromodibenzo-p-dioxin	BDD-401S	10 µg/mL	Toluene	185
	BDD-401S-2.5X	25 µg/mL	Toluene	350
1,2,3,8-Tretrabromodibenzo-p-dioxin	BDD-402S	10 µg/mL	Toluene	185
	BDD-402S-2.5X	25 µg/mL	Toluene	350
Tetrabromodibenzo-p-dioxin-Mixed Isomers 1,2,4,7-Tretrabromodibenzo-p-dioxin/ 1,2,4,8-Tretrabromodibenzo-p-dioxin	BDD-403S	10 µg/mL	Toluene	200
	BDD-403S-2.5X	25 µg/mL	Toluene	350
2,3,7,8-Tetrabromodibenzo-p-dioxin 50585-41-6	X-001	1 mg	NEAT	150

Chlorodibenzo-p-dioxin Congeners

Canadian Method, Method 1613, 8280

Canadian Dioxin Mixtures

Custom Window Defining Mixture

D-WD 20,000 ng/mL in Toluene $ 1,100 / **1 x 1 mL**
D-WD-2.5X 50,000 ng/mL in Toluene $ 2,000 / **1 x 1 mL**
7 comps.

1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-*p*-dioxin (Isomer pair)
1,2,3,8,9-Pentachlorodibenzo-*p*-dioxin
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-*p*-dioxin (Isomer pair)
1,2,3,4,6,7-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,9-Heptachlorodibenzo-*p*-dioxin
Octachlorodibenzo-*p*-dioxin

High Concentration Low Cost

Custom Calibration Mixture

D-CAL 20,000 ng/mL in Toluene $ 900 / **1 x 1 mL**
D-CAL-2.5X 50,000 ng/mL in Toluene $ 1,600 / **1 x 1 mL**
6 comps.

1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
Octachlorodibenzo-*p*-dioxin

Standards of Interest

For more Canadian Methods see International Regional Section

Method 8280A Dioxins & Furans by HRGC/LRMS

Dioxin Mixture

M-8280A $ 150 / **1 x 1 mL**
M-8280A-PAK *SAVE 20%* $ 600 / **5 x 1 mL**
5 µg/mL each in Toluene 5 comps.

2,3,7,8-Tetrachlorodibenzo-*p*-dioxin
1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
Octachlorodibenzo-*p*-dioxin

Furan Mixture

M-8280B $ 150 / **1 x 1 mL**
M-8280B-PAK *SAVE 20%* $ 600 / **5 x 1 mL**
5 µg/mL each in Toluene 5 comps.

2,3,7,8-Tetrachlorodibenzofuran
1,2,3,7,8-Pentachlorodibenzofuran
1,2,3,4,7,8-Hexachlorodibenzofuran
1,2,3,4,6,7,8-Heptachlorodibenzofuran
Octachlorodibenzofuran

Column Performance Check

M-8280-CPC $ 200 / **1 x 1 mL**
M-8280-CPC-PAK *SAVE 20%* $ 800 / **5 x 1 mL**
5 µg/mL each in Toluene 7 comps.

1,2,3,4-Tetrachlorodibenzo-*p*-dioxin
2,3,7,8-Tetrachlorodibenzo-*p*-dioxin
1,2,3,4,7-Pentachlorodibenzo-*p*-dioxin
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8,9-Octachlorodibenzo-*p*-dioxin
2,3,7,8-Tetrachlorodibenzofuran

Method 1613 Dioxins & Furans by HRGC/HRMS

Method 1613 Precision and Recovery Standard

M-1613-PAR Bold (-04) $ 525 / **1 x 1 mL**
M-1613-PAR-PAK *SAVE 20%* $ 2,100 / **5 x 1 mL**
All units in ng/mL in Nonane 17 comps.

M-1613-CAL	-01	-02	-03	-04	-05
2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.5	2	10	**40**	200
2,3,7,8-Tetrachlorodibenzofuran	0.5	2	10	**40**	200
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	2.5	10	50	**200**	1000
1,2,3,7,8-Pentachlorodibenzofuran	2.5	10	50	**200**	1000
2,3,4,7,8-Pentachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2.5	10	50	**200**	1000
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	2.5	10	50	**200**	1000
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	2.5	10	50	**200**	1000
1,2,3,4,7,8-Hexachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,6,7,8-Hexachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,7,8,9-Hexachlorodibenzofuran	2.5	10	50	**200**	1000
2,3,4,6,7,8-Hexachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	2.5	10	50	**200**	1000
1,2,3,4,6,7,8-Heptachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,4,7,8,9-Heptachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	5	20	100	**400**	2000
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	5	20	100	**400**	2000

Calibration Set

M-1613-CAL-SET (-01,-02,-03,-04,-05) $ 2,100 / **5 x 1 mL**
All in ng/mL in Nonane 17 comps.

2,3,7,8 Isomers only Mix

This solution is for those labs only determining the concentration of the two most toxic isomers.

M-1613-DF $ 75 / **1 x 1 mL**
40 ng/mL each in Nonane 2 comps.

2,3,7,8-Tetrachlorodibenzo-p-dioxin
2,3,7,8-Tetrachlorodibenzofuran

Technical Note

These Native Solutions of the USEPA Method 1613 analytes can also be used for USEPA Method 23, 8280, 8290, EU Method EN-1948 and Japanese Methods JIS-K0311 and K0312.

Chlorinated Dibenzofuran Congeners Minimum purity 98%

Compound	CAS No.	NEAT Cat. No.	Price / Unit	SOLUTION Cat. No.	Conc.	Solvent	Price 1 mL
2-Chlorodibenzofuran	51230-49-0	--------	----------	F-102S	50 µg/mL	Isooctane	$ 30
4-Chlorodibenzofuran	74992-96-4	--------	----------	F-104S	50 µg/mL	Isooctane	75
Dibenzofuran	132-64-9	F-100N	$ 14 / 50 mg	F-100S	50 µg/mL	Isooctane	15
		--------	----------	APP-9-059	100 µg/mL	MeOH	12
		--------	----------	APP-9-059-2X	200 µg/mL	MeOH	15
		--------	----------	AS-E0261	5 mg/mL	MeOH	32
2,8-Dichlorodibenzofuran	5409-83-6	F-201N	65 / 10 mg	F-201S	50 µg/mL	Isooctane	30
1,2,3,4,6,7,8-Heptachlorodibenzofuran	38998-75-3	--------	----------	F-701S-0.1X	5 µg/mL	Toluene	75
		--------	----------	F-701S	50 µg/mL	Toluene	250
1,2,3,4,7,8-Hexachlorodibenzofuran	55684-94-1	--------	----------	APP-9-172	5 µg/mL	Toluene	75
3-Nitrodibenzofuran	5410-97-9	R-009N	30 / 5 mg	R-009S	100 µg/mL	Toluene	17
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	F-801N	30 / 50 mg	F-801S	50 µg/mL	Toluene	15
1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	--------	----------	APP-9-171	5 µg/mL	Toluene	75
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	--------	----------	F-502S-0.1X	5 µg/mL	Toluene	75
1,2,3,4-Tetrachlorodibenzofuran	24478-72-6	--------	----------	F-401S	50 µg/mL	Toluene	125
1,3,6,8-Tetrachlorodibenzofuran	30402-14-3	--------	----------	F-403S	50 µg/mL	Toluene	75
2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	F-402N	250 / 1 mg	APP-9-170	5 µg/mL	Toluene	75
				F-402S	50 µg/mL	Toluene	160
2,4,8-Trichlorodibenzofuran	54589-71-8	--------	----------	F-301S	50 µg/mL	Isooctane	75

Custom Synthesized Rare Chemicals

Neat Compounds, except as noted	CAS No.	Cat. No.	Price / Unit
2-Amino-7,8-dibromo-dibenzo-p-dioxin	Solution 0.1 mg/mL in Toluene	X-011	$ 50 / 1 mL
n,n'-bis(4-isopropylphenyl)urea	113260-74-5	X-012	20 / 10 mg
4-Chlorophenyl methyl sulfoxide	934-73-6	X-004	20 / 10 mg
4,6-Dinitro-*o*-toluidine	7477-94-3	X-002	20 / 10 mg
1,4-Dioxino(2,3-b:5,6-b')dipyridine (Dipyridine analog of dibenzo-*p*-dioxin)	262-16-8	X-005	100 / 5 mg
9-Methylacridine	611-64-3	X-008	30 / 10 mg
2,3,7,8-Tetrabromodibenzo-*p*-dioxin	50585-41-6	X-001	150 / 1 mg
3,3',4,4'-Tetrachloroazobenzene	14047-09-7	X-009	30 / 10 mg
3,3',4,4'-Tetrachloroazoxybenzene	21232-47-3	X-010	30 / 10 mg
N,N'-bis(2,4,6-Trichlorophenyl)urea	20632-35-3	X-003	20 / 10 mg

Polybrominated Diphenyl Ether (PBDE) Congeners

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There are 209 congeners of the PBDEs, (Polybrominated Diphenyl Ethers) but what is actually used commercially as flame retardants are usually a technical mixture of several congeners plus other ingredients. There are several similarities with PCBs, as there are also 209 PCB congeners, and the actual material used were technical mixtures composed of several congeners plus other ingredients.

Of the 209 PBDE congeners, there are only several that make up the majority of the technical products reccuring in the environment. These are PBDE 28, 47, 99, 100, 153, 154, 183 and 209. While this simplifies the monitoring, it has now been found that some of the congeners lose bromine. In the last few years, the monitoring has resulted in a growing concern about the toxicological effects of this chemical family. Of additional concern are the metabolites and degradates that form in the environment, such as the hydroxy and methoxy derivatives. These metabolites are currently being investigated to see if they may be even more toxic than the parent compound.

AccuStandard has synthesized **over 180 PBDE congeners**, in addition to more than **40 Hydroxy and Methoxy metabolites**. Metabolites and related solutions such as fluorinated analogs that can be used as internal standards are also available. If you do not see the compound you are looking for, call our Technical Service Department to see how AccuStandard can meet your specific analytical challenge.

Additional congeners, mixes and metabolites are added continuously. Check our website for updates.

Polybrominated Diphenyl Ethers (PBDEs)

Compound	CAS No.	Conc.	Solvent	Cat. No.	Price / 1 mL
2-Bromodiphenyl ether	7025-06-1	50 µg/mL	Isooctane	BDE-001S	$ 50
3-Bromodiphenyl ether	6876-00-2	50 µg/mL	Isooctane	BDE-002S	50
4-Bromodiphenyl ether	101-55-3	50 µg/mL	Isooctane	BDE-003S	50
2,2'-Dibromodiphenyl ether	51452-87-0	50 µg/mL	Isooctane	BDE-004S	90
2,3-Dibromodiphenyl ether	446254-14-4	50 µg/mL	Isooctane	BDE-005S	200
2,3'-Dibromodiphenyl ether	147217-72-9	50 µg/mL	Isooctane	BDE-006S	90
2,4-Dibromodiphenyl ether	171977-44-9	50 µg/mL	Isooctane	BDE-007S	50
2,4'-Dibromodiphenyl ether	147217-71-8	50 µg/mL	Isooctane	BDE-008S	50
2,5-Dibromodiphenyl ether	33513-66-3	50 µg/mL	Isooctane	BDE-009S	160
2,6-Dibromodiphenyl ether	51930-04-2	50 µg/mL	Isooctane	BDE-010S	50
3,3'-Dibromodiphenyl ether	6903-63-5	50 µg/mL	Isooctane	BDE-011S	50
3,4-Dibromodiphenyl ether	189084-59-1	50 µg/mL	Isooctane	BDE-012S	50
3,4'-Dibromodiphenyl ether	83694-71-7	50 µg/mL	Isooctane	BDE-013S	90
3,5-Dibromodiphenyl ether	46438-88-4	50 µg/mL	Isooctane	BDE-014S	200
4,4'-Dibromodiphenyl ether	2050-47-7	50 µg/mL	Isooctane	BDE-015S	50
2,2',3-Tribromodiphenyl ether	147217-74-1	50 µg/mL	Isooctane	BDE-016S	200
2,2',4-Tribromodiphenyl ether	147217-75-2	50 µg/mL	Isooctane	BDE-017S	90
2,2',5-Tribromodiphenyl ether	407606-55-7	50 µg/mL	Isooctane	BDE-018S	160
2,2',6-Tribromodiphenyl ether	147217-73-0	50 µg/mL	Isooctane	BDE-019S	90
2,3,3'-Tribromodiphenyl ether	147217-76-3	50 µg/mL	Isooctane	BDE-020S	200
2,3,4-Tribromodiphenyl ether	337513-67-4	50 µg/mL	Isooctane	BDE-021S	160
2,3,4'-Tribromodiphenyl ether	446254-15-5	50 µg/mL	Isooctane	BDE-022S	200
2,3,5-Tribromodiphenyl ether	446254-16-6	50 µg/mL	Isooctane	BDE-023S	200
2,3',4-Tribromodiphenyl ether	147217-77-4	50 µg/mL	Isooctane	BDE-025S	90
2,3',5-Tribromodiphenyl ether	337513-75-4	50 µg/mL	Isooctane	BDE-026S	160
2,3',6-Tribromodiphenyl ether	337513-53-8	50 µg/mL	Isooctane	BDE-027S	90
2,4,4'-Tribromodiphenyl ether	41318-75-6	50 µg/mL	Isooctane	BDE-028S	50
2,4,5-Tribromodiphenyl ether	337513-56-1	50 µg/mL	Isooctane	BDE-029S	200
2,4,6-Tribromodiphenyl ether	155999-95-4	50 µg/mL	Isooctane	BDE-030S	50
2,4',5-Tribromodiphenyl ether	65075-08-3	50 µg/mL	Isooctane	BDE-031S	160
2,4',6-Tribromodiphenyl ether	189084-60-4	50 µg/mL	Isooctane	BDE-032S	50
2',3,4-Tribromodiphenyl ether	147217-78-5	50 µg/mL	Isooctane	BDE-033S	50
2',3,5-Tribromodiphenyl ether	446254-17-7	50 µg/mL	Isooctane	BDE-034S	200
3,3',4-Tribromodiphenyl ether	147217-80-9	50 µg/mL	Isooctane	BDE-035S	50
3,3',5-Tribromodiphenyl ether	147217-79-6	50 µg/mL	Isooctane	BDE-036S	200
3,4,4'-Tribromodiphenyl ether	147217-81-0	50 µg/mL	Isooctane	BDE-037S	90
3,4,5-Tribromodiphenyl ether	337513-54-9	50 µg/mL	Isooctane	BDE-038S	200
3,4',5-Tribromodiphenyl ether		50 µg/mL	Isooctane	BDE-039S	200

Polybrominated Diphenyl Ether (PBDE) Congeners

Polybrominated Diphenyl Ethers (PBDEs)

Compound	CAS No.	Conc.	Solvent	Cat. No.	Price / 1 mL
2,2',3,3'-Tetrabromodiphenyl ether		50 µg/mL	Isooctane	BDE-040S	$ 200
2,2',3,4-Tetrabromodiphenyl ether	337513-68-5	50 µg/mL	Isooctane	BDE-041S	200
2,2',3,4'-Tetrabromodiphenyl ether	446254-18-8	50 µg/mL	Isooctane	BDE-042S	200
2,2',3,5-Tetrabromodiphenyl ether	446254-19-9	50 µg/mL	Isooctane	BDE-043S	200
2,2',3,5'-Tetrabromodiphenyl ether	446254-20-2	50 µg/mL	Isooctane	BDE-044S	250
2,2',3,6'-Tetrabromodiphenyl ether	446254-22-4	50 µg/mL	Isooctane	BDE-046S	200
2,2',4,4'-Tetrabromodiphenyl ether	5436-43-1	50 µg/mL	Isooctane	BDE-047S	50
2,2',4,5-Tetrabromodiphenyl ether	337513-55-0	50 µg/mL	Isooctane	BDE-048S	200
2,2',4,5'-Tetrabromodiphenyl ether	243982-82-3	50 µg/mL	Isooctane	BDE-049S	160
2,2',4,6-Tetrabromodiphenyl ether	446254-23-5	50 µg/mL	Isooctane	BDE-050S	90
2,2',4,6'-Tetrabromodiphenyl ether	189084-57-9	50 µg/mL	Isooctane	BDE-051S	90
2,2',5,5'-Tetrabromodiphenyl ether	446254-24-6	50 µg/mL	Isooctane	BDE-052S	250
2,2',5,6'-Tetrabromodiphenyl ether	446254-25-7	50 µg/mL	Isooctane	BDE-053S	200
2,2',6,6'-Tetrabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-054S	250
2,3,3',4-Tetrabromodiphenyl ether		50 µg/mL	Isooctane	BDE-055S	200
2,3,3',4'-Tetrabromodiphenyl ether		50 µg/mL	Isooctane	BDE-056S	250
2,3,3',5-Tetrabromodiphenyl ether		50 µg/mL	Isooctane	BDE-057S	200
2,3,3',5'-Tetrabromodiphenyl ether		50 µg/mL	Isooctane	BDE-058S	200
2,3,4,4'-Tetrabromodiphenyl ether	446254-31-5	50 µg/mL	Isooctane	BDE-060S	250
2,3,4,5-Tetrabromodiphenyl ether	446254-32-6	50 µg/mL	Isooctane	BDE-061S	200
2,3,4,6-Tetrabromodiphenyl ether	446254-33-7	50 µg/mL	Isooctane	BDE-062S	160
2,3,4',5-Tetrabromodiphenyl ether	446254-34-8	50 µg/mL	Isooctane	BDE-063S	200
2,3',4,4'-Tetrabromodiphenyl ether	189084-61-5	50 µg/mL	Isooctane	BDE-066S	90
2,3',4,5-Tetrabromodiphenyl ether	446254-37-1	50 µg/mL	Isooctane	BDE-067S	200
2,3',4,5'-Tetrabromodiphenyl ether	446254-38-2	50 µg/mL	Isooctane	BDE-068S	200
2,3',4,6-Tetrabromodiphenyl ether	327185-09-1	50 µg/mL	Isooctane	BDE-069S	90
2,3',4',5-Tetrabromodiphenyl ether	446254-39-3	50 µg/mL	Isooctane	BDE-070S	250
2,3',4',6-Tetrabromodiphenyl ether	189084-62-6	50 µg/mL	Isooctane	BDE-071S	90
2,3',5,5'-Tetrabromodiphenyl ether	446254-40-6	50 µg/mL	Isooctane	BDE-072S	200
2,3',5',6-Tetrabromodiphenyl ether	446254-41-7	50 µg/mL	Isooctane	BDE-073S	200
2,4,4',5-Tetrabromodiphenyl ether	446254-42-8	50 µg/mL	Isooctane	BDE-074S	200
2,4,4',6-Tetrabromodiphenyl ether	189084-63-7	50 µg/mL	Isooctane	BDE-075S	90
2',3,4,5-Tetrabromodiphenyl ether	446254-43-9	50 µg/mL	Isooctane	BDE-076S	200
3,3',4,4'-Tetrabromodiphenyl ether	93703-48-1	50 µg/mL	Isooctane	BDE-077S	90
3,3',4,5-Tetrabromodiphenyl ether	446254-45-1	50 µg/mL	Isooctane	BDE-078S	200
3,3',4,5'-Tetrabromodiphenyl ether	446254-48-4	50 µg/mL	Isooctane	BDE-079S	200
3,3',5,5'-Tetrabromodiphenyl ether	103173-66-6	50 µg/mL	Isooctane	BDE-080S	200
3,4,4',5-Tetrabromodiphenyl ether	446254-50-8	50 µg/mL	Isooctane	BDE-081S	200
2,2',3,3',4-Pentabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-082S	250
2,2',3,3',5-Pentabromodiphenyl ether	446254-51-9	50 µg/mL	Isooctane	BDE-083S	250
2,2',3,4,4'-Pentabromodiphenyl ether	182346-21-0	50 µg/mL	Isooctane	BDE-085S	90
2,2',3,4,5-Pentabromodiphenyl ether	446254-53-1	50 µg/mL	Isooctane	BDE-086S	200
2,2',3,4,5'-Pentabromodiphenyl ether	446254-54-2	50 µg/mL	Isooctane	BDE-087S	200
2,2',3,4,6-Pentabromodiphenyl ether	446254-55-3	50 µg/mL	Isooctane	BDE-088S	160
2,2',3,4,6'-Pentabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-089S	160
2,2',3,4',5-Pentabromodiphenyl ether	446254-57-5	50 µg/mL	Isooctane	BDE-090S	200
2,2',3,5,5'-Pentabromodiphenyl ether	446254-59-7	50 µg/mL	Isooctane	BDE-092S	200
2,2',3,5,6'-Pentabromodiphenyl ether	446254-61-1	50 µg/mL	Isooctane	BDE-094S	200
2,2',3',4,5-Pentabromodiphenyl ether	446254-64-4	50 µg/mL	Isooctane	BDE-097S	200
2,2',3',4,6-Pentabromodiphenyl ether	38463-82-0	50 µg/mL	Isooctane	BDE-098S	200
2,2',4,4',5-Pentabromodiphenyl ether	60348-60-9	50 µg/mL	Isooctane	BDE-099S	90
2,2',4,4',6-Pentabromodiphenyl ether	189084-64-8	50 µg/mL	Isooctane	BDE-100S	90
2,2',4,5,5'-Pentabromodiphenyl ether	446254-65-5	50 µg/mL	Isooctane	BDE-101S	200
2,2',4,5,6'-Pentabromodiphenyl ether	446254-66-6	50 µg/mL	Isooctane	BDE-102S	200
2,2',4,5',6-Pentabromodiphenyl ether	446254-67-7	50 µg/mL	Isooctane	BDE-103S	160
2,2',4,6,6'-Pentabromodiphenyl ether	446254-68-8	50 µg/mL	Isooctane	BDE-104S	200
2,3,3',4,4'-Pentabromodiphenyl ether	373594-78-6	50 µg/mL	Isooctane	BDE-105S	200
2,3,3',4,5-Pentabromodiphenyl ether	446254-69-9	50 µg/mL	Isooctane	BDE-106S	200
2,3,3',4',5-Pentabromodiphenyl ether		50 µg/mL	Isooctane	BDE-107S	250
2,3,3',4,5'-Pentabromodiphenyl ether ***NEW***	446254-71-3	50 µg/mL	Isooctane	BDE-108S	200
2,3,3',4,6-Pentabromodiphenyl ether	446254-72-4	50 µg/mL	Isooctane	BDE-109S	160
2,3,3',5,5'-Pentabromodiphenyl ether	446254-74-6	50 µg/mL	Isooctane	BDE-111S	200
2,3,4,4',5-Pentabromodiphenyl ether	446254-77-9	50 µg/mL	Isooctane	BDE-114S	200
2,3,4,4',6-Pentabromodiphenyl ether	446254-78-0	50 µg/mL	Isooctane	BDE-115S	160
2,3,4,5,6-Pentabromodiphenyl ether	189084-65-9	50 µg/mL	Isooctane	BDE-116S	90
2,3',4,4',5-Pentabromodiphenyl ether	446254-80-4	50 µg/mL	Isooctane	BDE-118S	200
2,3',4,4',6-Pentabromodiphenyl ether	189084-66-0	50 µg/mL	Isooctane	BDE-119S	90
2,3',4,5,5'-Pentabromodiphenyl ether		50 µg/mL	Isooctane	BDE-120S	200
2,3',4,5',6-Pentabromodiphenyl ether		50 µg/mL	Isooctane	BDE-121S	200
2',3,3',4,5-Pentabromodiphenyl ether		50 µg/mL	Isooctane	BDE-122S	250
2',3,4,4',5-Pentabromodiphenyl ether		50 µg/mL	Isooctane	BDE-123S	200
2',3,4,5,5'-Pentabromodiphenyl ether		50 µg/mL	Isooctane	BDE-124S	200
2',3,4,5,6'-Pentabromodiphenyl ether		50 µg/mL	Isooctane	BDE-125S	200
3,3',4,4',5-Pentabromodiphenyl ether		50 µg/mL	Isooctane	BDE-126S	200
3,3',4,5,5'-Pentabromodiphenyl ether		50 µg/mL	Isooctane	BDE-127S	200

Additional congeners, mixes and metabolites are added continuously. Check our website for updates.

Polybrominated Diphenyl Ethers (PBDEs)

Compound	CAS No.	Conc.	Solvent	Cat. No.	Price / 1 mL
2,2',3,3',4,4'-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-128S	$ 200
2,2',3,3',4,5-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-129S	250
2,2',3,3',4,5'-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-130S	200
2,2',3,3',4,6-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-131S	200
2,2',3,3',5,5'-Hexabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-133S	250
2,2',3,3',6,6'-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-136S	200
2,2',3,4,4',5-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-137S	200
2,2',3,4,4',5'-Hexabromodiphenyl ether	182677-30-1	50 µg/mL	Isooctane	BDE-138S	160
2,2',3,4,4',6-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-139S	200
2,2',3,4,4',6'-Hexabromodiphenyl ether	243982-83-4	50 µg/mL	Isooctane	BDE-140S	200
2,2',3,4,5,5'-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-141S	200
2,2',3,4,5,6-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-142S	160
2,2',3,4,5,6'-Hexabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-143S	250
2,2',3,4,5',6-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-144S	160
2,2',3,4,6,6'-Hexabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-145S	250
2,2',3,4',5,5'-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-146S	200
2,2',3,4',5,6'-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-148S	200
2,2',3,4',6,6'-Hexabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-150S	250
2,2',4,4',5,5'-Hexabromodiphenyl ether	68631-49-2	50 µg/mL	Isooctane	BDE-153S	90
2,2',4,4',5,6'-Hexabromodiphenyl ether	207122-15-4	50 µg/mL	Isooctane	BDE-154S	90
2,2',4,4',6,6'-Hexabromodiphenyl ether	35854-94-5	50 µg/mL	Isooctane	BDE-155S	90
2,3,3',4,4',5-Hexabromodiphenyl ether	35854-94-5	50 µg/mL	Isooctane	BDE-156S	200
2,3,3',4,4',5'-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-157S	250
2,3,3',4,4',6-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-158S	200
2,3,3',4,5,5'-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-159S	200
2,3,3',4,5,6-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-160S	160
2,3,3',4,5',6-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-161S	200
2,3,3',4',5,5'-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-162S	200
2,3,4,4',5,6-Hexabromodiphenyl ether	189084-58-0	50 µg/mL	Isooctane	BDE-166S	160
2,3',4,4',5,5'-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-167S	200
2,3',4,4',5',6-Hexabromodiphenyl ether		50 µg/mL	Isooctane	BDE-168S	200
3,3',4,4',5,5'-Hexabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-169S	250
2,2',3,3',4,4',5-Heptabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-170S	200
2,2',3,3',4,4',6-Heptabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-171S	250
2,2',3,3',4,5,5'-Heptabromodiphenyl ether		50 µg/mL	Isooctane	BDE-172S	200
2,2',3,3',4,5,6-Heptabromodiphenyl ether		50 µg/mL	Isooctane	BDE-173S	200
2,2',3,3',4,5',6-Heptabromodiphenyl ether		50 µg/mL	Isooctane	BDE-175S	200
2,2',3,3',4',6,6'-Heptabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-176S	250
2,2',3,3',4',5,6-Heptabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-177S	250
2,2',3,3',5,5',6-Heptabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-178S	250
2,2',3,4,4',5,5'-Heptabromodiphenyl ether		50 µg/mL	Isooctane	BDE-180S	200
2,2',3,4,4',5,6-Heptabromodiphenyl ether	189084-67-1	50 µg/mL	Isooctane	BDE-181S	160
2,2',3,4,4',5,6'-Heptabromodiphenyl ether		50 µg/mL	Isooctane	BDE-182S	200
2,2',3,4,4',5',6-Heptabromodiphenyl ether	207122-16-5	50 µg/mL	Isooctane	BDE-183S	160
2,2',3,4,4',6,6'-Heptabromodiphenyl ether		50 µg/mL	Isooctane	BDE-184S	200
2,2',3,4,5,5',6-Heptabromodiphenyl ether		50 µg/mL	Isooctane	BDE-185S	160
2,2',3,4,5,6,6'-Heptabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-186S	250
2,2',3',4',5,6,6'-Heptabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-188S	250
2,3,3',4,4',5,5'-Heptabromodiphenyl ether		50 µg/mL	Isooctane	BDE-189S	250
2,3,3',4,4',5,6-Heptabromodiphenyl ether	189084-68-2	50 µg/mL	Isooctane	BDE-190S	90
2,3,3',4,4',5',6-Heptabromodiphenyl ether		50 µg/mL	Isooctane	BDE-191S	200
2,3,3',4,5,5',6-Heptabromodiphenyl ether		50 µg/mL	Isooctane	BDE-192S	200
2,3,3',4',5,5',6-Heptabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-193S	250
2,2',3,3',4,4',5,5'-Octabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-194S	200
2,2',3,3',4,4',5,6-Octabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-195S	200
2,2',3,3',4,4',5,6'-Octabromodiphenyl ether		50 µg/mL	Isooctane	BDE-196S	200
2,2',3,3',4,4',6,6'-Octabromodiphenyl ether		50 µg/mL	Isooctane	BDE-197S	200
2,2',3,3',4,5,5',6-Octabromodiphenyl ether		50 µg/mL	Isooctane	BDE-198S	200
2,2',3,3',4,5',6,6'-Octabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-201S	250
2,2',3,3',5,5',6,6'-Octabromodiphenyl ether ***NEW***		50 µg/mL	Isooctane	BDE-202S	250
2,2',3,4,4',5,5',6-Octabromodiphenyl ether		50 µg/mL	Isooctane	BDE-203S	200
2,2',3,4,4',5,6,6'-Octabromodiphenyl ether		50 µg/mL	Isooctane	BDE-204S	200
2,3,3',4,4',5,5',6-Octabromodiphenyl ether		50 µg/mL	Isooctane	BDE-205S	200
2,2',3,3',4,4',5,5',6-Nonabromodiphenyl ether		50 µg/mL	Isooctane	BDE-206S	250
2,2',3,3',4,4',5,6,6'-Nonabromodiphenyl ether		50 µg/mL	Isooctane	BDE-207S-R1	250
2,2',3,3',4,5,5',6,6'-Nonabromodiphenyl ether		50 µg/mL	Isooctane	BDE-208S	250
Decabromodiphenyl ether	1163-19-5	50 µg/mL	Isooctane:Toluene 9:1	BDE-209S	50

PBDE Mixtures & Calibration Curve

PBDE Congeners common to Technical Mixtures (Bromkal™)

BDE-BROMKAL $ 275 / **1 x 1 mL**
10 µg/mL each in Isooctane 6 comps.

2,4,4'-Tribromodiphenyl ether (#28)
2,2',4,4'-Tetrabromodiphenyl ether (#47)
2,2',4,4',5-Pentabromodiphenyl ether (#99)
2,2',4,4',6-Pentabromodiphenyl ether (#100)
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)

PBDE Technical Grade

50 µg/mL in Isooctane	Cat. No.	Price / 1 mL
Bromkal DE-70-5 (Pentas)	BDE-705	$ 90
Bromkal DE-71 (Pentas)	BDE-710	90
Bromkal DE-73-6 (Hexas)	BDE-736	90
Bromkal DE-79-8 (Octas)	BDE-798	90
FR-300BA (Deca)	FRS-009N	15 / 10 mg
100 µg/mL in Toluene	FRS-009S	15

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Hexabromocyclododecane Isomers

100 µg/mL Toluene in	Cat. No.	Price / 1 mL
α-Hexabromocyclododecane	HXBCD-01	$ 175
β-Hexabromocyclododecane	HXBCD-02	175
γ-Hexabromocyclododecane	HXBCD-03	100

California Method 750-M Standard

BDE-CALEWS $ 600 / **1 x 1 mL**
10 µg/mL each in Isooctane 13 comps.

2,2',4-Tribromodiphenyl ether (#17)
2,4,4'-Tribromodiphenyl ether (#28)
2,2',4,4'-Tetrabromodiphenyl ether (#47)
2,3',4,4'-Tetrabromodiphenyl ether (#66)
2,3',4',6-Tetrabromodiphenyl ether (#71)
2,2',4,4',5-Pentabromodiphenyl ether (#99)
2,2',4,4',6-Pentabromodiphenyl ether (#100)
2,2',3,4,4',5'-Hexabromodiphenyl ether (#138)
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)
2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether (#209)
2,2',6,6'-Tetrabromobisphenol A

PBDE Congeners common to California Environment

BDE-CAE-1 $ 300 / **1 x 1 mL**
10 µg/mL each in Isooctane 7 comps.

2,4,4'-Tribromodiphenyl ether (#28)
2',3,4-Tribromodiphenyl ether (#33)
2,2',4,4'-Tetrabromodiphenyl ether (#47)
2,2',4,4',5-Pentabromodiphenyl ether (#99)
2,2',4,4',6-Pentabromodiphenyl ether (#100)
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)

PBDEs in Columbia River

BDE-CR $ 550 / **1 x 1 mL**
10 µg/mL each in Isooctane 12 comps.

4,4'-Dibromodiphenyl ether (#15)
2,4,4'-Tribromodiphenyl ether (#28)
2',3,4-Tribromodiphenyl ether (#33)
2,2',4,4'-Tetrabromodiphenyl ether (#47)
2,2',4,5'-Tetrabromodiphenyl ether (#49)
2,3',4,4'-Tetrabromodiphenyl ether (#66)
2,4,4',6-Tetrabromodiphenyl ether (#75)
2,2',4,4',5-Pentabromodiphenyl ether (#99)
2,2',4,4',6-Pentabromodiphenyl ether (#100)
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)
2,2',4,4',6,6'-Hexabromodiphenyl ether (#155)

Bromodiphenyl Ethers Lake Michigan Study

BDE-LMS $ 400 / **1 x 1 mL**
10 µg/mL each in isooctane 9 comps.

2,4,4'-Tribromodiphenyl ether (#28)
2,2',4,4'-Tetrabromodiphenyl ether (#47)
2,3',4,4'-Tetrabromodiphenyl ether (#66)
2,2',3,4,4'-Pentabromodiphenyl ether (#85)
2,2',4,4',5-Pentabromodiphenyl ether (#99)
2,2',4,4',6-Pentabromodiphenyl ether (#100)
2,2',3,4,4',5'-Hexabromodiphenyl ether (#138)
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)

DE-71 (Pentas) Great Lakes

BDE-710-GL $ 250 / **1 x 1 mL**
50 µg/mL each in Isooctane

Bromkal DE-71

DE-79 (Octas) Great Lakes

BDE-798-GL $ 250 / **1 x 1 mL**
50 µg/mL each in Isooctane

DE-79 (Great Lakes)

Common PBDEs in the Environment

BDE-USE $ 250 / **1 x 1 mL**
10 µg/mL each in Isooctane 5 comps.

2,2',4,4'-Tetrabromodiphenyl ether (#47)
2,2',4,4',5-Pentabromodiphenyl ether (#99)
2,2',4,4',6-Pentabromodiphenyl ether (#100)
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)

ISO/DIS 22032

ISO/DIS 22032 Calibration Curve Set

ISO/DIS-22032-SET $ 475 / **7 x 1 mL**
At stated conc. (ng/mL) in Isooctane 8 comps. each

ISO/DIS-22032	01	02	03	04	05	06	07
2,2',4,4'-Tetrabromodiphenyl ether (#47)	5	12.5	25	50	100	150	250
2,2',4,4',5-Pentabromodiphenyl ether (#99)	5	12.5	25	50	100	150	250
2,2',4,4',6-Pentabromodiphenyl ether (#100)	5	12.5	25	50	100	150	250
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	5	12.5	25	50	100	150	250
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	5	12.5	25	50	100	150	250
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	5	12.5	25	50	100	150	250
2,3,3',4,4',5,5',6-Octabromodiphenyl ether (#205)	5	12.5	25	50	100	150	250
2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether (#209)	25	50	100	200	500	700	1000

ISO/DIS 22032 Internal Standard for BDE-47, 99 & 100

ISO22032-IS-1-5ML $ 50 / **1 x 5 mL**
ISO22032-IS-1-10ML $ 75 / **1 x 10 mL**
100 ng/mL each in Isooctane

2,2',4,4'-Tetrabromodiphenyl ether

ISO/DIS 22032 Internal Standard for BDE-153, 154 & 183

ISO22032-IS-2-5ML $ 50 / **1 x 5 mL**
ISO22032-IS-2-10ML $ 75 / **1 x 10 mL**
100 ng/mL each in Isooctane

2,2',3,4,4',5,6-Heptabromodiphenyl ether

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Mixtures of PBDEs Standard Solution for Accuracy & Precision

BDE-AAP-A $ 195 / **1 x 1 mL**
At stated conc. in Isooctane 39 comps.

	ng/mL
2-Bromodiphenyl ether (#1)	100
3-Bromodiphenyl ether (#2)	100
4-Bromodiphenyl ether (#3)	100
2,4-Dibromodiphenyl ether (#7)	100
2,4'-Dibromodiphenyl ether (#8)	100
2,6-Dibromodiphenyl ether (#10)	100
3,3'-Dibromodiphenyl ether (#11)	100
3,4-Dibromodiphenyl ether (#12)	100
3,4'-Dibromodiphenyl ether (#13)	100
4,4'-Dibromodiphenyl ether (#15)	100
2,2',4,-Tribromodiphenyl ether (#17)	100
2,3',4-Tribromodiphenyl ether (#25)	100
2,4,4'-Tribromodiphenyl ether (#28)	100
2,4,6-Tribromodiphenyl ether (#30)	100
2,4',6-Tribromodiphenyl ether (#32)	100
2',3,4-Tribromodiphenyl ether (#33)	100
3,3',4-Tribromodiphenyl ether (#35)	100
3,4,4'-Tribromodiphenyl ether (#37)	100
2,2',4,4'-Tetrabromodiphenyl ether (#47)	100
2,2',4,5'-Tetrabromodiphenyl ether (#49)	100
2,3',4,4'-Tetrabromodiphenyl ether (#66)	100
2,3',4',6-Tetrabromodiphenyl ether (#71)	100
2,4,4',6-Tetrabromodiphenyl ether (#75)	100
3,3',4,4'-Tetrabromodiphenyl ether (#77)	100
2,2',3,4,4'-Pentabromodiphenyl ether (#85)	150
2,2',4,4',5-Pentabromodiphenyl ether (#99)	150
2,2',4,4',6-Pentabromodiphenyl ether (#100)	150
2,3,4,5,6-Pentabromodiphenyl ether (#116)	150
2,3',4,4',5-Pentabromodiphenyl ether (#118)	150
2,3',4,4',6-Pentabromodiphenyl ether (#119)	150
3,3',4,4',5-Pentabromodiphenyl ether (#126)	150
2,2',3,4,4',5'-Hexabromodiphenyl ether (#138)	200
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	200
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	200
2,2',4,4',6,6'-Hexabromodiphenyl ether (#155)	200
2,3,4,4',5,6-Hexabromodiphenyl ether (#166)	200
2,2',3,4,4',5,6-Heptabromodiphenyl ether (#181)	250
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	250
2,3,3',4,4',5,6-Heptabromodiphenyl ether (#190)	250

BDE-AAP-A-15X $ 750 / **1 x 1 mL**
At stated conc. in Isooctane 39 comps.

	µg/mL
2-Bromodiphenyl ether (#1)	1.5
3-Bromodiphenyl ether (#2)	1.5
4-Bromodiphenyl ether (#3)	1.5
2,4-Dibromodiphenyl ether (#7)	1.5
2,4'-Dibromodiphenyl ether (#8)	1.5
2,6-Dibromodiphenyl ether (#10)	1.5
3,3'-Dibromodiphenyl ether (#11)	1.5
3,4-Dibromodiphenyl ether (#12)	1.5
3,4'-Dibromodiphenyl ether (#13)	1.5
4,4'-Dibromodiphenyl ether (#15)	1.5
2,2',4,-Tribromodiphenyl ether (#17)	1.5
2,3',4-Tribromodiphenyl ether (#25)	1.5
2,4,4'-Tribromodiphenyl ether (#28)	1.5
2,4,6-Tribromodiphenyl ether (#30)	1.5
2,4',6-Tribromodiphenyl ether (#32)	1.5
2',3,4-Tribromodiphenyl ether (#33)	1.5
3,3',4-Tribromodiphenyl ether (#35)	1.5
3,4,4'-Tribromodiphenyl ether (#37)	1.5
2,2',4,4'-Tetrabromodiphenyl ether (#47)	1.5
2,2',4,5'-Tetrabromodiphenyl ether (#49)	1.5
2,3',4,4'-Tetrabromodiphenyl ether (#66)	1.5
2,3',4',6-Tetrabromodiphenyl ether (#71)	1.5
2,4,4',6-Tetrabromodiphenyl ether (#75)	1.5
3,3',4,4'-Tetrabromodiphenyl ether (#77)	1.5
2,2',3,4,4'-Pentabromodiphenyl ether (#85)	2.25
2,2',4,4',5-Pentabromodiphenyl ether (#99)	2.25
2,2',4,4',6-Pentabromodiphenyl ether (#100)	2.25
2,3,4,5,6-Pentabromodiphenyl ether (#116)	2.25
2,3',4,4',5-Pentabromodiphenyl ether (#118)	2.25
2,3',4,4',6-Pentabromodiphenyl ether (#119)	2.25
3,3',4,4',5-Pentabromodiphenyl ether (#126)	2.25
2,2',3,4,4',5'-Hexabromodiphenyl ether (#138)	3.0
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	3.0
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	3.0
2,2',4,4',6,6'-Hexabromodiphenyl ether (#155)	3.0
2,3,4,4',5,6-Hexabromodiphenyl ether (#166)	3.0
2,2',3,4,4',5,6-Heptabromodiphenyl ether (#181)	3.75
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	3.75
2,3,3',4,4',5,6-Heptabromodiphenyl ether (#190)	3.75

Technical Note

Responding to the need for the analysis of polybrominated diphenyl ether (PBDE) congeners, the EPA has developed Method 1614. Method 1614 is recommended for analysis of aqueous, solid, tissue, and multi-phase environmental samples. Each formulation is prepared using PBDEs which are synthesized and analyzed by AccuStandard.

Additional congeners, mixes and metabolites are added continuously. For an update, check our website.
AccuStandard.com

Mixture of Commonly Occurring PBDE Congeners for Precision and Recovery

BDE-COC $ 600 / **1 x 1 mL**
At stated conc. in Isooctane 14 comps.

	µg/mL
2,2',4,-Tribromodiphenyl ether (#17)	5
2,4,4'-Tribromodiphenyl ether (#28)	5
2,2',4,4'-Tetrabromodiphenyl ether (#47)	5
2,3',4,4'-Tetrabromodiphenyl ether (#66)	5
2,3',4',6-Tetrabromodiphenyl ether (#71)	5
2,2',3,4,4'-Pentabromodiphenyl ether (#85)	5
2,2',4,4',5-Pentabromodiphenyl ether (#99)	5
2,2',4,4',6-Pentabromodiphenyl ether (#100)	5
2,2',3,4,4',5'-Hexabromodiphenyl ether (#138)	5
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	5
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	5
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	5
2,3,3',4,4',5,6-Heptabromodiphenyl ether (#190)	5
Decabromodiphenyl ether (#209)	25

PBDE Congeners of Primary Interest

BDE-CSM $ 225 / **1 x 1 mL**
At stated conc. in Isooctane 8 comps.

	µg/mL
2,4,4'-Tribromodiphenyl ether (#28)	20
2,2',4,4'-Tetrabromodiphenyl ether (#47)	20
2,2',4,4',5-Pentabromodiphenyl ether (#99)	20
2,2',4,4',6-Pentabromodiphenyl ether (#100)	20
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	20
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	20
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	20
Decabromodiphenyl ether (#209)	200

PBDE Congeners of Primary Interest

Calibration Mix

BDE-CM $ 65 / **1 x 1 mL**
At stated conc. in Isooctane 8 comps.

	µg/mL
2,4,4'-Tribromodiphenyl ether (#28)	2.5
2,2',4,4'-Tetrabromodiphenyl ether (#47)	2.5
2,2',4,4',5-Pentabromodiphenyl ether (#99)	2.5
2,2',4,4',6-Pentabromodiphenyl ether (#100)	2.5
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	2.5
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	2.5
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	2.5
Decabromodiphenyl ether (#209)	25

Matrix Spiking Solution

BDE-MS $ 40 / **1 x 1 mL**
At stated conc. in Isooctane 8 comps.

	ng/mL
2,4,4'-Tribromodiphenyl ether (#28)	1
2,2',4,4'-Tetrabromodiphenyl ether (#47)	1
2,2',4,4',5-Pentabromodiphenyl ether (#99)	1
2,2',4,4',6-Pentabromodiphenyl ether (#100)	1
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	1
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	1
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	1
Decabromodiphenyl ether (#209)	10

PBDEs in Method 1614

BDE-EPA-SET $ 500 / **8 x 1 mL**
50 µg/mL each in Isooctane 8 comps.

- 2,4,4'-Tribromodiphenyl ether (#28)
- 2,2',4,4'-Tetrabromodiphenyl ether (#47)
- 2,2',4,4',5-Pentabromodiphenyl ether (#99)
- 2,2',4,4',6-Pentabromodiphenyl ether (#100)
- 2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)
- 2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)
- 2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)
- Decabromodiphenyl ether (#209)

PBDE Metabolites

PBDEs Metabolites: Hydroxy and Methoxy Polybromodiphenyl Ethers congeners

Hydroxylated and methoxylated PBDEs may be formed as metabolites of the widely used PBDE flame retardants. AccuStandard's aim is to synthesize authentic OH-and MeO-PBDE reference standards for analytical and toxicological studies. Since this is an ongoing project, please check the website for the latest update of this list or request specific congeners to be synthesized.

Short Form	Compound	Conc.	Solvent	Cat. No.	Price / 1 mL
2'-OH-BDE-003	2'-Hydroxy-4-monobromodiphenyl ether	50 µg/mL	AcCN	HBDE-1001S-CN	$ 75
3'-OH-BDE-007	3'-Hydroxy-2,4-dibromodiphenyl ether	50 µg/mL	AcCN	HBDE-2001S-CN	75
2'-OH-BDE-007	2'-Hydroxy-2,4-dibromodiphenyl ether	10 µg/mL	AcCN	HBDE-2002S-CN-0.2X	190
4'-OH-BDE-017	4'-Hydroxy-2,2',4-tribromodiphenyl ether	50 µg/mL	AcCN	HBDE-3001S-CN	140
3'-OH-BDE-028	3'-Hydroxy-2,4,4'-tribromodiphenyl ether	50 µg/mL	AcCN	HBDE-3002S-CN	75
2'-OH-BDE-028	2'-Hydroxy-2,4,4'-tribromodiphenyl ether ***NEW***	50 µg/mL	AcCN	HBDE-3003S-CN	75
4-OH-BDE-042	4-Hydroxy-2,2',3,4'-tetrabromodiphenyl ether	10 µg/mL	AcCN	HBDE-4001S-CN-0.2X	140
4'-OH-BDE-049	4'-Hydroxy-2,2',4,5'-tetrabromodiphenyl ether	10 µg/mL	AcCN	HBDE-4002S-CN-0.2X	125
3-OH-BDE-047	3-Hydroxy-2,2',4,4'-tetrabromodiphenyl ether	50 µg/mL	AcCN	HBDE-4003S-CN	75
5-OH-BDE-047	5-Hydroxy-2,2',4,4'-tetrabromodiphenyl ether	50 µg/mL	AcCN	HBDE-4004S-CN	75
6-OH-BDE-047	6-Hydroxy-2,2',4,4'-tetrabromodiphenyl ether	10 µg/mL	AcCN	HBDE-4005S-CN-0.2X	190
		10 µg/mL	Toluene	HBDE-4005S-T-0.2X	190
2'-OH-BDE-068	2'-Hydroxy-2,3',4,5'-tetrabromodiphenyl ether ***NEW***	10 µg/mL	AcCN	HBDE-4006S-CN-0.2X	140
		10 µg/mL	Toluene	HBDE-4006S-T-0.2X	140
		50 µg/mL	AcCN	HBDE-4006S-CN	140
		50 µg/mL	Toluene	HBDE-4006S-T	140
2'-OH-BDE-075	2'-Hydroxy-2,4,4',6-tetrabromodiphenyl ether ***NEW***	10 µg/mL	AcCN	HBDE-4007S-CN-0.2X	140
4-OH-BDE-090	4-Hydroxy-2,2',3,4',5-pentabromodiphenyl ether	10 µg/mL	AcCN	HBDE-5001S-CN-0.2X	160
6-OH-BDE-085	6-Hydroxy-2,2',3,4,4'-pentabromodiphenyl ether	10 µg/mL	AcCN	HBDE-5002S-CN-0.2X	160
6-OH-BDE-087	6-Hydroxy-2,2',3,4,5'-pentabromodiphenyl ether	10 µg/mL	AcCN	HBDE-5003S-CN-0.2X	160
6-OH-BDE-082	6-Hydroxy-2,2',3,3',4-pentabromodiphenyl ether	10 µg/mL	AcCN	HBDE-5005S-CN-0.2X	190
6'-OH-BDE-099	6'-Hydroxy-2,2',4,4',5-pentabromodiphenyl ether	10 µg/mL	AcCN	HBDE-5006S-CN-0.2X	190
5'-OH-BDE-099	5'-Hydroxy-2,2',4,4'5-pentabromodiphenyl ether ***NEW***	10 µg/mL	AcCN	HBDE-5007S-CN-0.2X	140
6-OH-BDE-157	6-Hydroxy-2,3,3',4,4',5'-hexabromodiphenyl ether	10 µg/mL	AcCN	HBDE-6001S-CN-0.2X	190
6-OH-BDE-140	6-Hydroxy-2,2',3,4,4',6'-hexabromodiphenyl ether	10 µg/mL	AcCN	HBDE-6002S-CN-0.2X	190
3-OH-BDE-154	3-Hydroxy-2,2',4,4',5',6-hexabromodiphenyl ether ***NEW***	10 µg/mL	AcCN	HBDE-6003S-CN-0.2X	140
2'-MeO-BDE-003	2'-Methoxy-4-monobromodiphenyl ether	50 µg/mL	MeOH	MOBDE-1001S	75
3'-MeO-BDE-007	3'-Methoxy-2,4-dibromodiphenyl ether	50 µg/mL	MeOH	MOBDE-2001S	75
2'-MeO-BDE-007	2'-Methoxy-2,4-dibromodiphenyl ether	10 µg/mL	MeOH	MOBDE-2002S-0.2X	190
4'-MeO-BDE-017	4'-Methoxy-2,2',4-tribromodiphenyl ether	50 µg/mL	MeOH	MOBDE-3001S	140
3'-MeO-BDE-028	3'-Methoxy-2,4,4'-tribromodiphenyl ether	50 µg/mL	MeOH	MOBDE-3002S	75
2'-MeO-BDE-028	2'-Methoxy-2,4,4'-tribromodiphenyl ether	50 µg/mL	MeOH	MOBDE-3003S	75
4-MeO-BDE-042	4-Methoxy-2,2',3,4'-tetrabromodiphenyl ether	10 µg/mL	MeOH	MOBDE-4001S-0.2X	140
4'-MeO-BDE-049	4'-Methoxy-2,2',4,5'-tetrabromodiphenyl ether	10 µg/mL	MeOH	MOBDE-4002S-0.2X	125
3-MeO-BDE-047	3-Methoxy-2,2',4,4'-tetrabromodiphenyl ether	50 µg/mL	MeOH	MOBDE-4003S	75
5-MeO-BDE-047	5-Methoxy-2,2',4,4'-tetrabromodiphenyl ether	50 µg/mL	MeOH	MOBDE-4004S	75
6-MeO-BDE-047	6-Methoxy-2,2',4,4'-tetrabromodiphenyl ether	10 µg/mL	MeOH	MOBDE-4005S-0.2X	160
2'-MeO-BDE-068	2'-Methoxy-2,3',4,5'-tetrabromodiphenyl ether ***NEW***	10 µg/mL	MeOH	MOBDE-4006S-0.2X	140
2'-MeO-BDE-075	2'-Methoxy-2,4,4',6-tetrabromodiphenyl ether ***NEW***	50 µg/mL	MeOH	MOBDE-4007S	190
4-MeO-BDE-090	4-Methoxy-2,2',3,4',5-pentabromodiphenyl ether	10 µg/mL	MeOH	MOBDE-5001S-0.2X	160
6-MeO-BDE-085	6-Methoxy-2,2',3,4,4'-pentabromodiphenyl ether	10 µg/mL	MeOH	MOBDE-5002S-0.2X	160
6-MeO-BDE-087	6-Methoxy-2,2',3,4,5'-pentabromodiphenyl ether	10 µg/mL	MeOH	MOBDE-5003S-0.2X	160
6-MeO-BDE-082	6-Methoxy-2,2',3,3',4-pentabromodiphenyl ether ***NEW***	10 µg/mL	MeOH	MOBDE-5005S-0.2X	140
6'-MeO-BDE-099	6'-Methoxy-2,2',4,4',5-pentabromodiphenyl ether	10 µg/mL	MeOH	MOBDE-5006S-0.2X	190
5'-MeO-BDE-099	5'-Methoxy-2,2',4,4',5-pentabromodiphenyl ether ***NEW***	10 µg/mL	MeOH	MOBDE-5007S-0.2X	140
6-MeO-BDE-157	6-Methoxy-2,3,3',4,4',5'-hexabromodiphenyl ether	10 µg/mL	MeOH	MOBDE-6001S-0.2X	190
6-MeO-BDE-140	6-Methoxy-2,2',3,4,4',6'-hexabromodiphenyl ether	10 µg/mL	MeOH	MOBDE-6002S-0.2X	190
3-MeO-BDE-154	3-Methoxy-2,2',4,4',5',6-hexabromodiphenyl ether ***NEW***	10 µg/mL	MeOH	MOBDE-6003S-0.2X	140

Technical Note

These metabolites can be found wherever there are PBDEs, and they present their own toxicological hazard. This effect is well known with PCBs where the hydroxylated species is often more toxic than the parent compounds.

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Fluorinated PBDEs

Some research suggests that a fluorine substitution of the PBDE parent compound could be used as an internal standard for PBDE analysis, **replacing the more costly ^{13}C labeled PBDEs currently used**. In addition, FBDEs can be used for ECD (Electron Capture Detection) analysis where the more expensive ^{13}C labeled PBDEs cannot. Experimental testing also suggests that the use of FBDEs as internal standards show improved precision in PBDE analysis. AccuStandard has synthesized the following FBDEs for use as internal standards and has committed to adding to this list based on requests from analytical chemists:

NEW

Short Form	Compound	Conc.	Solvent	Cat. No.	Price / 1 mL
F-BDE-007	3'-Fluoro-2,4-dibromodiphenyl ether	25 µg/mL	Isooctane	FBDE-2001S-0.5X	$ 195
		50 µg/mL	Isooctane	FBDE-2001S	275
F-BDE-012	3'-Fluoro-3,4-dibromodiphenyl ether	25 µg/mL	Isooctane	FBDE-2002S-0.5X	195
		50 µg/mL	Isooctane	FBDE-2002S	275
F-BDE-025	4'-Fluoro-2,3',4-tribromodiphenyl ether	25 µg/mL	Isooctane	FBDE-3001S-0.5X	195
		50 µg/mL	Isooctane	FBDE-3001S	275
F-BDE-027	4'-Fluoro-2,3',6-tribromodiphenyl ether	25 µg/mL	Isooctane	FBDE-3002S-0.5X	195
		50 µg/mL	Isooctane	FBDE-3002S	275
F-BDE-028	2'-Fluoro-2,4,4'-tribromodiphenyl ether	25 µg/mL	Isooctane	FBDE-3003S-0.5X	195
		50 µg/mL	Isooctane	FBDE-3003S	275
F-BDE-028	3'-Fluoro-2,4,4'-tribromodiphenyl ether	25 µg/mL	Isooctane	FBDE-3004S-0.5X	195
		50 µg/mL	Isooctane	FBDE-3004S	275
F-BDE-069	4'-Fluoro-2,3',4,6-tetrabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-4001S-0.5X	195
		50 µg/mL	Isooctane	FBDE-4001S	275
F-BDE-067	4'-Fluoro-2,3',4,5-tetrabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-4002S-0.5X	195
		50 µg/mL	Isooctane	FBDE-4002S	275
F-BDE-047	6-Fluoro-2,2',4,4'-tetrabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-4003S-0.5X	195
		50 µg/mL	Isooctane	FBDE-4003S	275
F-BDE-066	6-Fluoro-2,3',4,4'-tetrabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-4004S-0.5X	195
		50 µg/mL	Isooctane	FBDE-4004S	275
2F-BDE-047	5,5'-Difluoro-2,2',4,4'-tetrabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-4005S-0.5X	195
		50 µg/mL	Isooctane	FBDE-4005S	275
F-BDE-100	3-Fluoro-2,2',4,4',6-pentabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-5002S-0.5X	195
		50 µg/mL	Isooctane	FBDE-5002S	275
2F-BDE-099	3,6-Difluoro-2,2',4,4',5-pentabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-5003S-0.5X	195
		50 µg/mL	Isooctane	FBDE-5003S	275
2F-BDE-085	5,6-Difluoro-2,2',3,4,4'-pentabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-5004S-0.5X	195
		50 µg/mL	Isooctane	FBDE-5004S	275
2F-BDE-119	3,5-Difluoro-2,3',4,4',6-pentabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-5005S-0.5X	195
		50 µg/mL	Isooctane	FBDE-5005S	275
F-BDE-160	4'-Fluoro-2,3,3',4,5,6-hexabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-6001S-0.5X	195
		50 µg/mL	Isooctane	FBDE-6001S	275
F-BDE-139	3-Fluoro-2,2',4,4',5,6-hexabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-6002S-0.5X	195
		50 µg/mL	Isooctane	FBDE-6002S	275
2F-BDE-201	4',6-Difluoro-2,2',3,3',4,5,5',6'-octabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-8001S-0.5X	195
		50 µg/mL	Isooctane	FBDE-8001S	275
F-BDE-208	4'-Fluoro-2,2',3,3',4,5,5',6,6'-nonabromodiphenyl ether	25 µg/mL	Isooctane	FBDE-9001S-0.5X	195
		50 µg/mL	Isooctane	FBDE-9001S	275

Flame Retardants

Bromine containing Flame Retardants

Compound	CAS No.	Active Ingredient	Conc.	Matrix	Cat. No.	Price / 1 mL
Bromkal™ DE-70-5 (Tech grade) ***NEW***		Penta BDEs	50 µg/mL	Isooctane	BDE-705	$ 90
Bromkal DE-71 (Tech grade) ***NEW***		Penta BDEs	50 µg/mL	Isooctane	BDE-710	90
Bromkal DE-73-6 (Tech grade) ***NEW***		Hexa BDEs	50 µg/mL	Isooctane	BDE-736	90
Bromkal DE-79-8 (Tech grade) ***NEW***		Octa BDEs	50 µg/mL	Isooctane	BDE-798	90
4-Bromophenyl phenyl ether	101-55-3		100 µg/mL	MeOH	APP-9-033	15
			5 mg/mL	MeOH	AS-E0039	32
Dow FR-250	27858-07-7	Octabromobiphenyl	100 µg/mL	Isooctane	B-250S	50
			35 µg/mL	Isooctane	B-250S-0.35X	20
Firemaster™ BP4A	79-94-7	Tetrabromobisphenol A	10 mg	NEAT	FRS-006N	15
			100 µg/mL	Toluene	FRS-006S	15
Firemaster BP-6	59536-65-1	Hexabromobiphenyl	10 mg	NEAT	B-600N	15
			35 µg/mL	Isooctane	B-600S-0.35X	65
			100 µg/mL	Isooctane	B-600S	95
Firemaster PHT4	632-79-1	Tetrabromophthalic anhydride	10 mg	NEAT	FRS-007N	15
			100 µg/mL	Toluene	FRS-007S	15
Firemaster T23P		Tris(2,3-dibromopropyl)phosphate	10 mg	NEAT	FRS-008N	15
			100 µg/mL	Toluene	FRS-008S	15
Firemaster 680 (Tech grade) ***NEW***	37853-59-1	1,2-Bis(2,4,6-tribromophenoxyl)ethane	50 mg	NEAT	FRS-037N	30
			100 µg/mL	Toluene	FRS-037S	20
Firemaster 2100 (Tech grade) ***NEW***		Decabromodiphenylethane	50 mg	NEAT	FRS-036N	30
FR-300BA (Deca)	1163-19-5	Decabromodiphenyl ether 85.5%	10 mg	NEAT	FRS-009N	15
			100 µg/mL	Toluene	FRS-009S	15
FR-651A	87-84-3	Pentabromochlorocyclohexane	10 mg	NEAT	FRS-010N	15
			100 µg/mL	Toluene	FRS-010S	15
FR-1138	3296-90-0	Dibromoneopentyl glycol 85.0%	10 mg	NEAT	FRS-011N	15
			100 µg/mL	Toluene	FRS-011S	15
HCDBCO	51939-55-1	Hexachlorocyclopantadienyl-dibromocyclooctane	10 mg	NEAT	FRS-039N	25
			100 µg/mL	Toluene	FRS-039S	25
Hexabromobenzene (mich)	87-82-1	Hexabromobenzene (Michigan Chemical)	10 mg	NEAT	FRS-012N	15
			100 µg/mL	Toluene	FRS-012S	15
Hexabromobenzene (white)	87-82-1	Hexabromobenzene (White Chemical)	10 mg	NEAT	FRS-013N	15
			100 µg/mL	Toluene	FRS-013S	15
Pentabromobenzylacrylate (Tech)	59447-55-1 ***NEW***	Pentabromobenzylacrylate	10 mg	NEAT	FRS-035N	30
			100 µg/mL	Toluene	FRS-035S	20
Pentabromobenzylbromide (Tech)	1163-19-5 ***NEW***	Pentabromobenzylbromide	10 mg	NEAT	FRS-030N	30
			100 µg/mL	Toluene	FRS-030S	15
Pentabromotoluene	87-83-2	Pentabromotoluene	10 mg	NEAT	FRS-018N	15
			100 µg/mL	Toluene	FRS-018S	15
TBECH ***NEW***	3322-93-8	1,2-Dibromo-4-(1,2-dibromoethyl)cyclohexane	10 mg	NEAT	FRS-038N	25
			100 mg/mL	MeOH	FRS-038S	25
Tetrabromobisphenol A bis(hydroxyethyl ether) (Tech) ***NEW***	4162-45-2	Tetrabromobisphenol A bis(hydroxyethyl ether)	50 mg	NEAT	FRS-032N	25
			100 µg/mL	Toluene	FRS-032S	15
Tetrabromo-o-chlorotoluene		Tetrabromo-o-chlorotoluene	10 mg	NEAT	FRS-021N	15
			100 µg/mL	Toluene	FRS-021S	15
TP-69		Tris(2,3-dibromopropyl)phosphate	10 mg	NEAT	FRS-023N	15
			100 µg/mL	Toluene	FRS-023S	15

Other Flame Retardants

Compound	CAS No.	Active Ingredient	Conc.	Matrix	Cat. No.	Price / 1 mL
Chlorafin™ 40	63449-39-8	Chlorinated Paraffin	10 mg	NEAT	FRS-002N	$ 15
			100 µg/mL	Toluene	FRS-002S	15
Chlorendic anhydride	115-27-5	Chlorendic anhydride	10 mg	NEAT	FRS-001N	15
			100 µg/mL	Toluene	FRS-001S	15
Bis(2-Chloroethyl)ether	111-44-4	Bis(2-Chloroethyl)ether	100 µg/mL	MeOH	APP-9-027	20
			5 mg/mL	MeOH	AS-E0016	32
4-Chlorophenyl phenyl ether	7005-72-3	4-Chlorophenyl phenyl ether	100 µg/mL	MeOH	APP-9-047	20
			5 mg/mL	MeOH	AS-E0038	32
Chlorowax™ 500C	63449-39-8	Chlorinated Hydrocarbons 59.0%	10 mg	NEAT	FRS-004N	15
			100 µg/mL	Toluene	FRS-004S	15
Diable 700X		Chlorinated Hydrocarbons 70.0%	10 mg	NEAT	FRS-005N	15
			100 µg/mL	Toluene	FRS-005S	15
Hexabromocyclododecane ***NEW***		Hexabromocyclododecane	10 mg	NEAT	FRS-028N	15
			100 µg/mL	Toluene	FRS-028S	15
Hexachlorobutadiene	87-68-3	Hexachlorobutadiene	10 mg	NEAT	FRS-017N	15
			100 µg/mL	Toluene	FRS-017S	15
Paroil™ 179-HV	63449-39-8	Chlorinated Paraffin	10 mg	NEAT	FRS-015N	15
			100 µg/mL	Toluene	FRS-015S	15
Paroil 170-8	63449-39-8	Chlorinated Paraffin	10 mg	NEAT	FRS-016N	15
			100 µg/mL	Toluene	FRS-016S	15
Phosgard™ C 22-R	4351-70-6	Halogenated organic phosphate ester	10 mg	NEAT	FRS-019N	15
			100 µg/mL	Toluene	FRS-019S	15
Phosgard 2XC-20		Halogenated organic phosphate ester	10 mg	NEAT	FRS-020N	15
			100 µg/mL	Toluene	FRS-020S	15
Tetrachlorobisphenol A	79-95-8	Tetrachlorobisphenol A	10 mg	NEAT	FRS-022N	15
			100 µg/mL	Toluene	FRS-022S	15
Unichlor™ 40-90	63449-39-8	Chlorinated Hydrocarbons 38.5%	10 mg	NEAT	FRS-024N	15
			100 µg/mL	Toluene	FRS-024S	15
Unichlor 502-50	63449-39-8	Chlorinated Hydrocarbons 52.0%	10 mg	NEAT	FRS-025N	15
			100 µg/mL	Toluene	FRS-025S	15
Unichlor 70AX	63449-39-8	Chlorinated Hydrocarbons 70.0%	10 mg	NEAT	FRS-026N	15
			100 µg/mL	Toluene	FRS-026S	15

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Bromobiphenyl Congeners

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price / 1 mL
2-Bromobiphenyl	2052-07-5	50 mg	NEAT	B-001N	$ 12
		35 µg/mL	Isooctane	B-001S	20
		1 mg/mL	Acetone	M-8081-SS-X	10
3-Bromobiphenyl	2113-57-7	50 mg	NEAT	B-002N	12
		35 µg/mL	Isooctane	B-002S	20
4-Bromobiphenyl	92-66-0	50 mg	NEAT	B-003N	12
		35 µg/mL	Isooctane	B-003S	20
2,2'-Dibromobiphenyl	13029-09-9	10 mg	NEAT	B-004N	55
		35 µg/mL	Isooctane	B-004S	20
2,4-Dibromobiphenyl	53592-10-2	25 mg	NEAT	B-007N-10MG	18
		35 µg/mL	Isooctane	B-007S	20
2,5-Dibromobiphenyl	57422-77-2	25 mg	NEAT	B-009N	24
		35 µg/mL	Isooctane	B-009S	20
2,6-Dibromobiphenyl	59080-32-9	5 mg	NEAT	B-010N-5MG	12
		35 µg/mL	Isooctane	B-010S	20
4,4'-Dibromobiphenyl	92-86-4	10 mg	NEAT	B-015N	18
		35 µg/mL	Isooctane	B-015S	20
2,2',5-Tribromobiphenyl ***NEW***	59080-34-1	10 mg	NEAT	B-018N	12
		35 µg/mL	Isooctane	B-018S	20
2,3',5-Tribromobiphenyl	59080-35-2	10 mg	NEAT	B-026N	12
		35 µg/mL	Isooctane	B-026S	20
2,4,5-Tribromobiphenyl ***NEW***	115245-07-3	35 µg/mL	Isooctane	B-029S	85
2,4,6-Tribromobiphenyl	59080-33-0	25 mg	NEAT	B-030N	24
		35 µg/mL	Isooctane	B-030S	20
2,4',5-Tribromobiphenyl	59080-35-3	10 mg	NEAT	B-031N	12
		35 µg/mL	Isooctane	B-031S	20
2,2',4,5'-Tetrabromobiphenyl	60044-24-8	5 mg	NEAT	B-049N-5MG	30
		35 µg/mL	Isooctane	B-049S	20
2,2',5,5'-Tetrabromobiphenyl	59080-37-4	10 mg	NEAT	B-052N	32
		35 µg/mL	Isooctane	B-052S	20
2,2',5,6'-Tetrabromobiphenyl	60044-25-9	5 mg	NEAT	B-053N-5MG	28
		35 µg/mL	Isooctane	B-053S	20
3,3',4,4'-Tetrabromobiphenyl	77102-82-0	35 µg/mL	Isooctane	B-077S	30
3,3',5,5'-Tetrabromobiphenyl	16400-50-3	35 µg/mL	Isooctane	B-080S	30
2,2',4,5,5'-Pentabromobiphenyl	67888-96-4	5 mg	NEAT	B-101N	145
		35 µg/mL	Isooctane	B-101S	30
2,2',4,5',6-Pentabromobiphenyl ***NEW***	59080-39-6	5 mg	NEAT	B-103N	35
		35 µg/mL	Isooctane	B-103S	30
2,2',4,4',5,5'-Hexabromobiphenyl	59080-40-9	35 µg/mL	Isooctane	B-153S	95
2,2',4,4',6,6'-Hexabromobiphenyl	59261-08-4	5 mg	NEAT	B-155N	65
		35 µg/mL	Isooctane	B-155S	30
3,3',4,4',5,5'-Hexabromobiphenyl	77607-09-1	35 µg/mL	Isooctane	B-169S	30
2,2',3,3',4,5',6,6'-Octabromobiphenyl ***NEW***	69887-11-2	35 µg/mL	Isooctane	B-200S	150
Decabromobiphenyl	13654-09-6	25 mg	NEAT	B-209N	20
		35 µg/mL	Isooctane	B-209S	20

Bromo Phenols and Anisoles

Bromo Phenols

NEW

Each at 100 µg/mL in Toluene

Compound	CAS No.	Cat. No.	Price / 1 mL
3-Bromophenol		BP-003S	$ 15
4-Bromophenol		BP-004S	15
2,3-Dibromophenol	57383-80-9	BP-023S	75
2,4-Dibromophenol		BP-024S	15
2,5-Dibromophenol	28165-52-8	BP-025S	75
2,6-Dibromophenol		BP-026S	25
2,3,4-Tribromophenol		BP-234S	75
3,5-Dibromophenol	626-41-5	BP-035S	75
2,4,5-Tribromophenol		BP-245S	75
2,4,6-Tribromophenol		BP-246S	15
3,4,5-Tribromophenol		BP-345S	75
2,3,4,5-Tetrabromophenol		BP-2345S	75
2,3,4,6-Tetrabromophenol		BP-2346S	75
2,3,5,6-Tetrabromophenol		BP-2356S	75
Pentabromophenol	608-71-9	BP-23456S	15

Bromo Anisoles (Bromophenol methyl ether)

NEW

Each at 50 µg/mL in Methanol

Compound	CAS No.	Cat. No.	Price / 1 mL
2-Bromoanisole	578-57-4	BAN-01	$ 45
3-Bromoanisole	2398-37-0	BAN-02	45
4-Bromoanisole	104-92-7	BAN-03	45
2,3-Dibromoanisole		BAN-04	75
2,4-Dibromoanisole	21702-84-1	BAN-05	45
2,5-Dibromoanisole		BAN-06	75
2,6-Dibromoanisole		BAN-07	45
3,5-Dibromoanisole	74137-36-3	BAN-08	45
2,4,5-Tribromoanisole		BAN-09	95
2,4,6-Tribromoanisole	607-99-8	BAN-10	45

Registered Trademarks

Chlorafin — Hercules Powder Company Corp.
Chlorowax — Dover Chemical Corp.
Firemaster — Great Lakes Chemical Corp.
Paroil — Dover Chemical Corp
Phosgard — Solutia Inc.
Unichlor — Neville Chemical Co.

Polynuclear Aromatic Hydrocarbons

PAHs

Polyaromatic Hydrocarbons (PAHs) are hydrocarbon compounds with multiple benzene rings. PAHs are typical components of asphalts, fuels, oils, and greases. They are also called Polycyclic Aromatic Hydrocarbons and have been linked to cancer and hormone disruption. Please contact our Technical Service Department for bulk quanitites.

Polynuclear Aromatic Hydrocarbons (PAHs)

Purity 98+%, except where indicated

Compound	Solutions at 50 µg/mL in Toluene Synonym	CAS No.	Neat Cat. No.	Price / Unit	Solution Cat. No.	Price 1 mL
Acenaphthene		83-32-9	H-108N	$ 13 / 100 mg	H-108S	$ 15
Acenaphthylene		208-96-8	H-125N	50 / 100 mg	H-125S	15
Acridine ***NEW***		260-94-6	H-187N	15 / 100 mg	H-187S	15
Anthanthrene		191-26-4	H-109N	77 / 10 mg	H-109S	40
Anthracene		120-12-7	H-110N	13 / 100 mg	H-110S	15
Azulene		275-51-4	H-127N	18 / 10 mg	H-127S	15
1,2-Benzanthracene	*Tetraphene*	56-55-3	H-100N	13 / 10 mg	H-100S	15
2,3-Benzanthracene		92-24-0	H-159N	13 / 10 mg	H-159S	15
Benz[a]anthracene-7,12-dione	*Benzanthraquinone*	2498-66-0	H-111N	25 / 10 mg	H-111S	15
Benzo[b]chrysene		214-17-5	H-183N	65 / 5 mg	H-183S	40
Benzo[b]fluoranthene	*Benz[e]acephenanthrylene*	205-99-2	H-128N	13 / 10 mg	H-128S	20
Benzo[j]fluoranthene		205-82-3	H-171N	50 / 10 mg	H-171S	30
Benzo[k]fluoranthene		207-08-9	H-129N	13 / 10 mg	H-129S	20
1,2-Benzofluorene		238-84-6	----------	----------	H-130S	20
2,3-Benzofluorene		243-17-4	H-180N	13 / 10 mg	H-180S	15
Benzo[g,h,i]perylene	*1,12-Benzoperylene*	191-24-2	H-103N	18 / 10 mg	H-103S	20
Benzo[c]phenanthrene		195-19-7	H-244N	60 / 10 mg	H-244S	30
Benzo[a]pyrene (ACS grade)	*3,4-Benzopyrene*	50-32-8	H-169N-ACS	12 / 10 mg	----------	---
Benzo[a]pyrene (Ames grade)			H-169N	18 / 10 mg	H-169S	20
Benzo[e]pyrene		192-97-2	H-112N	65 / 10 mg	H-112S	20
2,3-Benzofuran		271-89-6	H-237N	10 / 10 mg	H-237S	15
5,6-Benzoquinoline	*Benzo[f]quinoline*	85-02-9	H-113N-10MG	18 / 10 mg	H-113S	15
7,8-Benzoquinoline		230-27-3	H-245N	35 / 100 mg	H-245S	25
2,2'-Binaphthyl		612-78-2	H-239N	30 / 50 mg	H-239S	15
Biphenyl		92-52-4	H-133N	14 / 500 mg	H-133S	15
Carbazole		86-74-8	H-114N	13 / 100 mg	H-114S	15
Chrysene	*Benzo[a]phenanthrene*	218-01-9	H-115N	25 / 100 mg	H-115S	15
Coronene		191-07-1	H-116N	32 / 5 mg	H-116S	30
Cyclopenta[c,d]pyrene ***NEW***		27208-37-3	----------	----------	H-242S	50
Dibenz[a,h]acridine		226-36-8	H-172N	50 / 10 mg	H-172S	30
Dibenz[a,j]acridine		224-42-0	H-173N	50 / 10 mg	H-173S	30
1,2:3,4-Dibenzanthracene	*Dibenz[a,c]anthracene*	215-58-7	H-134N	18 / 10 mg	H-134S	20
1,2:5,6-Dibenzanthracene	*Dibenz[a,h]anthracene*	53-70-3	H-135N	13 / 10 mg	H-135S	20
7H-Dibenzo[c,g]carbazole		194-59-2	----------	----------	H-176S	30
Dibenzo-p-dioxin	* Solution in Isooctane	262-12-4	D-100N	23 / 10 mg	D-100S *	15
Dibenzo[a,e]fluoranthene		5385-75-1	H-247N	90 / 1 mg	H-247S	50
Dibenzofuran		132-64-9	F-100N	14 / 50 mg	----------	--
1,2,4,5-Dibenzopyrene	*Dibenzo[a,e]pyrene*	192-65-4	H-138N	65 / 10 mg	H-138S	20
Dibenzo[a,h]pyrene		189-64-0	H-177N	65 / 10 mg	H-177S	15
Dibenzo[a,i]pyrene		189-55-9	H-178N	225 / 5 mg	H-178S	50
Dibenzo[a,l]pyrene		191-30-0	H-179N	75 / 5 mg	H-179S	45
Diphenylenesulfide	*Dibenzothiophene*	132-65-0	H-117N	13 / 100 mg	H-117S	15
1,2:8,9-Dibenzpentacene		227-09-8	H-139N	52 / 10 mg	H-139S	20
9,10-Dihydroanthracene		613-31-0	H-140N	30 / 100 mg	H-140S	15
12,12A-Dihydro-3,9-dimethylbenz[a]anthracene			----------	----------	H-188S	20
Diindeno[1,2,3-cd-1',2',3'-1m]perylene	*Periflanthene*	188-94-3	H-141N	15 / 5 mg	H-141S	20
2,3-Dimethylanthracene		613-06-9	H-189N	15 / 10 mg	H-189S	20
9,10-Dimethylanthracene		781-43-1	H-190N	15 / 10 mg	H-190S	15
3,9-Dimethylbenz[a]anthracene		316-51-8	----------	----------	H-191S	20
6,8-Dimethylbenz[a]anthracene		317-64-6	----------	----------	H-192S	20
7,12-Dimethylbenz[a]anthracene		57-97-6	H-174N	13 / 10 mg	H-174S	15
1,12-Dimethylbenzo[c]phenanthrene		4076-43-1	----------	----------	H-193S	20
5,8-Dimethylbenzo[c]phenanthrene		54886-63-9	----------	----------	H-194S	20
7,10-Dimethylbenzo[a]pyrene		63104-33-6	----------	----------	H-195S	20
1,2-Dimethylnaphthalene		573-98-8	H-197N	15 / 10 mg	H-197S	15
1,3-Dimethylnaphthalene (96%)		575-41-7	H-198N	15 / 10 mg	H-198S	15
1,4-Dimethylnaphthalene (95%)		571-53-4	H-199N	15 / 10 mg	H-199S	15
1,5-Dimethylnaphthalene		571-61-9	H-200N	15 / 10 mg	H-200S	15
1,6-Dimethylnaphthalene		575-43-9	H-201N	15 / 10 mg	H-201S	15
1,8-Dimethylnaphthalene (95%)		569-41-5	H-202N	15 / 10 mg	H-202S	15
2,6-Dimethylnaphthalene		581-42-0	H-161N	15 / 10 mg	H-161S	15
2,7-Dimethylnaphthalene ***NEW***		582-16-1	H-203N	15 / 10 mg	H-203S	15
3,6-Dimethylphenanthrene		1576-67-6	H-142N-5MG	60 / 5 mg	H-142S	15
9,10-Diphenylanthracene ***NEW***		1499-10-1	H-185N	18 / 100 mg	H-185S	15
Dodecahydrotriphenylene		1610-39-5	H-144N	13 / 100 mg	H-144S	15
6-Ethylchrysene ***NEW***		2732-58-3	H-264N	25 / 10 mg	----------	---
Fluoranthene		206-44-0	H-118N	13 / 100 mg	H-118S	15
Fluorene		86-73-7	H-146N	26 / 100 mg	H-146S	15

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Polynuclear Aromatic Hydrocarbons (PAHs)

Purity 98+%, except where indicated

Compound	Solutions at 50 µg/mL in Toluene Synonym	CAS No.	Neat Cat. No.	Price / Unit	Solution Cat. No.	Price 1 mL
Indan		496-11-7	H-231N	$ 20 / 100 mg	H-231S	$ 15
Indene		95-13-6	H-230N	15 / 100 mg	H-230S	15
Indeno[1,2,3-cd]pyrene	*o-Phenylenepyrene*	193-39-5	H-157N	50 / 10 mg	H-157S	20
Indole		120-72-9	H-236N	15 / 100 mg	H-236S	15
Isoquinoline		119-65-3	H-232N	15 / 100 mg	H-232S	15
1-Methylanthracene		610-48-0	H-222N	20 / 10 mg	H-222S	20
2-Methylanthracene		613-12-7	H-148N	14 / 10 mg	H-148S	20
9-Methylanthracene		779-02-2	H-149N	25 / 10 mg	H-149S	20
1-Methylbenz[a]anthracene		2498-77-3	---------	----------	H-213S	20
2-Methylbenz[a]anthracene		2498-76-2	---------	----------	H-214S	20
3-Methylbenz[a]anthracene		2498-75-1	---------	----------	H-215S	20
4-Methylbenz[a]anthracene		316-49-4	---------	----------	H-216S	20
5-Methylbenz[a]anthracene		2319-96-2	---------	----------	H-217S	20
6-Methylbenz[a]anthracene		316-14-3	---------	----------	H-218S	20
7-Methylbenz[a]anthracene		2541-69-7	---------	----------	H-219S	20
9-Methylbenz[a]anthracene		2381-16-0	---------	----------	H-220S	20
10-Methylbenz[a]anthracene		2381-15-9	---------	----------	H-221S	20
1-Methylbenzo[c]phenanthrene		4076-39-5	---------	----------	H-208S	20
2-Methylbenzo[c]phenanthrene		2606-85-1	---------	----------	H-209S	20
3-Methylbenzo[c]phenanthrene		2381-19-3	---------	----------	H-210S	20
4-Methylbenzo[c]phenanthrene		4076-40-8	---------	----------	H-211S	20
5-Methylbenzo[c]phenanthrene		652-04-0	---------	----------	H-212S	20
7-Methylbenzo[a]pyrene		63041-77-0	H-223N	20 / 10 mg	H-223S	20
8-Methylbenzo[a]pyrene		63041-76-9	---------	----------	H-205S	20
9-Methylbenzo[a]pyrene		70644-19-8	---------	----------	H-206S	20
10-Methylbenzo[a]pyrene		63104-32-5	---------	----------	H-207S	20
3-Methylcholanthrene	*20-Methylcholanthrene*	56-49-5	H-170N	40 / 10 mg	H-170S	20
4-Methylchrysene		3351-30-2	---------	----------	H-228S	40
5-Methylchrysene ***NEW***		3697-24-3	---------	----------	H-243S	50
6-Methylchrysene		1705-85-7	H-175N	120 / 10 mg	H-175S	15
2-Methylfluoranthene		33543-31-6	H-182N-5MG	45 / 5 mg	H-182S	15
			H-182N-25MG	210 / 25 mg		
1-Methylnaphthalene		90-12-0	H-001N	7 / 100 mg	H-001S	15
2-Methylnaphthalene		91-57-6	H-002N	7 / 100 mg	H-002S	15
9-Methyl-9-phenylfluorene		56849-83-3	H-204N	15 / 10 mg	H-204S	15
1-Methylphenanthrene		832-69-9	---------	----------	H-162S	40
2-Methylphenanthrene		2531-84-2	---------	----------	H-003S	40
3-Methylphenanthro[3,4-c]phenanthrene		83844-21-7	---------	----------	H-224S	20
1-Methylpyrene		238-71-7	H-233N	20 / 10 mg	H-233S	20
4,5-Methylenephenanthrene		203-64-5	---------	----------	H-119S	40
Naphthalene		91-20-3	H-152N	13 / 100 mg	H-152S	15
Pentacene		135-48-8	---------	----------	H-154S	40
Perylene		198-55-0	H-121N	26 / 10 mg	H-121S	20
Phenanthrene		85-01-8	H-122N	13 / 100 mg	H-122S	15
9-Phenylanthracene		602-55-1	H-156N	26 / 100 mg	H-156S	15
o-Phenylene pyrene	see Indeno[1,2,3-cd]pyrene					
1-Phenylnaphthalene		605-02-7	H-246N	35 / 100 mg	H-246S	25
2-Phenylnaphthalene		612-94-2	H-158N	45 / 5 mg	H-158S	15
Picene		213-46-7	---------	----------	H-184S	20
Pyrene		129-00-0	H-123N	13 / 100 mg	H-123S	15
Pyrrole		109-97-7	H-229N	15 / 100 mg	H-229S	15
Quinoline ***NEW***		91-22-5	H-186N	15 / 100 mg	H-186S	15
2,3,6,7-Tetraethylbiphenylene			H-225N	15 / 10 mg	H-225S	15
1,2:3,4-Tetrahydrofluoranthene		42429-92-5	H-165N	16 / 10 mg	H-165S	20
Tetraphene	see 1,2-Benzanthracene					
Thianaphthene		95-15-8	H-238N	15 / 100 mg	H-238S	15
Thianthrene ***NEW***		92-85-3	H-241N	10 / 100 mg	----------	--
4,6,8-Trimethylazulene		941-81-1	H-226N	15 / 10 mg	H-226S	15
8,9,11-Trimethylbenz[a]anthracene		74845-58-2	---------	----------	H-227S	20
Triphenylene		217-59-4	H-235N	10 / 10 mg	H-235S	15
Truxene (95%)		548-35-6	H-124N	28 / 100 mg	H-124S	15

PAH Sets and Solutions

AccuStandard has assembled these Polycyclic Aromatic Hydrocarbon Kits for use as reference standards for the predominant species found in ambient air samples. This library of standards was compiled as a working list used by the EPA, based on their research and literature surveys. One kit is offered as individual neat compounds, and the other as individual solutions. The Solution Kit also contains all the compounds in one solution.

All compounds are 98% pure except where indicated

PAH Neat Sets

Z-001-SET — $ 170 / **Kit of 20 x 5 mg**

Acenaphthene (01)
Anthanthrene (02)
Anthracene (03)
1,2-Benzanthracene (04)
Benz[a]anthracene-7,12-dione (95%) (05)
Benzo[g,h,i]perylene (06)
Benzo[a]pyrene (07)
Benzo[e]pyrene (08)
5,6-Benzoquinoline (09)
Carbazole (10)
Chrysene (11)
Coronene (12)
Dibenzothiophene (13)
Fluoranthene (14)
4,5-Methylenephenanthrene (15)
Naphthalene (16)
Perylene (17)
Phenanthrene (18)
Pyrene (19)
Truxene (95%) (20)

Z-013N-SET — $ 175 / **16 x 10 mg**
(set includes, 16 individual neat analytes)

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
Naphthalene
Phenanthrene
Pyrene

PAH Solutions

All Solutions at 0.2 mg/mL in 1 mL

Compound	Solvent	Cat. No.	Price
Acenaphthene	MeOH	Z-013-01	$ 15
Acenaphthylene	MeOH	Z-013-02	15
Anthracene	MeOH	Z-013-03	15
Benz[a]anthracene	CH_2Cl_2	Z-013-04	15
Benzo[a]pyrene	CH_2Cl_2	Z-013-05	15
Benzo[b]fluoranthene	MeOH	Z-013-06	20
Benzo[g,h,i]perylene	CH_2Cl_2	Z-013-07	20
Benzo[k]fluoranthene	CH_2Cl_2	Z-013-08	20
Chrysene	CH_2Cl_2	Z-013-09	15
Dibenz[a,h]anthracene	CH_2Cl_2	Z-013-10	20
Fluoranthene	CH_2Cl_2	Z-013-11	15
Fluorene	MeOH	Z-013-12	15
Indeno[1,2,3-cd]pyrene	MeOH	Z-013-13	20
Naphthalene	MeOH	Z-013-14	8
Phenanthrene (98%)	CH_2Cl_2	Z-013-15	15
Pyrene	CH_2Cl_2	Z-013-16	15
Mixture of the above 16 analytes, at *0.2 mg/mL in MeOH:CH_2Cl_2 (1:1)*		Z-013-17	30 16 comps.

Set of the above 16 individual solutions, plus a mixture **Z-013-17** (set of 17 x 1 mL) — **Z-013-SET** — $ 200

PAH Standard (Quebec Ministry of Environmental PAH Mix)

H-QME-01 — $ 110 / **1 x 1 mL**
500 µg/mL each in CH_2Cl_2 — 24 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[b]fluoranthene
Benzo[j]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[c]phenanthrene
Benzo[a]pyrene
Benzo[e]pyrene
Chrysene
Dibenz[a,h]anthracene
Dibenzo[a,h]pyrene
Dibenzo[a,i]pyrene
Dibenzo[a,l]pyrene
7,12-Dimethylbenz[a]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
3-Methylcholanthrene
Naphthalene
Phenanthrene
Pyrene

AccuLabel™ 2-Part Label System

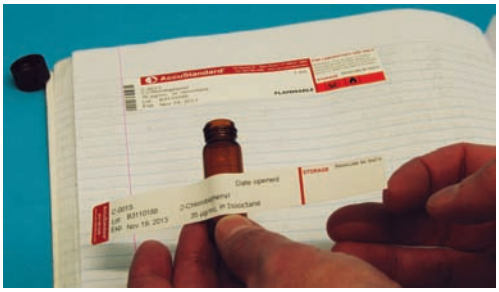
(used on organic products in ampules)
Smudgeproof, tear and solvent resistant *
Kimdura® labels

Accuracy and Convenience

One part duplicates required information for labeling transfer vials with correct information such as catalog number, lot number, expiration date and proper storage conditions.

Second part can be placed into a laboratory journal to document the standard used for the analysis. This label section includes the information described above, and documents AccuStandard as the manufacturer.

*** Includes the most common solvents: Methylene chloride, Methanol and Acetone**



Nitro-Polynuclear Aromatic Hydrocarbons

The atmosphere of most of the industrialized areas of the world contains Polynuclear Aromatic Hydrocarbons (PAHs) and Nitrogen Oxides (NO_xs)[1]. Wherever these compounds exist together, they react and form Nitro-PAHs, which are highly mutagenic.

Scientists have found Nitro-PAHs in diesel particulates[2], carbon black[3,4] and ambient air particulates[5]. These compounds are the major contributors to the mutagenicity of the pollutants, since the most common Nitro-PAH found is 1-Nitropyrene, a potent mutagen.
AccuStandard has compiled an extensive inventory of Nitro substituted compounds including mono, di and tri Nitro-PAHs, Amino and Hydroxy substituted PAHs, Nitrotoluenes, Nitroanilines and Nitrophenols. Compounds are offered in both neat form and in solution.

References:
(1) Nitrated PAHs. Edited by C.M. White, Published by Huethig 1985.
(2) Analysis of Nitrated Polycyclic Aromatic Hydrocarbons in Diesel Particulates, D. Schuetzle et al., Anal. Chem., Vol. 54, pp. 265-71 (1982).
(3) Mutagenic Activity in Photocopies, G. Lofroth et al., Science, Vol. 209, pp. 1037-9 (1980).
(4) Nitropyrenes: Isolation, Identification and Reduction of Mutagenic Impurities in Carbon Black and Toners, H.S. Rosenkranz et al., Science, Vol. 290, pp. 1039-43 (1980).
(5) Atmospheric Reactions of Polycyclic Aromatic Hydrocarbons: Facile Formation of Mutagenic Nitro Derivatives, J.N. Pitts, Jr. et al., Science, Vol. 202, pp. 515-8 (1978).

Nitro-PAHs

Solutions at 100 µg/mL in Toluene		Neat		Solution	Price
Compound	**CAS No.**	**Cat. No.**	**Price / Unit**	**Cat. No.**	**1 mL**
1-Amino-4-nitronaphthalene	776-34-1	R-001N	$ 17 / 100 mg	R-001S	$ 15
2-Nitroanthracene	3586-69-4	R-105N	45 / 5 mg	R-105S	20
9-Nitroanthracene	602-60-8	R-003N	30 / 5 mg	R-003S	17
7-Nitrobenz[a]anthracene	20268-51-3	R-097N	85 / 5 mg	R-097S	50
6-Nitrobenz[a]pyrene	63041-90-7	----------	----------	R-004S	17
2-Nitrobiphenyl	86-00-0	R-005N	17 / 100 mg	R-005S	15
3-Nitrobiphenyl	2113-58-8	R-006N	17 / 100 mg	R-006S	15
4-Nitrobiphenyl	92-93-3	R-007N	17 / 100 mg	R-007S	15
6-Nitrochrysene	7496-02-8	R-008N	45 / 5 mg	R-008S	20
3-Nitrodibenzofuran	5410-97-9	R-009N	30 / 5 mg	R-009S	17
2-Nitrodibenzothiophene	6639-36-7	R-010N	30 / 5 mg	R-010S	17
3-Nitrofluoranthene	892-21-7	R-013N	30 / 5 mg	R-013S	17
2-Nitrofluorene	607-57-8	R-098N	30 / 100 mg	R-098S	20
5-Nitroacenaphthene	602-87-9	R-115N	45 / 5 mg	R-115S	30
1-Nitronaphthalene	86-57-7	R-016N	17 / 100 mg	R-016S	15
2-Nitronaphthalene	581-89-5	R-085N-10MG	40 / 10 mg	R-085S	15
3-Nitrophenanthrene	17024-19-0	R-045N	45 / 5 mg	R-045S	20
9-Nitrophenanthrene	954-46-1	R-020N	30 / 5 mg	R-020S	17
1-Nitropyrene	5522-43-0	R-022N	25 / 5 mg	R-022S	15

Di- and Tri- Nitro-PAHs

Solutions at 100 µg/mL in Toluene		Neat		Solution	Price
Compound	**CAS No.**	**Cat. No.**	**Price / Unit**	**Cat. No.**	**1 mL**
9,10-Dinitroanthracene	33685-60-8	R-024N	$ 45 / 5 mg	R-024S	$ 20
2,2'-Dinitrobiphenyl	2436-96-6	R-025N	17 / 100 mg	R-025S	15
2,8-Dinitrodibenzothiophene	109041-38-5	R-026N	30 / 5 mg	R-026S	17
2,7-Dinitrofluorene	5405-53-8	R-027N	17 / 100 mg	R-027S	15
2,7-Dinitro-9-fluorenone	31551-45-8	R-028N	17 / 100 mg	R-028S	15
1,3-Dinitronaphthalene	606-37-1	R-029N	17 / 100 mg	R-029S	15
1,5-Dinitronaphthalene	605-71-0	R-030N	17 / 100 mg	R-030S	15
1,8-Dinitronaphthalene	602-38-0	R-031N	17 / 100 mg	R-031S	15
1,3-Dinitropyrene	75321-20-9	R-094N	150 / 5 mg	R-094S	50
1,6-Dinitropyrene	42397-64-8	R-032N	85 / 5 mg	R-032S	50
1,8-Dinitropyrene	42397-65-9	----------	----------	R-099S	50
2,4,7-Trinitro-9-fluorenone	129-79-3	----------	----------	R-033S	15

Nitro-Aromatics

Solutions at 100 µg/mL in Toluene		Neat		Solution	Price
Compound	**CAS No.**	**Cat. No.**	**Price / Unit**	**Cat. No.**	**1 mL**
Nitrobenzene	98-95-3	R-047N	$ 10 / 100 mg	R-047S	$ 10
2-Nitrotoluene	88-72-2	R-048N	10 / 100 mg	R-048S	10
2,4-Dinitrotoluene	121-14-2	R-049N	10 / 100 mg	R-049S	10
2,6-Dinitrotoluene	606-20-2	R-050N	10 / 100 mg	R-050S	10
2-Nitrophenol	51-28-5	R-051N	10 / 100 mg	R-051S	10
4-Nitrophenol	100-02-7	R-052N	10 / 100 mg	R-052S	10
2,4-Dinitrophenol	51-28-5	----------	----------	R-053S	10
2-Nitroaniline	88-74-4	R-054N	10 / 100 mg	R-054S	10
3-Nitroaniline	99-09-2	R-055N	10 / 100 mg	R-055S	10
4-Nitroaniline	100-01-6	R-056N	10 / 100 mg	R-056S	10
4,6-Dinitro-*o*-cresol *(2-Methyl-4,6-dinitrophenol)*	534-52-1	R-057N	10 / 100 mg	R-057S	10

PAHs Derivatives continued on next page

Amino-PAHs

Compound	CAS No.	Neat Cat. No.	Price / Unit	Solution Cat. No.	Price / 1 mL
Solutions at 100 µg/mL in Toluene					
2-Acetamidofluorene	53-96-3	R-058N	$ 10 / 10 mg	R-058S	$ 15
1-Aminoanthracene	610-49-1	R-059N	10 / 50 mg	R-059S	15
2-Aminoanthracene	613-13-8	R-060N	10 / 50 mg	R-060S	15
1-Aminoanthraquinone	82-45-1	R-061N	10 / 50 mg	R-061S	15
2-Aminoanthraquinone	117-79-3	R-093N	15 / 5 mg	R-093S	15
2-Aminobiphenyl	90-41-5	R-062N	10 / 10 mg	R-062S	15
4-Aminobiphenyl	92-67-1	R-063N	10 / 10 mg	R-063S	15
6-Aminochrysene	2642-98-0	R-065N	10 / 10 mg	R-065S	15
2-Aminofluorene	153-78-6	R-066N	10 / 10 mg	R-066S	15
1-Aminonaphthalene	134-32-7	R-067N	10 / 50 mg	R-067S	15
2-Aminonaphthalene	91-59-8	R-084N	10 / 10 mg	R-084S	15
2,7-Diaminofluorene	525-64-4	R-068N	10 / 10 mg	R-068S	15
1,8-Diaminonaphthalene	479-27-6	R-069N	32 / 100 mg	R-069S	15
1,2-Diphenylhydrazine	122-66-7	R-070N	10 / 100 mg	R-070S	15
N-phenyl-1-naphthylamine	90-30-2	R-071N	10 / 50 mg	R-071S	15
o-Tolidine *(3,3'-Dimethylbenzidine)*	119-93-7	R-072N	10 / 100 mg	R-072S	15

Hydroxy-PAHs

Compound	CAS No.	Neat Cat. No.	Price / Unit	Solution Cat. No.	Price / 1 mL
Solutions at 100 µg/mL in Toluene					
6-Hydroxychrysene	37515-51-8	R-095N	$ 13 / 10 mg	R-095S	$ 15
1-Hydroxypyrene	5315-79-7	R-096N	32 / 10 mg	R-096S	15

Amino-Aromatics

Compound	CAS No.	Neat Cat. No.	Price / Unit	Solution Cat. No.	Price / 1 mL
Solutions at 100 µg/mL in Toluene					
Benzidine	92-87-5	R-073N	$ 10 / 100 mg	R-073S	$ 15
3,3'-Diaminobenzidine	91-95-2	R-074N	10 / 50 mg	R-074S	15
3,3'-Dichlorobenzidine	91-94-1	R-075N	10 / 50 mg	R-075S	15
3,3'-Dimethoxybenzidine	119-90-4	R-076N	10 / 50 mg	R-076S	15
4,4'-Diaminodiphenylmethane *(4,4'-Methylenedianiline)*	101-77-9	R-077N	10 / 100 mg	R-077S	15
2,4-Diaminotoluene	95-80-7	R-078N	10 / 100 mg	R-078S	15
4-Dimethylaminoazobenzene	60-11-7	R-079N	10 / 10 mg	R-079S	15
4,4'-Methylene bis(2-chloroaniline)	101-14-4	R-080N	10 / 50 mg	R-080S	15
N-Methyl-N'-nitro-N-nitrosoguanidine	70-25-7	R-081N	10 / 50 mg	R-081S	35
N-Phenyl-2-naphthylamine	135-88-6	R-082N	10 / 10 mg	R-082S	15
s-Triazine	290-87-9	R-083N	10 / 10 mg	R-083S	15

DIN-38407-17 Nitroaromatic Compounds

Examination of water, wastewater, and sludge for the determination of selected nitroaromatic compounds by Gas-Liquid Chromatography

DIN38407-17 — $ 68 / **1 x 1 mL**
500 µg/mL each in MeOH — 12 comps.

Nitrobenzene	3,4-Dinitrotoluene
2-Nitrotoluene	2-Amino-6-nitrotoluene
4-Nitrotoluene	4-Amino-2-nitrotoluene
1,3-Dinitrobenzene	4-Amino-2,6-dinitrotoluene
2,6-Dinitrotoluene	2-Amino-4,6-dinitrotoluene
2,4-Dinitrotoluene	2,4,6-Trinitrotoluene

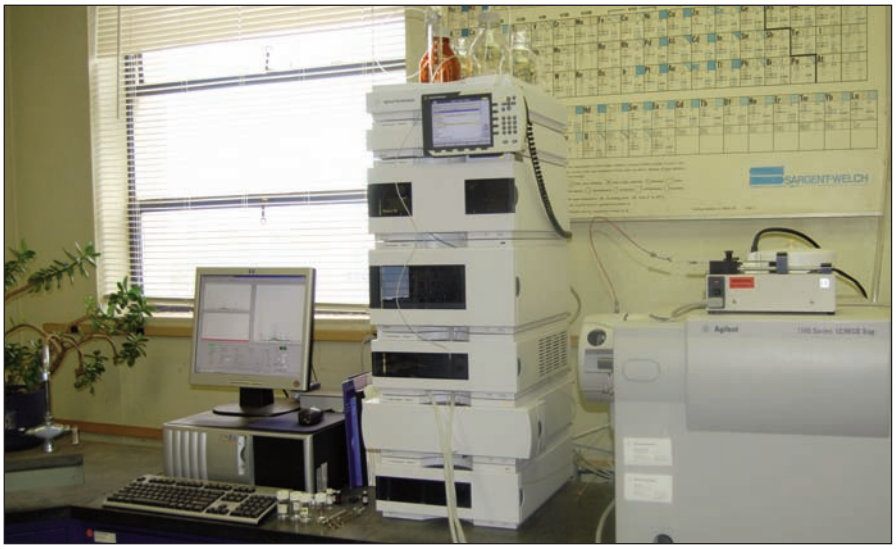
Nitrogen Containing Compounds

Compound	CAS No.	Conc.	Matrix	Cat. No.	Unit	Price
Azobenzene	103-33-3	2 mg/mL	CH_2Cl_2	Z-014B-1	1 mL	$ 20
2-Chloronitrobenzene	88-73-3	100 mg	NEAT	R-017N	100 mg	12
		100 µg/mL	Toluene	R-017S	1 mL	10
2,3-Dichloronitrobenzene	3209-22-1	100 mg	NEAT	R-086N	100 mg	12
		100 µg/mL	Toluene	R-086S	1 mL	10
2,4-Dichloronitrobenzene	611-06-3	100 mg	NEAT	R-087N	100 mg	12
		100 µg/mL	Toluene	R-087S	1 mL	10
4-Chloronitrobenzene	100-00-5	100 mg	NEAT	R-018N	100 mg	12
		100 µg/mL	Toluene	R-018S	1 mL	10
2,5-Dichloronitrobenzene	89-61-2	100 mg	NEAT	R-088N	100 mg	12
		100 µg/mL	Toluene	R-088S	1 mL	10
2,2'-Dinitrobiphenyl	2436-96-6	100 mg	NEAT	R-025N	100 mg	17
		100 µg/mL	Toluene	R-025S	1 mL	15
2,4-Dinitrophenol	51-28-5	100 µg/mL	Toluene	R-053S	1 mL	10
2,4-Dinitrotoluene	121-14-2	100 mg	NEAT	R-049N	100 mg	10
		100 µg/mL	Toluene	R-049S	1 mL	10
		100 µg/mL	MeOH	APP-9-092	1 mL	12
		5 mg/mL	MeOH	AS-E0033	1 mL	32
2,6-Dinitrotoluene	606-20-2	100 mg	NEAT	R-050N	100 mg	10
		100 µg/mL	Toluene	R-050S	1 mL	10
		100 µg/mL	MeOH	APP-9-093	1 mL	12
		5 mg/mL	MeOH	AS-E0034	1 mL	32
N-methyl-N'-nitro-N-nitrosoguanidine	70-25-7	50 mg	NEAT	R-081N	50 mg	10
		100 µg/mL	Toluene	R-081S	1 mL	35
2-Nitrobiphenyl	86-00-0	100 mg	NEAT	R-005N	100 mg	17
		100 µg/mL	Toluene	R-005S	1 mL	15
3-Nitrobiphenyl	2113-58-8	100 mg	NEAT	R-006N	100 mg	17
		100 µg/mL	Toluene	R-006S	1 mL	15
4-Nitrobiphenyl	92-93-3	100 mg	NEAT	R-007N	100 mg	17
		100 µg/mL	Toluene	R-007S	1 mL	15
2-Nitrophenol	88-75-5	100 mg	NEAT	R-051N	100 mg	10
		100 µg/mL	Toluene	R-051S	1 mL	10
4-Nitrophenol	100-02-7	100 mg	NEAT	R-052N	100 mg	10
		100 µg/mL	Toluene	R-052S	1 mL	10
2-Nitrotoluene	88-72-2	100 mg	NEAT	R-048N	100 mg	10
		100 µg/mL	Toluene	R-048S	1 mL	10
Pyridine	110-86-1	100 µg/mL	CH_2Cl_2	APP-9-186	1 mL	12
		2 mg/mL	CH_2Cl_2	APP-9-186-20X	1 mL	20
		2 mg/mL	MeOH	APP-9-186-M-20X	1 mL	20
		5 mg/mL	MeOH	AS-E0271	1 mL	32
		10 mg/mL	Water	M-8015B/5031-26	1 mL	25
2,3,4,5-Tetrachloronitrobenzene	879-36-0	100 mg	NEAT	R-091N	100 mg	12
		100 µg/mL	Toluene	R-091S	1 mL	10
2,3,5,6-Tetrachloronitrobenzene	117-18-0	100 mg	NEAT	R-092N	100 mg	12
		100 µg/mL	Toluene	R-092S	1 mL	10
s-Triazine	290-87-9	10 mg	NEAT	R-083N	10 mg	10
		100 µg/mL	Toluene	R-083S	1 mL	15
2,3,4-Trichloronitrobenzene	17700-09-3	100 mg	NEAT	R-089N	100 mg	12
		100 µg/mL	Toluene	R-089S	1 mL	10
2,4,5-Trichloronitrobenzene	89-69-0	100 mg	NEAT	R-090N	100 mg	12
		100 µg/mL	Toluene	R-090S	1 mL	10

Agilent System for LC/MS/MS (Quadrupole and Ion Trap) Enhances AccuStandard QC Analytical Capabilities

An Agilent 1100 Series LC/MSD Trap has been added to AccuStandard's extensive analytical capabilities for certifying Chemical Reference Standards. LC/MSD Trap analyzers are particularly useful for characterizing and measuring thermally labile compounds including organophosphorus pesticides and their metabolites. The LC/MSD Trap offers outstanding combinations of scan speed, mass resolution, mass range, and sensitivity. With the addition of the Agilent LC/MSD Trap to the GC, GC/MS, HPLC, ICP, and Low Sulfur Analyzer instrumentation, AccuStandard continues to expand its analytical capability.

Moreover, the LC/MSD Trap's unique SmartFrag collision-energy ramping ensures that every precursor ion receives exactly the energy it needs for optimum fragmentation. The result is greater product ion generation and more structural information from fewer stages of MS.



Purchasing Neat Standards

There are two ways to purchase neat standards: Nominal weight and exact weight. With exact weight, the standards will come with the exact weight contained in the vial indicated on the label. The Cat. No. will have an X-WT to indicate that this is an exact weight. Rinse the sample out of the vial and cap with solvent and dilute to acheive the desired concentration. Unless specified, neat samples are provided with nominal weights. Typically, the vials contain up to 10 to 20% more product, however it is not known when you receive your standard what the exact amount is in the vial. Below is a standard procedure for removing all the neat material from the vial and determining the exact weight of the material in the vial.

Small amounts (5-10 mg) of powder often are spread over the surface of the vial and cap. If the chemical is a liquid it may coat the walls as a thin layer invisible to the eye. To recover all of the contents contained in a vial of neat material please use the procedure described below:

1. Wipe the outside of the vial (containing the Standard) clean and dry (including the cap).
2. Weigh the entire unit on an analytical balance. Record the weight to the nearest 0.1 mg.
3. Carefully transfer the contents to a volumetric flask using a suitable solvent. Rinse the cap and vial several times to assure a complete transfer.
4. Dry inside and outside of the vial and cap with mild heat or inert gas.
5. Weigh the empty dry vial on the same analytical balance to the nearest 0.1 mg and calculate by difference the amount of material transferred.

Pesticides, by-products, metabolites and degradates
Without pesticides the world would not be able to feed as many people as it does. However, pesticides can cause a multitude of health problems. The factors which impact on the risk/benefit balance need to be understood and this is what the research on the presence and toxicity of these products accomplishes.

In addition to many of the pesticides for which production has been discontinued (but are still present in the environment) AccuStandard has synthesized metabolites, degradates, and by-products such as:

- Aldicarb sulfone and sulfoxide
- Endrin aldehyde and ketone
- Oxychlordane and o,p-Methyoxychlor
- Fipronyl sulfone, sulfoxide and desulfinyl
- DDT by-products

Over 3,200 Pesticide Standards

Visit our website to search for new and additional pesticide formulations or contact our Technical Service Department

Individual Neats and Solutions	**69-83**
Triazines and Metabolites	**84**
Pesticide & Herbicide Kits & Mixtures	**85**
Phenylurea Pesticide Mixtures	**85**
Synthesis of rare pesticides	**Contact Us**

Information on Pesticides Catalog Number's

Pesticide Catalog Numbers have 5 parts:
1. The initial **P-** specifies the product is a Pesticide.
2. The following three numbers are sequentially assigned, and is unique to the chemical.
3. The next character **(an N or S)** specifies whether the product is Neat or in Solution.
4. **"-"** with letters specify a solvent other than Methanol (MeOH).
5. **"-"** with an number followed by an X specifies the concentration difference from the 100 µg/mL (ex: -10X is 1000 µg/mL). Check for availability.

Example: P-017S is Chlordane at 100 µg/mL in Methanol
P-017N is Chlordane neat (10 mg)
P-017S-H-10X is Chlordane at 1000 µg/mL in Hexane

Key to symbols appearing in the table:
in Acetone (-A) in Hexane (-H) in Toluene (-T)
in Acetonitrile (-CN) in Isooctane (-TP) In Water (-W)
in Ethyl acetate (-EA) in Methyl cellosolve (-MC)

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
AAtrex	see Atrazine			
Abamectin	71751-41-2	NEAT	P-615N	$ 42
		MeOH	P-615S	42
Abaphos	see Abate			
Abar	see Leptophos			
Abate	3383-96-8	NEAT	P-101N	22
		MeOH	P-101S	22
Abathion	see Abate			
Acalarate	see Chloropropylate			
Acarben	see Chlorobenzilate			
Acclaim	see Fenoxaprop-ethyl			
Acephate	30560-19-1	NEAT	P-200N	12
		Acetone	P-200S-A	12
Acetamiprid	135410-20-7	AcCN	P-820S-CN	62
Acetochlor	34256-82-1	NEAT	P-465N	32
		MeOH	P-465S	32
Acifluorfen Δ	50594-66-6	NEAT	P-245N	12
		MeOH	P-245S	12
		AcCN	P-245S-CN	12
Acifluorfen methyl ester	50594-67-7	NEAT	P-246N	12
		MeOH	P-246S	12
Acrinathrin	101007-06-1	AcCN	P-842S-CN	22
Actellic	see Pirimphos methyl ester			
Acti-Aid	see Cycloheximide			
Actosin C	see Chlorophacinone			
Admire	see Imidacloprid			
Afalon	see Linuron			
Affirm	see Avid			
Afugan	see Pyrazophos			
Agritox	see Trichloronate			
Agroxone	see MCPA acid			
Aimsan	see Phenmedipham			
Akar	see Chlorobenzilate			

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Alachlor	15972-60-8	NEAT	P-102N	$ 12
		MeOH	P-102S	12
Alanap	132-66-1	NEAT	P-274N	12
		MeOH	P-274S	12
Alar	1596-84-5	NEAT	P-174N	12
		MeOH	P-174S	12
Albendazole	54965-21-8	NEAT	P-498N	12
		MeOH	P-498S	12
Aldicarb	116-06-3	NEAT	P-001N	12
		MeOH	P-001S	12
Aldicarb sulfone	1646-88-4	NEAT	P-130N	22
		MeOH	P-130S	22
Aldicarb sulfoxide	1646-87-3	NEAT	P-131N ‡	22
		MeOH	P-131S	22
Aldoxycarb	see Aldicarb sulfone			
Aldrin	309-00-2	NEAT	P-002N	12
		MeOH	P-002S	12
Alfa-tox	see Diazinon			
Allethrin	584-79-2	NEAT	P-267N	32
		MeOH	P-267S	32
Allidochlor	93-71-0	NEAT	P-670N	22
		MeOH	P-670S	22
Allisan	see Botran			
Altosid	see Methoprene			
Alloxydim-sodium	55635-13-7	NEAT	P-510N	22
		MeOH	P-510S	22
Amaze	see Isofenphos			
Ambush	see Permethrine			
Amdro	see Hydramethylnon			
Ametryn	834-12-8	NEAT	P-003N	12
		MeOH	P-003S	12
Amidosulfuron	120923-37-7	NEAT	P-821N	52
		AcCN	P-821S-CN	52
Amigol	see Amitrole			

EXACT WEIGHT for Neat Pesticides

Listed Catalog neat products are overfilled approximately 10%, however, pesticides can be provided with **EXACT WEIGHT**. Specify EXACT WEIGHT by ordering **X-WT** and the exact weight is noted on the product label. There is an additional $ 4.00 charge for this service. Rinse the pesticide out of the vial with the appropriate amount of solvent to get a weight/volume standard and calculate the concentration.

Δ Pesticides containing a carboxyl group will autoesterify in MeOH. The pesticides most likely to have this occur are marked with an Δ. These standards are intended for use as a post-esterification standard for GC analysis. For other types of analysis (ex. HPLC) we suggest a non-hydroxylic solvent such as Acetonitrile.

‡ To delay premature breakdown of thermally labile products in transit we suggest requesting a "**Cold Pack**"

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Aminocarb	2032-59-9	NEAT	P-062N	$ 12
		MeOH	P-062S	12
Aminomethylphosphonic acid	1066-51-9	NEAT	P-625N	22
		H_2O	P-625S	22
4-Aminopyridine	504-24-5	NEAT	P-407N	12
		MeOH	P-407S	12
Aminotriazole	see Amitrole			
Aminozide	see Alar			
Amiral	see Triadimefon			
Amitraz Δ	33089-61-1	NEAT	P-409N	12
		AcCN	P-409S-CN	12
Amitrole (ATA)	61-82-5	NEAT	P-103N	12
		MeOH	P-103S	12
Amizine	see Simazine			
Amizol	see Amitrole			
Ammonium sulfamate	7773-06-0	NEAT	P-530N	22
		MeOH	P-530S	22
AMS	see Ammonium sulfamate			
Ancymidol	12771-68-5	NEAT	P-410N	12
		MeOH	P-410S	12
Anilazine	101-05-3	NEAT	P-287N	12
		Hexane	P-287S-H	12
Antiphen	see Dichlorophen			
Apl-Luster	see Thiabendazole			
Aprocarb	see Baygon			
Aracide	see Aramite			
Aracnol F	see Cyhexatin			
Aramite	140-57-8	MeOH	P-132S	22
A-Rest	see Ancymidol			
Arisan	see Buturon			
Arresin	see Monolinuron			
Aspon	3244-90-4	NEAT	P-309N	62
		MeOH	P-309S	62
Assure	see Quizalofop ethyl			
Asulam	3337-71-1	NEAT	P-276N	12
		MeOH	P-276S	12
ATA	see Amitrole			
Athrombine-K	see Warfarin			
Atratol	see Atrazine			
Atraton	see Gesatamin			
Atrazine	1912-24-9	NEAT	P-005N	12
		MeOH	P-005S	12
Atrazine desethyl	6190-65-4	NEAT	P-343N	22
		MeOH	P-343S	22
Atrazine-desethyl-desisopropyl	3397-62-4	NEAT	P-428N	22
Atrazine-desethyl-2-hydroxy	19988-24-0	Methyl cellosolve	P-544S-MC	52
Atrazine-desisopropyl	1007-28-9	NEAT	P-345N	22
		MeOH	P-345S	22
Atrazine-desisopropyl-2-hydroxy	7313-54-4	NEAT	P-344N	22
		Methyl cellosolve	P-344S-MC	22
Avadex	see Diallate			
Avid	see Abamectin			
Azaditrachtin	11141-17-6	MeOH	P-711S	75
Azamethiphos	35575-96-3	NEAT	P-352N	12
		MeOH	P-352S	12
Azinphos ethyl	2642-71-9	NEAT	P-201N	32
		MeOH	P-201S	32
Azinphos methyl	86-50-0	NEAT	P-007N	12
		MeOH	P-007S	12
Azocyclotin	41083-11-8	NEAT	P-353N	12
		MeOH	P-353S	12
Azoxystrobin	131860-33-8	NEAT	P-719N	22
		MeOH	P-719S	22
Banvel	see Dicamba			
Barbamate	101-27-9	NEAT	P-202N	12
		MeOH	P-202S	12
Barban	see Barbamate			
Barben	see Barbamate			
Barnon	52756-22-6	NEAT	P-646N	32
		MeOH	P-646S	32
Basagran	see Bentazon			
Basalin	see Fluchloralin			
Basudin	see Diazinon			
Bathroid	see Cyfluthrin			
Baycarb	3766-81-2	NEAT	P-347N	$ 12
		MeOH	P-347S	12
Baycor	See Bitertanol			
Bayfidan	see Triadimenol			
Baygon	114-26-1	NEAT	P-009N	12
		MeOH	P-009S	12
Bayleton	see Triadimefon			
Bayluscid	see Niclosamide			
Baytan	see Triadimenol			
Baytex	see Fenthion			
Baythion	see Phoxim			
Beam	see Tricyclazole			
Benalaxyl	71626-11-4	NEAT	P-559N	22
		MeOH	P-559S	22
Benazolin	3813-05-6	NEAT	P-397N	22
		MeOH	P-397S	22
Bendiocarb	22781-23-3	NEAT	P-203N	12
		MeOH	P-203S	12
Benefin	see Benfluralin			
Benelux	see Thiofanox			
Benfluralin	1861-40-1	NEAT	P-237N	12
		MeOH	P-237S	12
Benfuracarb	82560-54-1	NEAT	P-454N	42
		MeOH	P-454S	42
Benlate	see Benomyl			
Benodanil	15310-01-7	NEAT	P-671N	22
		MeOH	P-671S	22
Benomyl	17804-35-2	NEAT	P-104N	12
		MeOH	P-104S-CN ‡	12
Benoxacor	98730-04-2	NEAT	P-490N	22
		MeOH	P-490S	22
Bensulfuron-methyl	83055-99-6	NEAT	P-597N	32
		MeOH	P-597S	32
Bensulide	741-58-2	NEAT	P-204N	32
		MeOH	P-204S	32
Bensultap	17606-31-4	NEAT	P-678N	22
		MeOH	P-678S	22
Bentazon Δ	25057-89-0	NEAT	P-177N	12
		Acetone	P-177S-A	12
		AcCN	P-177S-CN	12
Bentazon methyl	61592-45-8	NEAT	P-241N	42
		MeOH	P-241S	42
Benthiocarb	see Thiobencarb			
Benzofuroline	see Resmethrin			
Benzoylprop ethyl	22212-55-1	NEAT	P-340N	22
		MeOH	P-340S	22
Betasan	see Bensulide			
Bethrodine	see Benfluralin			
BHC Tech	608-73-1	NEAT	P-081N	12
		MeOH	P-081S	12
α-BHC	319-84-6	NEAT	P-010N	22
		MeOH	P-010S	22
β-BHC	319-85-7	NEAT	P-011N	22
		MeOH	P-011S	22
δ-BHC	319-86-8	NEAT	P-012N	32
		MeOH	P-012S	32
γ-BHC	see Lindane			
Bidrin	see Dicrotophos			
Bifenox	42576-02-3	NEAT	P-257N	12
		MeOH	P-257S	12
Bifenthrin	82657-04-3	NEAT	P-445N	42
		MeOH	P-445S	42
Biflex	see Bifenthrin			
Binapacryl	485-31-4	NEAT	P-499N	22
		MeOH	P-499S	22
Bioallethrin	28057-48-9	NEAT	P-665N	22
		MeOH	P-665S	22
S-Bioallethrin	28424-00-6	NEAT	P-664N	22
		MeOH	P-664S	22

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AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Bioresmethrin	28434-01-7	NEAT	P-594N	$ 22
		MeOH	P-594S	22
Bitertanol	55179-31-2	NEAT	P-351N	12
		MeOH	P-351S	12
Bitrex	3734-33-6	NEAT	P-679N	22
		MeOH	P-679S	22
Bladafum	see Sulfotep			
Bladan	see Parathion			
Blattanex	see Baygon			
Bloc	60168-88-9	NEAT	P-086N	42
		MeOH	P-086S	42
B-Nine	see Alar			
Bolero	see Thiobencarb			
Bolstar	35400-43-2	NEAT	P-108N	12
		MeOH	P-108S	12
Bonzi	76738-62-0	NEAT	P-669N	30
		MeOH	P-669S	30
Boscalid ***NEW***		MeOH	P-811S	32
Botran	99-30-9	NEAT	P-013N	12
		MeOH	P-013S	12
BPMC	see Baycarb			
Bravo	see Chlorothalonil			
Brigade	see Bifenthrin			
Brodifacoum	56073-10-0	NEAT	P-677N	32
		MeOH	P-677S	32
Bromacil	314-40-9	NEAT	P-181N	12
		MeOH	P-181S	12
Bromadiolone	28772-56-7	NEAT	P-316N	22
		MeOH	P-316S ‡	22
Bromex	see Dichlofenthion			
Brominal	1689-84-5	NEAT	P-256N	12
		MeOH	P-256S	12
Brominil	see Brominal			
Bromofenoxim	13181-17-4	NEAT	P-511N	22
		MeOH	P-511S	22
Bromophos-ethyl	4824-78-6	NEAT	P-372N	22
		MeOH	P-372S	22
Bromophos-methyl	2104-96-3	NEAT	P-484N	62
		MeOH	P-484S	62
Bromopropylate	18181-80-1	NEAT	P-457N	32
		MeOH	P-457S	32
Bromoxynil	see Brominal			
Bromoxynil methyl ether	3336-39-8	NEAT	P-573N	22
		MeOH	P-573S	22
Bromoxynil octanoate	1689-99-2	NEAT	P-550N	22
		MeOH	P-550S	22
Bromucanozol	116255-48-2	NEAT	P-843N	32
		AcCN	P-843S-CN	32
Buctril	see Brominal			
Bueno	2163-80-6	NEAT	P-279N	12
		MeOH	P-279S	12
Bupirimate	41483-43-6	NEAT	P-672N	22
		MeOH	P-672S	22
Buprofezin	69327-76-0	NEAT	P-595N	32
		MeOH	P-595S	32
Busan Δ	21564-17-0	NEAT	P-072N	62
		AcCN	P-072S-CN	62
Butachlor	23184-66-9	NEAT	P-191N	12
		MeOH	P-191S	12
Butisan S	see Metazachlor			
Butocarboxim	34681-10-2	NEAT	P-518N	32
		MeOH	P-518S	32
Butocarboxim sulfoxide	34681-24-8	NEAT	P-701N	32
		MeOH	P-701S	32
Butoflin	see Deltamethrin			
Butox	see Deltamethrin			
Butoxycarboxim	34681-23-7	NEAT	P-822N	42
		AcCN	P-822S-CN	42
2-[2-(2-Butoxyethyl)ethyl]ethane	see Lethron			
Butralin	33629-47-9	NEAT	P-574N	32
		MeOH	P-574S	32
Buturon	3766-60-7	NEAT	P-301N	22
		MeOH	P-301S	22

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Butylate	2008-41-5	NEAT	P-088N	$ 12
		MeOH	P-088S	12
Cadusafos	95465-99-9	NEAT	P-794N	42
		MeOH	P-794S	42
Calixin	see Tridemorph			
Camphechlor	see Toxaphene			
Caparol	see Prometryne			
Captafol	2425-06-1	NEAT	P-254N	12
		MeOH	P-254S	12
Captan	133-06-2	NEAT	P-182N	12
		MeOH	P-182S ‡	12
Capture	see Bifenthrin			
Carbamult	see Promecarb			
Carbaryl	63-25-2	NEAT	P-083N	12
		MeOH	P-083S	12
Carbendazim	10605-21-7	NEAT	P-278N	12
		MeOH	P-278S	12
Carbetamide	16118-49-3	NEAT	P-562N	22
		MeOH	P-562S	22
Carbexsin	see Oxycarboxin			
Carbicron	see Dicrotophos			
Carbofuran	1563-66-2	NEAT	P-106N	12
		MeOH	P-106S	12
Carbofuran phenol-3-ketone		MeOH	P-630S	152
Carbophenothion	786-19-6	NEAT	P-095N	12
		MeOH	P-095S	12
Carbophenothion methyl oxygen analog		10 µg/mL in EtOAc	P-637S-EA-0.1X	52
Carbosulfan	55285-14-8	NEAT	P-446N	22
		MeOH	P-446S	22
Carboxin	5234-68-4	NEAT	P-216N	12
		MeOH	P-216S	12
Carbyne	see Barbamate			
Casoron	see Dichlobenil			
Cartap	15263-53-3	MeOH	P-577S	52
CDEC	see Sulfallate			
Cekumethion	see Methyl parathion			
Chemathion	see Malathion			
Chinomethionate	2439-01-2	NEAT	P-399N	12
		Acetone	P-399S-A	12
Chloramben	133-90-4	NEAT	P-243N	12
		MeOH	P-243S	12
Chloramben methyl ester	7286-84-2	NEAT	P-272N	22
		MeOH	P-272S	22
Chlorbenside	103-17-3	NEAT	P-107N	22
		MeOH	P-107S	22
Chlorbromuron	13360-45-7	NEAT	P-520N	12
		MeOH	P-520S	12
Chlorbufam	1967-16-4	NEAT	P-558N	22
		MeOH	P-558S	22
Chlordane	57-74-9	NEAT	P-017N	12
		MeOH	P-017S	12
α-Chlordane	5103-71-9	NEAT	P-134N	22
		MeOH	P-134S	22
		Hexane	P-134S-H	22
γ-Chlordane	5103-74-2	NEAT	P-135N	22
		MeOH	P-135S	22
cis-Chlordane	see a-Chlordane			
trans-Chlordane	see g-Chlordane			
Chlordecone	see Kepone			
Chlordene	3734-48-3	NEAT	P-136N	22
		MeOH	P-136S	22
Chlordimeform	6164-98-3	NEAT	P-333N	12
		MeOH	P-333S	12
Chlorfenac	see Fenatrol			
Chlorfenson	see Ovex			
Chlorfenapyr	122453-73-0	NEAT	P-807N	42
		MeOH	P-807S	42
Chlorfenvinphos	470-90-6	NEAT	P-139N	22
		MeOH	P-139S	22
Chlorflurecol-methyl ester	2536-31-4	NEAT	P-401N	52
		MeOH	P-401S	52

Same Low Price in Neat (10 mg) or Solution (100 µg/mL) form

Most Pesticides are available in 1000 µg/mL (add -10X). Call or visit website for pricing.

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Chlorflurenol	see Chlorflurecol-methyl ester			
Chloridazon	see Pyrazon			
Chlorimuron ethyl	90982-32-4	AcCN	P-284S-CN	$ 50
Chlormephos	24934-91-6	NEAT	P-329N	32
		MeOH	P-329S	32
Chlormequat chloride	999-81-5	NEAT	P-338N	12
		MeOH	P-338S	12
Chlorobenzilate Δ	510-15-6	NEAT	P-133-N	12
		AcCN	P-133S-CN	12
Chloroea	see Monuron			
2-Chloro-2',6'-diethylacetanilide		NEAT	P-620N	32
		MeOH	P-620S	32
2-Chloro-4-ethylamino-6-methylethylamino-s-triazine		NEAT	P-539N	22
		Methyl cellosolve	P-539S-MC	22
2-Chloro-4-ethylamino-6-propylamino-s-triazine		NEAT	P-537N	22
		Methyl cellosolve	P-537S-MC	22
2-Chloro-4-methylamino-6-diethylamino-s-triazine		NEAT	P-541N	22
		Methyl cellosolve	P-541S-MC	22
2-Chloro-4-methylamino-6-sec-butylamino-s-triazine		NEAT	P-540N	22
		Methyl cellosolve	P-540S-MC	22
Chloroneb	2675-77-6	NEAT	P-212N	12
		MeOH	P-212S	12
Chlorophacinone	3691-35-8	NEAT	P-314N	22
		MeOH	P-314S	22
[3(2-Chlorophenyl)]-1,1-dimethylurea	see 2-Monuron			
4-Chlorophenoxyacetic acid	see 4-CPA			
Chloropicrin	76-06-2	NEAT	P-398N	22
		MeOH	P-398S	22
3-Chloro-1,2-propanediol	96-24-2	NEAT	P-408N	12
		MeOH	P-408S	12
Chloropropylate	5836-10-2	NEAT	P-213N	12
		MeOH	P-213S	12
Chlorosulphacide	see Chlorbenside			
Chlorothalonil	1897-45-6	NEAT	P-222N	12
		MeOH	P-222S	12
Chloroxuron	1982-47-4	NEAT	P-402N	12
		MeOH	P-402S	12
Chlorpropham	101-21-3	NEAT	P-221N	12
		MeOH	P-221S	12
Chlorpyrifos	see Dursban			
Chlorpyrifos-methyl	5598-13-0	NEAT	P-223N	12
		MeOH	P-223S	12
Chlorpyrifos-oxon	5598-15-2	NEAT	P-700N	22
		MeOH	P-700S	22
Chlorsulfuron	64902-72-3	NEAT	P-262N	22
		AcCN	P-262S-CN	22
Chlorthal	see DCPA diacid			
Chlorthiamid	1918-13-4	NEAT	P-673N	32
		MeOH	P-673S	32
Chlorthion	500-28-7	MeOH	P-674S	52
Chlorthiophos	60238-56-4	NEAT	P-545N	22
		MeOH	P-545S	22
Chlortoluron	15545-48-9	NEAT	P-434N	22
		MeOH	P-434S	22
Chlozolinate	84332-86-5	AcCN	P-683S-CN	52
Cinosulfuron	94593-91-6	NEAT	P-823N	12
		AcCN	P-823S-CN	12
Ciodrin	7700-17-6	MeOH	P-218S	52
CIPC	see Chloropropham			
Clarity	104040-79-1	H_2O	P-495S-W	22
Classic	see Chlorimuron ethyl			
Clethodim	99129-21-2	AcCN	P-602S-CN	32
Clofentezine	74115-24-5	NEAT	P-472N	22
		MeOH	P-472S	22
Clomazon	81777-89-1	MeOH	P-286S	22
Clopyralid	see Lontrel			
Clopyralid methyl ester	1532-24-7	MeOH	P-488S	32
CMU	see Monuron			

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Comite	see Propargite			
Command	see Clomazone			
Confidor	see Imidacloprid			
Contrac	see Bromadiolone			
Copper oxychloride	1332-40-7	NEAT	P-458N	$ 12
Cornox	see MCPA acid			
Cotoran	see Fluometuron			
Coumachlor	81-82-3	MeOH	P-684S	22
Coumaphene	see Warfarin			
Coumaphos	56-72-4	NEAT	P-019N	12
		MeOH	P-019S	12
Coumatetralyl	5836-29-3	NEAT	P-313N	12
		MeOH	P-313S	12
Counter	see Terbufos			
4-CPA	122-88-3	NEAT	P-373N	12
		MeOH	P-373S	12
Crimidine	535-89-7	NEAT	P-561N	22
		MeOH	P-561S	22
Crotoxyphos	see Ciodrin			
Crufomate	299-86-5	NEAT	P-292N	42
		MeOH	P-292S	42
Curacron	see Profenofos			
Cyanazine	21725-46-2	NEAT	P-175N	12
		MeOH	P-175S	12
Cyanofenphos	13067-93-1	NEAT	P-584N	42
		MeOH	P-584S	42
Cyanophos	2636-26-2	NEAT	P-531N	32
		MeOH	P-531S	32
Cycloate	1134-23-2	NEAT	P-248N	12
		MeOH	P-248S	12
Cycloheximide	66-81-9	MeOH	P-411N	32
		MeOH	P-411S	32
2-Cyclohexyl-4,6-dinitrophenol	see Dinex			
Cycloxydime	101205-02-1	NEAT	P-735N	32
		MeOH	P-735S	32
Cyfluthrin	68359-37-5	NEAT	P-354N	12
		MeOH	P-354S ‡	12
Cygon	see Dimethoate			
λ-Cyhalothrin	91465-08-6	NEAT	P-473N	52
		MeOH	P-473S ‡	52
Cyhexatin	13121-70-5	NEAT	P-375N	12
		MeOH	P-375S	12
Cyolane	see Phosfolan			
Cymoxanil	57966-95-7	NEAT	P-493N	52
		MeOH	P-493S	52
Cypermethrin	52315-07-8	NEAT	P-225N	42
		MeOH	P-225S	42
α-Cypermethrin	67375-30-8	NEAT	P-548N	42
		MeOH	P-548S	42
cis-Cypermethrin	see a-Cypermethrin			
Cyphenothrin	39515-40-7	NEAT	P-709N	42
		MeOH	P-709S	42
Cypona	see Ciodrin			
Cyprazine	22936-86-3	NEAT	P-420N	22
		MeOH	P-420S	22
		Hexane	P-420S-H	22
Cyproconazole (Tech)	113096-99-4	MeOH	P-555S	22
Cyprodinil	121552-61-2	NEAT	P-720N	32
		MeOH	P-720S	32
Cyromazine	66215-27-8	NEAT	P-296N	22
		MeOH	P-296S	22
Cythion	see Malathion			
2,3-D acid Δ	2976-74-1	NEAT	P-470N	12
		MeOH	P-470S	12
		AcCN	P-470S-CN	12
2,4-D acid Δ	94-75-7	NEAT	P-020N	12
		MeOH	P-020S	12
		AcCN	P-020S-CN	12
2,6-D acid Δ	575-90-6	NEAT	P-690N	22
		MeOH	P-690S	22
		AcCN	P-690S-CN	22
2,4-D butoxyethyl ester	1929-73-3	NEAT	P-438N	12
		Hexane	P-438S-H	12

Δ Pesticides containing a carboxyl group will autoesterify in MeOH. The pesticides most likely to have this occur are marked with an Δ. These standards are intended for use as a post-esterification standard for GC analysis. For other types of analysis (ex. HPLC) we suggest a non-hydroxylic solvent such as Acetonitrile.

‡ To delay premature breakdown of thermally labile products in transit we suggest requesting a "**Cold Pack**"

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
2,4-D butyl ester	94-80-4	NEAT	P-712N	$ 12
		MeOH	P-712S	12
2,4-D ethyl ester	533-23-3	NEAT	P-636N	12
		MeOH	P-636S	12
2,4-D ethylhexyl ester	1928-43-4	NEAT	P-439N	12
		Hexane	P-439S-H	12
2,4-D methyl ester	1928-38-7	NEAT	P-021N	12
		MeOH	P-021S	12
2,6-D methyl ester		NEAT	P-691N	32
		MeOH	P-691S	32
Dacamox	see Thiofanox			
Daconil	see Chlorothalonil			
Dacthal diacid	see DCPA diacid			
Dacthal monoacid	see Monomethyltetrachloroterephthalate			
Dacthal	1861-32-1	NEAT	P-196N	12
			P-196S	12
Dalapon acid Δ	75-99-0	NEAT	P-140N	12
		MeOH	P-140S	12
		AcCN	P-140S-CN	12
Dalapon methyl ester	17640-02-7	NEAT	P-226N	32
		MeOH	P-226S	32
Daminozide	see Alar			
Danicut	see Amitraz			
Danimen	see Danitol			
Danitol	39515-41-8	NEAT	P-263N	42
			P-263S	42
Dasanit	115-90-2	NEAT	P-235N	22
			P-235S	22
Dazomet	533-74-4	NEAT	P-469N	12
			P-469S	12
2,4-DB acid Δ	94-82-6	NEAT	P-141N	12
		MeOH	P-141S	12
		AcCN	P-141S-CN	12
2,4-DB methyl ester	18625-12-2	NEAT	P-228N	22
			P-228S	22
DBCP	see Fumazone			
DCMU	see Karmex			
DCNA	see Botran			
DCPA	see Dacthal			
DCPA diacid Δ	2136-79-0	NEAT	P-320N	22
		MeOH	P-320S	22
		AcCN	P-320S-CN	22
o,p'-DDD	53-19-0	NEAT	P-024N	12
		MeOH	P-024S	12
o,p'-DDE	3424-82-6	NEAT	P-026N	22
		MeOH	P-026S	22
o,p'-DDT	789-02-6	NEAT	P-028N	22
		MeOH	P-028S	22
p,p'-DDA	83-05-6	NEAT	P-444N	32
		MeOH	P-444S	32
p,p'-DDD	72-54-8	NEAT	P-025N	12
		MeOH	P-025S	12
p,p'-DDE	72-55-9	NEAT	P-027N	12
		MeOH	P-027S	12
p,p'-DDT	50-29-3	NEAT	P-029N	12
		MeOH	P-029S	12
DDT, Tech	50-29-3	NEAT	P-346N	12
		MeOH	P-346S	12
		AcCN	P-346S-CN	12
4,4'-DDMU	1022-22-6	NEAT	P-424N	22
		MeOH	P-424S	22
DDVP	see Dichlorvos			
DDVT	see p,p'-DDT			
Dechlorane	see Mirex			
Decis	see Deltamethrin			
Decrotox	see Ciodrin			
Dedevap	see Dichlorvos			
Deet	134-62-3	NEAT	P-255N	12
		MeOH	P-255S	12
DEF 6	78-48-8	NEAT	P-150N	12
		MeOH	P-150S	12
Delnav	see Dioxathion			

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Delsan	see Thiram			
Deltamethrin	52918-63-5	NEAT	P-355N	$ 32
		MeOH	P-355S	32
Demeton	8065-48-3	NEAT	P-031N	32
		MeOH	P-031S	32
Demeton-S	126-75-0	NEAT	P-271N	22
		MeOH	P-271S	22
Demeton-S-methyl	919-86-8	MeOH	P-482S	42
Demeton-S-methylsulfone	17040-19-6	NEAT	P-554N	32
		MeOH	P-554S	32
Demosan	see Chloroneb			
Desethylterbutylazine	see Terbuthylazin desethyl			
Desmedipham	13684-56-5	NEAT	P-376N	12
		MeOH	P-376S	12
Desmel	see Tilt			
Desmetryn	1014-69-3	NEAT	P-566N	22
		MeOH	P-566S	22
Detamide	see Deet			
Dethmor	see Warfarin			
Devrinol	see Napropamide			
Dexon	see Fenaminosulf			
Dextrone	see Paraquat CL			
Dialifor	see Dialifos			
Dialifos	10311-84-9	NEAT	P-426N	32
		MeOH	P-426S	32
Diallate	2303-16-4	NEAT	P-142N	42
		MeOH	P-142S	42
Diazinon	333-41-5	NEAT	P-033N	12
		MeOH	P-033S	12
Diazinon oxygen analog	333-41-5-0	NEAT	P-640N	22
		Acetone	P-640S-A	22
Dibam	128-04-1	NEAT	P-487N	12
		MeOH	P-487S	12
Dibrom	see Naled			
Dibutylchlorendate	1770-80-5	NEAT	P-109N	12
		MeOH	P-109S	12
Dicamba Δ	1918-00-9	NEAT	P-008N	12
		MeOH	P-008S	12
		AcCN	P-008S-CN	12
Dicamba diglycolamine (tech)	see Clarity			
Dicamba methyl ester	6597-78-0	NEAT	P-071N	22
		MeOH	P-071S	22
Dicaptan	see Dicapthon			
Dicapthon	2463-84-5	NEAT	P-035N	12
		MeOH	P-035S	12
Dichlobenil	1194-65-6	NEAT	P-275N	12
		MeOH	P-275S	12
Dichlofenthion	97-17-6	NEAT	P-211N	12
		MeOH	P-211S	12
Dichlofluanid	1085-98-9	NEAT	P-474N	12
		MeOH	P-474S	12
Dichlone	117-80-6	NEAT	P-253N	12
		MeOH	P-253S	12
Dichloran	see Botran			
Dichlormid	37764-25-3	NEAT	P-675N	32
		MeOH	P-675S	32
3,6-Dichloroanisic acid	see Clarity			
3,5-Dichlorobenzoic acid Δ	51-36-5	NEAT	P-242N	12
		MeOH	P-242S	12
		AcCN	P-242S-CN	12
4,4'-Dichlorobenzophenone	90-98-2	NEAT	P-295N	12
		MeOH	P-295S	12
2,4-Dichloro-6-ethylamino-s-triazine		NEAT	P-538N	52
		MC	P-538S-MC	52
2,4-Dichlorophenylacetic acid Δ	19719-28-9	NEAT	P-244N	12
		MeOH	P-244S	12
		AcCN	P-244S-CN	12
3-(2,3-Dichlorophenyl)-1,1-dimethylurea	see 2,3-Diuron			

Same Low Price in Neat (10 mg) or Solution (100 µg/mL) form

Most Pesticides are available in 1000 µg/mL (add -10X). Call or visit website for pricing.

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Dichlorophen	97-23-4	NEAT	P-232N	$ 12
		MeOH	P-232S	12
2,4-Dichlorophenylacetic acid Me	see Methyl-2,4-dichlorophenylacetate			
Dichlorprop Δ	120-36-5	NEAT	P-143N	12
		MeOH	P-143S	12
		AcCN	P-143S-CN	12
Dichlorprop methyl ester	57153-17-0	NEAT	P-229N	12
		MeOH	P-229S	12
Dichlorvos	62-73-7	NEAT	P-036N	12
		MeOH	P-036S	12
Diclobutrazol	75736-33-3	NEAT	P-641N	32
		AcCN	P-641S-CN	32
Diclofop	40843-25-2	NEAT	P-514N	52
		MeOH	P-514S	52
Diclofop methyl	51338-27-3	NEAT	P-303N	12
		MeOH	P-303S	12
Dicloran	see Botran			
o,p'-Dicofol		NEAT	P-606N	102
		MeOH	P-606S	102
Dicofol	see Kelthane			
Dicrotophos	141-66-2	NEAT	P-178N	22
		MeOH	P-178S	22
Dieldrin	60-57-1	NEAT	P-037N	22
		MeOH	P-037S	22
Dieltamid	see Deet			
Diethatyl ethyl	38727-55-8	NEAT	P-599N	12
		MeOH	P-599S	12
Diethofencarb	87130-20-9	NEAT	P-744N	32
		MeOH	P-744S	32
Diethylphosphate	598-02-7	NEAT	P-534N	32
		MeOH	P-534S	32
Diethyl phosphate (mono- & di-)	598-02-7	NEAT	P-443N	12
		MeOH	P-443S	12
Difenoconazole	119446-68-3	NEAT	P-447N	22
		MeOH	P-447S	22
Difenoxuron	14214-32-5	NEAT	P-604N	22
		MeOH	P-604S	22
Diflubenzuron	35367-38-5	NEAT	P-377N	12
		MeOH	P-377S	12
Diflufenican	83164-33-4	NEAT	P-722N	32
		MeOH	P-722S	32
2,3-Dihydro-2,2-dimethylbenzofuran-7-ol	1563-66-2	NEAT	P-628N	22
		MeOH	P-628S	22
2,3-Dihydro-2,2-dimethylbenzofuran-3,7-diol	1563-38-8	MeOH	P-629S	102
Dimecron	see Phosphamidon			
Dimefox	115-26-4	NEAT	P-299N	32
		MeOH	P-299S	32
Dimefuron	34205-21-5	NEAT	P-565N	22
		MeOH	P-565S	22
Dimepax	22936-75-0	NEAT	P-643N	32
		MeOH	P-643S	32
Dimetate	see Dimethoate			
Dimethachlor	50563-36-5	NEAT	P-642N	32
		MeOH	P-642S	32
Dimethenamid	87674-68-8	NEAT	P-747N	22
		MeOH	P-747S	22
Dimethipin	55290-64-7	NEAT	P-483N	22
		MeOH	P-483S	22
Dimethoate	60-51-5	NEAT	P-039N	22
		MeOH	P-039S	22
Dimethomorph	110488-70-5	NEAT	P-713N	52
		MeOH	P-713S	52
Dimethyl phosphate	813-78-5	NEAT	P-442N	12
		MeOH	P-442S	12
Dimoxystrobin	149961-52-4	AcCN	P-844S-CN	12
Dinex	131-89-5	NEAT	P-427N	22
		MeOH	P-427S	22
Diniconazol	83657-24-3	NEAT	P-845N	22
		AcCN	P-845N-CN	22

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Dinitramine	29091-05-2	NEAT	P-575N	$ 32
		MeOH	P-575S	32
4,6-Dinitro-o-cresol	534-52-1	NEAT	P-384N	12
		MeOH	P-384S	12
Dinocap	39300-45-3	NEAT	P-288N	12
		MeOH	P-288S	12
Dinoseb Δ	88-85-7	NEAT	P-144N	12
		MeOH	P-144S	12
Dinoseb methyl ether	6099-79-2	NEAT	P-230N	12
		MeOH	P-230S	12
Dinoterb	1420-07-1	NEAT	P-524N	22
		MeOH	P-524S	22
Dioxacarb	6988-21-2	NEAT	P-264N	22
		MeOH	P-264S ‡	22
Dioxathion	78-34-2	NEAT	P-219N	52
		MeOH	P-219S	52
Diphacinone	82-66-6	NEAT	P-315N	22
		MeOH	P-315S ‡	22
Diphenamid	957-51-7	NEAT	P-173N	12
		MeOH	P-173S	12
Dipropetryn	4147-51-7	NEAT	P-580N	32
		MeOH	P-580S	32
Diquat dibromide monohydrate	6385-62-2	NEAT	P-231N	12
		MeOH	P-231S	12
Disul-sodium salt	136-78-7	NEAT	P-513N	12
		MeOH	P-513S	12
Disulfoton	298-04-4	NEAT	P-042N	12
		MeOH	P-042S	12
Disulfoton sulfone	2497-06-5	NEAT	P-582N	52
		MeOH	P-582S	52
Disulfoton sulfoxide	2497-07-6	NEAT	P-593N	52
		MeOH	P-593S	52
Disyston	see Disulfoton			
Ditalimfos	5131-24-8	NEAT	P-546N	22
		MeOH	P-546S	22
Dithane D-14	see Nabam			
Dithianon	3347-22-6	NEAT	P-725N	22
		Acetone	P-725S-A	22
Dithiopyr	97886-45-8	NEAT	P-741N	32
		MeOH	P-741S	32
Diuron	see DCMU			
2,3-Diuron	10290-37-6	NEAT	P-632N	22
		MeOH	P-632S	22
DMPA	see Schradan			
DMST	66840-71-9	MeOH	P-572S	32
DNBP	see Dinoseb			
DNOC	see 4,6-Dinitro-o-cresol			
DNTP	see Parathion			
Dodemorph acetate	31717-87-0	NEAT	P-385N	22
		MeOH	P-385S	22
Dodine	2439-10-3	NEAT	P-386N	12
		MeOH	P-386S	12
Doguadine	see Dodine			
Dowpon	see Dalapon acid			
Dozer	see Fenuron-TCA			
2,4-DP ethyl hexyl	79270-78-3	NEAT	P-429N	22
		MeOH	P-429S	22
Drinox	see Heptachlor			
Dropp	see Thidiazuron			
DSMA	144-21-8	NEAT	P-598N	12
		MeOH	P-598S	12
DTMC	see Kelthane			
Dual	see Metolachlor			
Dursban	2921-88-2	NEAT	P-094N	12
		MeOH	P-094S	12
Dybar	see Fenuron			
Dyfonate	944-22-9	NEAT	P-087N	12
		MeOH	P-087S	12
		Hexane	P-087S-H	12
Dylox	see Trichlorfon			

Δ Pesticides containing a carboxyl group will autoesterify in MeOH. The pesticides most likely to have this occur are marked with an Δ. These standards are intended for use as a post-esterification standard for GC analysis. For other types of analysis (ex. HPLC) we suggest a non-hydroxylic solvent such as Acetonitrile.

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Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Dymid	see Diphenamid			
Dyrene	see Anilazine			
EDDP	see Edifenphos			
Edifenphos	17109-49-8	NEAT	P-368N	$ 12
		MeOH	P-368S	12
Ektafos	see Dicrotophos			
Elgetol	see 4,6-Dinitro-o-cresol			
Eloncron	see Dioxacarb			
Empenthrin	54406-48-3	NEAT	P-708N	32
Endosulfan I	959-98-8	NEAT	P-091N	22
		MeOH	P-091S	22
Endosulfan II	33213-65-9	NEAT	P-092N	22
		MeOH	P-092S	22
α-Endosulfan	see Endosulfan I			
β-Endosulfan	see Endosulfan II			
Endosulfan, mixed isomers	115-29-7	NEAT	P-435N	12
		MeOH	P-435S	12
Endosulfan sulfate	1031-07-8	NEAT	P-145N	22
		MeOH	P-145S	22
Endothall Δ	145-73-3	NEAT	P-183N	22
		MeOH	P-183S	22
Endothal dimethyl ester		NEAT	P-603N	22
		MeOH	P-603S	22
Endrin	72-20-8	NEAT	P-045N	22
		MeOH	P-045S	22
Endrin aldehyde	7421-93-4	NEAT	P-046N	22
		MeOH	P-046S	22
Endrin ketone	53494-70-5	NEAT	P-146N	22
		MeOH	P-146S	22
Enide	see Diphenamid			
EPN	2104-64-5	NEAT	P-220N	12
		Acetone	P-220S-A	12
Eptam	see EPTC			
Eptapur	see Buturon			
EPTC	759-94-4	NEAT	P-238N	12
		MeOH	P-238S	12
Esfenvalerate	66230-04-4	NEAT	P-525N	52
		MeOH	P-525S	52
Esprocarb	see Bensulfuron-methyl			
Etaconazole	60207-93-4	NEAT	P-644N	32
		MeOH	P-644S	32
Etazine	see Secbumeton			
Ethalfluralin	55283-68-6	NEAT	P-269N	12
		MeOH	P-269S	12
Ethephon	16672-87-0	NEAT	P-239N	12
		MeOH	P-239S	12
Ethidimuron	30043-49-3	NEAT	P-364N	12
		MeOH	P-364S	12
Ethiofencarb	29973-13-5	NEAT	P-448N	12
		MeOH	P-448S	12
Ethiofencarb sulfone	53380-23-7	AcCN	P-824S-CN	32
Ethiofencarb sulfoxide	5380-22-6	AcCN	P-825S-CN	32
Ethiofencarb metabolite	see 2-Ethylthiomethyl phenol			
Ethion	563-12-2	NEAT	P-048N	12
		MeOH	P-048S	12
Ethiozin	64529-56-2	NEAT	P-660N	32
		MeOH	P-660S	32
Ethirimol	23947-60-6	NEAT	P-645N	32
		MeOH	P-645S	32
Ethofumesate	26225-79-6	NEAT	P-387N	12
		MeOH	P-387S	12
Ethoprop	13194-48-4	NEAT	P-129N	22
		MeOH	P-129S	22
Ethoxyquin	91-53-2	NEAT	P-388N	22
		MeOH	P-388S	22
Ethoxysulfuron	126801-58-9	NEAT	P-847N	22
		AcCN	P-847S-CN	22
Ethyl carbamate	51-79-6	NEAT	P-419N	12
		MeOH	P-419S	12
Ethylene bisdithicocarbarmate, disodium	see Nabam			
Ethylene thiourea	96-45-7	NEAT	P-588N	12
		MeOH	P-588S	12

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Ethyl hexanediol (mixed isomers)	94-96-2	NEAT	P-389N	$ 12
		MeOH	P-389S	12
bis(2-Ethylhexyl)adipate	103-23-1	NEAT	P-233N	12
		MeOH	P-233S	12
Ethyl parathion	see Parathion			
2-Ethylthiomethyl phenol		MeOH	P-423S	52
Etofenprox	80844-07-1	NEAT	P-848N	52
		AcCN	P-848S-CN	52
Etridiazole	see Terrazole			
Etrimfos	38260-54-7	NEAT	P-480N	12
		MeOH	P-480S	12
Etrolene	see Ronnel			
ETU	see Ethylene thiourea			
Expand	see Sethoxlydim			
Famophos	see Famphur			
Famoxadon	131807-57-3	NEAT	P-849N	62
		AcCN	P-849S-CN	62
Famphur	52-85-7	NEAT	P-147N	12
		MeOH	P-147S	12
Fargo	see Triallate			
Fenac	see Fenatrol			
Fenamidone	161326-34-7	NEAT	P-850N	32
		AcCN	P-850S-CN	32
Fenaminosulf	140-56-7	NEAT	P-058N	12
		MeOH	P-058S	12
Fenamiphos	22224-92-6	NEAT	P-114N	32
		MeOH	P-114S	32
Fenamiphos sulfone		NEAT	P-623N	62
		MeOH	P-623S	62
Fenamiphos sulfoxide		NEAT	P-622N	62
		MeOH	P-622S	62
Fenarimol	see Bloc			
Fenatrol	85-34-7	NEAT	P-319N	12
		MeOH	P-319S	12
Fenazaquin ***NEW***	120928-09-8	Hexane	P-787S-H	32
Fenbuconazole	114369-43-6	MeOH	P-662S	32
Fenbutatin oxide	13356-08-6	NEAT	P-481N	22
		Acetone	P-481S-A	22
Fenchlorphos	see Ronnel			
Fenhexamid	126833-17-8	NEAT	P-783N	22
		MeOH	P-783S	22
Fenitrothion	122-14-5	NEAT	P-259N	12
		MeOH	P-259S	12
Fenoprop	see Silvex			
Fenoxaprop-ethyl	66441-23-4	NEAT	P-365N	22
		MeOH	P-365S	22
Fenoxaprop-p-ethyl	71238-80-2	NEAT	P-694N	32
		MeOH	P-694S	32
Fenoxycarb	79127-80-3	NEAT	P-686N	22
		MeOH	P-686S	22
Fenpropathrin	see Danitol			
Fenpropimorph	67564-91-4	NEAT	P-705N	22
		MeOH	P-705S	22
Fenpyroximate	111812-58-9	NEAT	P-724N	52
		MeOH	P-724S	52
Fenson	80-38-6	NEAT	P-551N	22
		MeOH	P-551S	22
Fensulfothion	see Dasanit			
Fenthion	55-38-9	NEAT	P-148N	12
		MeOH	P-148S	12
Fentin acetate	900-95-8	NEAT	P-680N	22
		MeOH	P-680S	22
Fentin chloride	see Triphenyltin chloride			
Fenuron	101-42-8	NEAT	P-004N	12
		MeOH	P-004S	12
Fenuron TCA	4482-55-7	NEAT	P-006N	12
		MeOH	P-006S	12
Fenvalerate	51630-58-1	NEAT	P-194N	12
		MeOH	P-194S	12
Ferbam	14484-64-1	NEAT	P-110N	12
		MeOH	P-110S	12
Ferber K	see Ferbam			
Ficam	see Bendiocarb			

Same Low Price in Neat (10 mg) or Solution (100 µg/mL) form

Most Pesticides are available in 1000 µg/mL (add -10X). Call or visit website for pricing.

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Fipronil and Its Metabolites:
Fipronil is in the phenyl pyrazole class of pesticides. It is a broad-spectrum insecticide used in many different applications. It is used in many commercial topical flea and tick treatments for cats and dogs. Fipronil is used in these types of applications because it is not readily absorbed through the skin, and has a comparatively low toxicity if ingested.

Fipronil produces three notable metabolites: Fipronil Sulfide, Fipronil Sulfone and Fipronil Desulfinyl. These metabolites form under different conditions, and are of particular interest, because unlike the parent compound, they can be more toxic and environmentally persistent.

Fipronil & Metabolite Kit
P-FIP-MET-KIT — $ 225 / **4 x 1 mL**
P-738S-A, P-782S-A, P-781S-A, P-780S-A

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Fipronil	120068-37-3	NEAT	P-738N	$ 42
		MeOH	P-738S	42
		Acetone	P-738S-A	42
Fipronil desulfinyl		Acetone	P-782S-A	150
Fipronil sulfide	120067-83-6	Acetone	P-781S-A	75
		5 mg	P-781N-5MG	75
Fipronil sulfone	120068-36-2	Acetone	P-780S-A	50
Flamprop-methyl	52756-25-9	NEAT	P-366N	12
		MeOH	P-366S	12
Flazasulfuron ***NEW***	104040-78-0	AcCN	P-826N-CN	62
Florasulam	145701-23-1	AcCN	P-827S-CN-0.1X	42
Fluazifop butyl	69806-50-4	NEAT	P-310N	22
		MeOH	P-310S	22
Fluazifop-p-butyl	79241-46-6	NEAT	P-601N	52
		MeOH	P-601S	52
Fluazinam	79622-59-6	NEAT	P-586N	52
		MeOH	P-586S	52
Fluchloralin	33245-39-5	NEAT	P-270N	22
		MeOH	P-270S	22
Flucythrinate	70124-77-5	MeOH	P-378S	52
Fludioxonil	131341-86-1	NEAT	P-698N	32
		MeOH	P-698S	32
Flufenoxuron	101463-69-8	NEAT	P-687N	32
		MeOH	P-687S	32
Flumetralin	62924-70-3	NEAT	P-491N	22
		MeOH	P-491S	22
Flumetsulam	98967-40-9	NEAT	P-659N	24
		MeOH	P-659S	24
Fluometuron	2164-17-2	NEAT	P-014N	12
		MeOH	P-014S	12
Flurenol methyl ester	1216-44-0	NEAT	P-412N	12
		MeOH	P-412S	12
Fluridone	59756-60-4	NEAT	P-193N	12
		MeOH	P-193S	12
Flurochloridon	61213-25-0	NEAT	P-647N	32
		MeOH	P-647S	32
Flurodifen	15457-05-3	NEAT	P-676N	12
		MeOH	P-676S	12
Fluroxypyr	69377-81-7	MeOH	P-521S	52
Flusilazole	85509-19-9	NEAT	P-578N	42
		MeOH	P-578S	42
Flutolanil	66332-96-5	NEAT	P-587N	12
		MeOH	P-587S	12
Flutriafol	76674-21-0	NEAT	P-699N	34
		MeOH	P-699S	34
Tau-Fluvalinate	102851-06-9	NEAT	P-356N	32
		MeOH	P-356S	32
		AcCN	P-356S-CN	32
Folbex	see Chlorobenzilate			
Folex	see Merphos			
Folosan	see Pentachloronitrobenzene			
Folpet	133-07-3	NEAT	P-258N	12
		MeOH	P-258S	12
Fonofos	see Dyfonate			
Foramsulfuron	173159-57-4	NEAT	P-852N	32
		AcCN	P-852S-CN	32
Formetanate HCl	23422-53-9	NEAT	P-431N	12
		MeOH	P-431S	12

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Formothion	2540-82-1	NEAT	P-149N ‡	$ 72
		AcCN	P-149S-CN	72
Fosetyl aluminium	39148-24-8	NEAT	P-532N	62
		MeOH	P-532S	62
Fosthiazate	98886-44-3	NEAT	P-828N	52
Frescon	see Trifenmorph			
Frumidor	see Thiophanate-methyl			
Fumazone	96-12-8	NEAT	P-341N	12
		MeOH	P-341S	12
Furadan	see Carbofuran			
Furalaxyl	57646-30-7	NEAT	P-605N	22
		MeOH	P-605S	22
Furathiocarb	65907-30-4	MeOH	P-569S	22
Furmecyclox	60568-05-0	MeOH	P-607S	32
Furore	see Fenoxaprop-ethyl			
Fusilade 5	see Fluazifop butyl			
Galtak	see Benazolin			
Gardona	see Tetrachlorvinphos			
Gardoprim	see Terbuthylazine			
Garlon	see Triclopyr			
Garrathion	see Carbophenothion			
Gesafram	see Prometon			
Gesagard	see Prometryne			
Gesamil	see Propazine			
Gesapax	see Ametryn			
Gesaprim	see Atrazine			
Gesatamine	1610-17-9	NEAT	P-189N	22
		MeOH	P-189S	22
Gesatop	see Simazine			
Gexane	see Lindane			
Glufosinate, ammonium salt	77182-82-2	NEAT	P-475N	22
		MeOH	P-475S	22
Glyodin	556-22-9	NEAT	P-528N	12
		MeOH	P-528S	12
Glyphosate	1071-83-6	NEAT	P-015N	12
		H_20	P-015S-W	12
Goal	see Oxyfluorfen			
Goltix	see Metamitron			
Grasidin	see Sethoxydim			
Grasp	see Tralkoxydim			
Guazatine acetate	115044-19-4	MeOH	P-612S	52
Gusathion M	see Azinphos-methyl			
Guthion	see Azinphos-methyl			
Gy-bon	see Simetryn			
Haloxyfop Δ	69806-34-4	NEAT	P-496N	32
		MeOH	P-496S	32
		AcCN	P-496S-CN	32
Haloxyfop methyl ester	69806-40-2	NEAT	P-497N	32
		MeOH	P-497S	32
Hanane	see Dimefox			
Hedonal	see MCPP acid			
Helothion	see Bolstar			
HEOD	see Dieldrin			
Heptachlor	76-44-8	NEAT	P-053N	12
		MeOH	P-053S	12
Heptachlor epoxide [Isomer A]	28044-83-9	MeOH	P-294S	32
Heptachlor epoxide [Isomer B]	1024-57-3	NEAT	P-054N	22
		MeOH	P-054S	22
2-Hepta-decyl-2-imidazoline	see Glyodin			
Heptamul	see Heptachlor			
Heptenophos	23560-59-0	NEAT	P-547N	22
		MeOH	P-547S	22
Heptox	see Heptachlor			
Herald	see Danitol			
Herb-All	see MSMA			
Herkol	see Dichlorvos			
Hexaconazole	79983-71-4	NEAT	P-500N	12
		MeOH	P-500S	12
Hexaflumuron	86479-06-3	NEAT	P-697N	22
		MeOH	P-697S	22
Hexamethylphosphoramide	680-31-9	NEAT	P-205N	12
		MeOH	P-205S	12
Hexazinone	51235-04-2	NEAT	P-123N	12
		MeOH	P-123S	12

Δ Pesticides containing a carboxyl group will autoesterify in MeOH. The pesticides most likely to have this occur are marked with an Δ. These standards are intended for use as a post-esterification standard for GC analysis. For other types of analysis (ex. HPLC) we suggest a non-hydroxylic solvent such as Acetonitrile.

‡ To delay premature breakdown of thermally labile products in transit we suggest requesting a "**Cold Pack**"

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Hexylthiocarbam	see Cycloate			
Hexythiazox	78587-05-0	NEAT	P-658N	$ 45
		MeOH	P-658S	45
Hoe 2810	see Linuron			
Hoelon	see Dichlofop methyl			
Horbadox	see Pendimethalin			
Hostathion	see Triazophos			
Hoxan	see Dichlofop methyl			
Hydramethylnon	67485-29-4	NEAT	P-403N	42
		MeOH	P-403S	42
2-Hydroxyatrazine	2163-68-0	NEAT	P-326N	22
		MeOH	P-326S	22
3-Hydroxycarbofuran	16655-82-6	MeOH	P-186S	22
1-Hydroxychlordene	24009-05-0	MeOH	P-151S	52
Hymexazol	100004-44-1	MeOH	P-571S	60
Hyvar	see Bromacil			
Illoxan	see Dichlofop methyl			
Imazalil	35554-44-0	NEAT	P-332N	32
		MeOH	P-332S	32
Imazamethabenz methyl	81405-85-8	NEAT	P-414N	32
		MeOH	P-414S	32
Imazapyr Δ	81334-34-1	NEAT	P-589N	32
		MeOH	P-589S	32
		AcCN	P-589S-CN	32
Imazaquin	81335-37-7	NEAT	P-283N	32
		MeOH	P-283S	32
Imazethapyr	81335-77-5	MeOH	P-285S	22
Imazosulfuron	122548-33-8	AcCN	P-853S-CN-0.1X	52
Imidacloprid	138261-41-3	NEAT	P-596N	32
		MeOH	P-596S	32
Imidan	732-11-6	NEAT	P-055N	12
		MeOH	P-055S	12
Indalone	532-34-3	NEAT	P-648N	12
		MeOH	P-648S	12
Indoxacarb	144171-61-9	NEAT	P-829N	42
		AcCN	P-829S-CN	42
Ingran 80W	see Prebane			
INPC	see Propham			
Iodofenphos	18181-70-9	NEAT	P-379N	22
		MeOH	P-379S	22
Iodosulfuron-methyl-sodium	144550-36-7	NEAT	P-830N	62
		AcCN	P-830S-CN	62
Ioxynil	1689-83-4	NEAT	P-522N	22
		MeOH	P-522S	22
IPB	see Iprobenfos			
IPC	see Propham			
Iprobenfos	26087-47-8	NEAT	P-609N	32
		MeOH	P-609S	32
Iprodione	36734-19-7	NEAT	P-016N	12
		Acetone	P-016S-A	12
		AcCN	P-016S-CN	12
Iprovalicarb	140923-17-7	NEAT	P-831N	42
		AcCN	P-831S-CN	42
Irgarol	28154-98-0	NEAT	P-746N	32
		MeOH	P-746S	32
Isazophos	42509-80-8	NEAT	P-449N	12
		MeOH	P-449S	12
Isobenzan	297-78-9	MeOH	P-323S	12
Isodrin	465-73-6	NEAT	P-471N	12
		MeOH	P-471S	12
Isofenphos	25311-71-1	NEAT	P-018N	12
		MeOH	P-018S	12
Isoprocarb	2631-40-5	NEAT	P-317N	12
		MeOH	P-317S	12
Isopropalin	33820-53-0	NEAT	P-100N	12
		MeOH	P-100S	12
2-Isopropylamino-4,6-dichloro-s-triazine		NEAT	P-635N	22
		MeOH	P-635S	22
2-Isopropyl-6-methyl-4-pyrimidinol		NEAT	P-631N	22
	2814-20-2	MeOH	P-631S	22
Isoprothiolane	50512-35-1	NEAT	P-661N	32
		MeOH	P-661S	32
Isoproturon	34123-59-6	NEAT	P-302N	12
		MeOH	P-302S	12

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Isoxaben	82558-50-7	NEAT	P-533N	$ 22
		MeOH	P-533S	22
Isoxaflutole	141112-29-0	NEAT	P-832N	12
		AcCN	P-832S-CN	12
Jodfenphos	see Iodofenphos			
Kadethrine	58769-20-3	NEAT	P-367N	12
		MeOH	P-367S	12
Karbutilate	4849-32-5	NEAT	P-337N	12
		MeOH	P-337S	12
Karmex	330-54-1	NEAT	P-227N	12
		MeOH	P-227S	12
Kelthane	115-32-2	NEAT	P-057N	22
		MeOH	P-057S	22
Kepone	143-50-0	NEAT	P-152N	12
		MeOH	P-152S	12
Kerb	see Pronamide			
3-Ketocarbofuran		Acetone	P-298S-A	52
Kilprop	see MCPP acid			
S-Kinoprene	see Enstar 2			
Kothar	see Oxyfluorfen			
Kresoxim-methyl	143390-89-0	NEAT	P-740N	32
		MeOH	P-740S	32
Lannate	see Methomyl			
Larvadex	see Cyromazine			
Lasso	see Alachlor			
Lazo	see Alachlor			
Lenacil	2164-08-1	NEAT	P-649N	12
		MeOH	P-649S	12
Lentagran	see Pyridate			
Lepton	see Leptophos			
Leptophos	21609-90-5	NEAT	P-206N	12
		MeOH	P-206S	12
Lesan	see Fenaminosulf			
Lethane 384	112-56-1	NEAT	P-506N	12
		MeOH	P-506S	12
Lethron		MeOH	P-634S	22
Lindane (γ-BHC)	58-89-9	NEAT	P-059N	12
		MeOH	P-059S	12
Linuron	330-55-2	NEAT	P-022N	12
		MeOH	P-022S	12
Liphadione	see Chlorophacinone			
Lonacol	see Zineb			
Lontrel	1702-17-6	NEAT	P-224N	22
		MeOH	P-224S	22
Lorox	see Linuron			
Lufenuron	103055-07-8	NEAT	P-704N	32
		MeOH	P-704S	32
Machete	see Butachlor			
Malaoxon	1634-78-2	NEAT	P-529N	32
		MeOH	P-529S	32
Malaspray	see Malathion			
Malathion	121-75-5	NEAT	P-060N	12
		MeOH	P-060S	12
Maleic hydrazide	123-33-1	NEAT	P-380N	12
		MeOH	P-380S	12
Mancozan	see Zineb			
Mancozeb	8018-01-7	NEAT	P-322N	12
Maneb	12427-38-2	NEAT	P-282N	12
Manzeb	see Mancozeb			
Marathon	see Imidacloprid			
Marlate	see Methoxychlor			
Matacil	see Aminocarb			
Mataven	see Flamprop-methyl			
Mavrik	see Fluvalinate			
Maxforce	see Hydramethylnon			
MCPA acid Δ	94-74-6	NEAT	P-153N	12
		MeOH	P-153S	12
		AcCN	P-153S-CN	12
MCPA methyl ester	2436-73-9	NEAT	P-038N	12
		MeOH	P-038S	12
MCPB acid	94-81-5	NEAT	P-370N	12
		MeOH	P-370S	12

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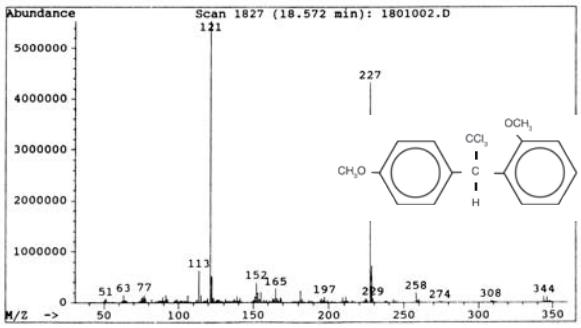
Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

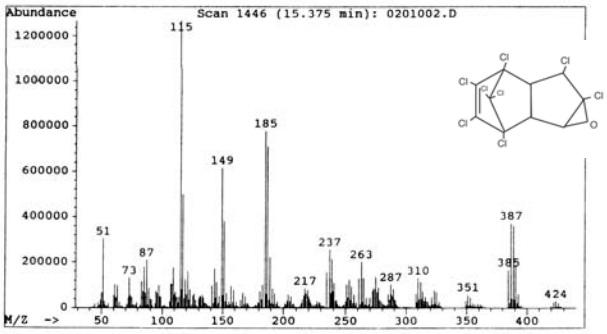
Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
MCPB methyl ester	57153-18-1	NEAT	P-371N	$ 22
		MeOH	P-371S	22
MCPP acid Δ	7085-19-0	NEAT	P-154N	32
		MeOH	P-154S	32
		AcCN	P-154S-CN	32
MCPP methyl ester	2786-19-7	NEAT	P-040N	12
		MeOH	P-040S	12
Mecarbam	2595-54-2	NEAT	P-318N	22
		MeOH	P-318S	22
Mecoprop	see MCPP acid			
Mecoprop, 2-Ethylhexyl ester		NEAT	P-502N	22
		MeOH	P-502S	22
Mediben	see Dicamba			
Mefenacet	73250-68-7	NEAT	P-745N	22
		MeOH	P-745S	22
Meltatox	see Dodemorph acetate			
Menaphace	see MCPA acid			
Mepanipyrim	110235-47-7	NEAT	P-855N	52
		AcCN	P-855S-CN	52
Mephosfolan	950-10-7	NEAT	P-718N	12
		MeOH	P-718S	12
Mepro	see MCPP acid			
Mepronil	55814-41-0	NEAT	P-736N	32
		MeOH	P-736S	32
2-Mercaptobenzothiazole monoethanolamine salt	see Vanicide-20S			
Mercaptodimethur	see Methiocarb			
Mercaptophos	see Fenthion			
Mercuram	see Thiram			
Merge 823	see MSMA			
Merphos	150-50-5	NEAT	P-124N	22
		MeOH	P-124S	22
Metacide	see Methyl parathion			
Metalaxyl	57837-19-1	NEAT	P-120N	32
		MeOH	P-120S	32
Metaldehyde Δ	9002-91-9	NEAT	P-600N	12
		MeOH	P-600S	12
		AcCN	P-600S-CN	12
Metamitron	41394-05-2	NEAT	P-252N	12
		MeOH	P-252S	12
Metam-sodium	see Metam-sodium dihydrate			
Metam-sodium dihydrate	6734-80-1	NEAT	P-381N	12
		MeOH	P-381S	12
Metasystox R	see Oxydemeton methyl			
Metazachlor	67129-08-2	NEAT	P-249N	12
		MeOH	P-249S	12
Metconazole	125116-23-6	AcCN	P-856S-CN-0.1X	12
Methabenzthiazuron	18691-97-9	NEAT	P-563N	22
		MeOH	P-563S	22
Methacrifos	62610-77-9	NEAT	P-556N	22
		MeOH	P-556S	22
Methamidophos	see Monitor			
Methidathion	950-37-8	NEAT	P-195N	12
		MeOH	P-195S	12
Methiocarb	2032-65-7	NEAT	P-156N	12
		MeOH	P-156S	12
Methomyl	16752-77-5	NEAT	P-032N	12
		MeOH	P-032S	12
Methoprene	40596-69-8	NEAT	P-157N	32
		MeOH	P-157S	32
Methoprotryne	841-06-5	NEAT	P-564N	22
		MeOH	P-564S	22
Methoxychlor	72-43-5	NEAT	P-064N	12
		MeOH	P-064S	12
o,p'-Methoxychlor	30667-99-3	NEAT	P-535N	52
		MeOH	P-535S	52
		Toluene	P-535S-TP	52
p,p'-Methoxychlor-olefin	2132-70-9	MeOH	P-466S	52
Methoxy-DDT	see Methoxychlor			
Methoxyfenozide	161050-58-4	NEAT	P-857N	72
		AcCN	P-857S-CN	72

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Methylamine hydrochloride	593-51-1	NEAT	P-624N	$ 12
		MeOH	P-624S	12
Methyl-3,5-dichlorobenzoate	2905-67-1	NEAT	P-247N	12
		MeOH	P-247S	12
2-Methyl-4,6-dinitroanisole	29027-13-2	NEAT	P-611N	22
		MeOH	P-611S	22
2-Methyl-4,6-dinitrophenol methyl ether	see 2-Methyl-4,6-dinitroanisole			
Methyl dursban	see Chlorpyrifos-methyl ester			
Methyl-2,4-dichlorophenylacetate	55954-23-9	NEAT	P-214N	12
		MeOH	P-214S	12
3-Methyl-4-nitrophenol	2581-34-2	NEAT	P-509N	12
		MeOH	P-509S	12
Methyl nonyl ketone Δ	112-12-9	NEAT	P-415N	12
		MeOH	P-415S	12
		AcCN	P-415S-CN	12
Methyl paraoxon	950-35-6	NEAT	P-311N	32
		MeOH	P-311S	32
Methyl parathion	298-00-0	NEAT	P-065N	32
		MeOH	P-065S	32
Methylpentachlorophenyl sulfide	1825-19-0	NEAT	P-567N	12
		MeOH	P-567S	12
Methyl tiofanato	see Thiophanate-methyl			
Methyl trithion	953-17-3	MeOH	P-652S	32
Metiram	9006-42-2	NEAT	P-416N	12
Metobromuron	3060-89-7	NEAT	P-436N	12
		MeOH	P-436S	12
Metolachlor	51218-45-2	NEAT	P-158N	12
		MeOH	P-158S	12

We have synthesized neat o,p'-Methoxychlor: $C_{16}H_{15}Cl_3O_2$, M.W. = 344



We have synthesized neat Oxychlordane: $C_{10}H_4Cl_8O$ M.W. = 420



Δ Pesticides containing a carboxyl group will autoesterify in MeOH. The pesticides most likely to have this occur are marked with an Δ. These standards are intended for use as a post-esterification standard for GC analysis. For other types of analysis (ex. HPLC) we suggest a non-hydroxylic solvent such as Acetonitrile.

‡ To delay premature breakdown of thermally labile products in transit we suggest requesting a "**Cold Pack**"

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Metolcarb	1129-41-5	NEAT	P-494N	$ 22
		MeOH	P-494S	22
Metoxuron	19937-59-8	NEAT	P-437N	12
		MeOH	P-437S	12
Metribuzin	21087-64-9	NEAT	P-089N	12
		MeOH	P-089S	12
Metron	see Methyl parathion			
Metsulfuron methyl	74223-64-6	NEAT	P-463N	22
		MeOH	P-463S	22
Mevinphos	7786-34-7	NEAT	P-074N	12
		MeOH	P-074S	12
Mexacarbate	315-18-4	NEAT	P-030N	22
		MeOH	P-030S	22
MGK 264	113-48-4	NEAT	P-082N	12
		MeOH	P-082S	12
MGK 326	136-45-8	NEAT	P-342N	12
		MeOH	P-342S	12
Milogard	see Propazine			
MIPC	see Isoprocarb			
Mirex	2385-85-5	NEAT	P-066N	12
		MeOH	P-066S	12
Mitac	see Amitraz			
Mocap	see Ethoprop			
Molinate	2212-67-1	NEAT	P-176N	32
		MeOH	P-176S	32
Monalide	7287-36-7	NEAT	P-737N	32
		MeOH	P-737S	32
Monceren	see Pencycuron			
Monitor	10265-92-6	NEAT	P-155N	42
		MeOH	P-155S	42
Monocrotophos	6923-22-4	NEAT	P-112N	32
		MeOH	P-112S	32
Monolinuron	1746-81-2	NEAT	P-382N	12
		MeOH	P-382S	12
Monomethyltetrachloroteraphthalate	887-54-7	NEAT	P-707N	52
		Acetone	P-707S-A	52
Monuron	150-68-5	NEAT	P-023N	12
		MeOH	P-023S	12
Monuron TCA	140-41-0	NEAT	P-034N	12
		MeOH	P-034S	12
2-Monuron	150-68-5	NEAT	P-633N	22
		MeOH	P-633S	22
Morestan	see Chinomethionate			
MSMA	see Bueno			
Myclobutanil	88671-89-0	NEAT	P-330N	42
		MeOH	P-330S	42
Nabam	142-59-6	NEAT	P-383N	12
		MeOH	P-383S	12
Naled	300-76-5	NEAT	P-159N	12
		MeOH	P-159S	12
1-Naphthalene acetamide	88-86-2	NEAT	P-512N	12
		MeOH	P-512S	12
Napropamide	15299-99-7	NEAT	P-179N	12
		MeOH	P-179S	12
Naptalam	see Alanap			
1-Napthylacetic acid	86-87-3	NEAT	P-461N	12
		MeOH	P-461S	12
Navadel	see Dioxathion			
Neburon	555-37-3	NEAT	P-041N	12
		MeOH	P-041S	12
Neguvon	see Trichlorfon			
Nemacur R	see Fenamiphos			
Neocidol	see Diazinon			
Netrazine	see Cyromazine			
Niagaramite	see Aramite			
Nialate	see Ethion			
Niclosamide	50-65-7	NEAT	P-160N	22
		MeOH	P-160S	22
Nicosulfuron	111991-09-4	NEAT	P-591N	52
		AcCN	P-591S-CN	52
Nifos	see TEPP			
Nitenpyram	120738-89-8	NEAT	P-858N	32
		AcCN	P-858S-CN	32

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Nitralin	4726-14-1	NEAT	P-583N	$ 12
		MeOH	P-583S	12
Nitrapyrin	1929-82-4	NEAT	P-489N	12
		MeOH	P-489S	12
4-Nitroanisole	100-17-4	NEAT	P-273N	12
		MeOH	P-273S	12
Nitrofen	1836-75-5	NEAT	P-363N	32
		MeOH	P-363S	32
Nitrothal-isopropyl	10552-74-6	NEAT	P-695N	32
		MeOH	P-695S	32
Nix-Scald	see Ethoxyquin			
Nomersan	see TEPP			
cis-Nonachlor	5103-73-1	NEAT	P-297N	52
		MeOH	P-297S	52
trans-Nonachlor	39765-80-5	NEAT	P-184N	22
		MeOH	P-184S	22
Norflurazon	27314-13-2	NEAT	P-217N	22
		MeOH	P-217S	22
Nuarimol	see Trimidal			
Nucidol	see Diazinon			
Nuvacron	see Monocrotophos			
Nuvanol	see Iodofenphos			
Octachlor	see Chlordane			
Octacide 264	see MGK 264			
Octalox	see Dieldrin			
Octamethylpyrophosphoramide	see Schradan			
OFF	see Deet			
Oftanol	see Isofenphos			
Ofurace	58810-48-3	10 µg/mL Toluene	P-653S-TP-0.1X	32
Omethoate	1113-02-6	NEAT	P-121N	22
		MeOH	P-121S	22
Omite	see Propargite			
Omtan	see Isobenzan			
Option	see Fenoxaprop-ethyl			
Orbencarb	34622-58-7	NEAT	P-433N	22
		MeOH	P-433S	22
Orbit	see Tilt			
Ordram	see Molinate			
Ornamec	see Fluazifop-p-butyl			
Orthene	see Acephate			
Orthocide 406	see Captan			
Oryzalin	19044-88-3	NEAT	P-043N	12
		MeOH	P-043S	12
Outfox	see Cyprazine			
Ovex	80-33-1	NEAT	P-425N	22
		MeOH	P-425S	22
Ovochlor	see Ovex			
Oxadiazon	19666-30-9	NEAT	P-236N	32
		MeOH	P-236S	32
Oxadixyl	77732-09-3	MeOH	P-560S	22
Oxamyl	23135-22-0	NEAT	P-161N	12
		MeOH	P-161S	12
Oxasulfuron		NEAT	P-859N	22
		AcCN	P-859S-CN	22
Oxycarboxin	5259-88-1	NEAT	P-391N	12
		MeOH	P-391S	12
Oxychlordane	27304-13-8	MeOH	P-331S	77
	10 µg/mL in	MeOH	P-331S-0.1X	34
		Hexane	P-331S-H	77
Oxydemeton-methyl	301-12-2	MeOH	P-290S	22
Oxyfluorfen	42874-03-3	NEAT	P-277N	42
		MeOH	P-277S	42
Oxythioquinox	see Chinomethionate			
Paarlan	see Isopropalin			
Paraoxon	311-45-5	NEAT	P-453N	22
		MeOH	P-453S	22
Paraquat	1910-42-5	NEAT	P-051N	12
		MeOH	P-051S	12
Parathion	56-38-2	NEAT	P-070N	12
		MeOH	P-070S	12
Paridol	see Methyl parathion			

Same Low Price in Neat (10 mg) or Solution (100 µg/mL) form

Most Pesticides are available in 1000 µg/mL (add -10X). Call or visit website for pricing.

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
PCA	see Pyrazon			
PCNB	see Pentachloronitrobenzene			
PCP methyl ether	see Pentachloroanisole			
PDU	see Fenuron			
PEBC	see Tillam			
Pebulate	see Tillam			
Penconazole	66246-88-6	NEAT	P-450N	$ 32
		MeOH	P-450S	32
Pencycuron	66063-05-6	NEAT	P-358N	32
		MeOH	P-358S	32
Pendimethalin	40487-42-1	NEAT	P-097N	12
		MeOH	P-097S	12
Penoxalin	see Pendimethalin			
Pentachloroaniline	527-20-8	NEAT	P-875N	12
		AcCN	P-875S-CN	12
Pentachloroanisole	1825-21-4	NEAT	P-199N	12
		MeOH	P-199S	12
Pentachloronitrobenzene	82-68-8	NEAT	P-113N	12
		MeOH	P-113S	12
Permethrin (cis/trans)	52645-53-1	NEAT	P-128N	12
		MeOH	P-128S	12
Perthane	72-56-0	NEAT	P-162N	12
		MeOH	P-162S	12
Peropal	see Azocyclotin			
Pestox III	see Schradan			
Phenacide	see Toxaphene			
Phenamiphos	see Fenamiphos			
Phenmedipham	13684-63-4	NEAT	P-392N	12
		MeOH	P-392S	12
Phenothiazine	92-84-2	NEAT	P-579N	22
		MeOH	P-579S	22
Phenothrin	see Sumithrin			
Phenthoate	2597-03-7	NEAT	P-476N	32
		MeOH	P-476S	32
Phenyl mercury acetate	62-38-4	NEAT	P-393N	12
		MeOH	P-393S	12
o-Phenylphenol	90-43-7	NEAT	P-460N	12
		MeOH	P-460S	12
Phenyl valerate	20115-23-5	NEAT	P-734N	22
		MeOH	P-734S	22
Phorate	298-02-2	NEAT	P-170N	12
		MeOH	P-170S	12
Phorate sulfone	2588-04-7	Hexane	P-655S-H	32
Phorate sulfoxide	2588-03-6	NEAT	P-732N	42
		MeOH	P-732S	42
Phosalone	2310-17-0	NEAT	P-163N	12
		MeOH	P-163S	12
Phosdrin	see Mevinphos			
Phosethoprop	see Ethoprop			
Phosfolan	947-02-4	NEAT	P-234N	12
		MeOH	P-234S	12
Phosmet	see Imidan			
Phosmet oxon		Toluene	P-733S-T	52
Phosphamidon	13171-21-6	NEAT	P-075N	22
		MeOH	P-075S	22
Phosphothion	see Malathion			
Phosvel	see Leptophos			
Phoxim	14816-18-3	NEAT	P-357N	12
		MeOH	P-357S	12
Phthalthrin	see Tetramethrin			
Picloram	1918-02-1	NEAT	P-047N	12
		MeOH	P-047S	12
Picloram methyl ester	14143-55-6	NEAT	P-198N	22
		MeOH	P-198S	22
4-Picoline	see 4-Aminopyridine			
Picoxystrobin	117428-22-5	NEAT	P-860N	102
		AcCN	P-860S-CN	102
Pindone	83-26-1	NEAT	P-394N	12
		MeOH	P-394S	12
Piperalin	3478-94-2	NEAT	P-663N	24
		MeOH	P-663S	24
Piperonyl butoxide	51-03-6	NEAT	P-348N	22
		MeOH	P-348S	22
Piperophos	24151-93-7	NEAT	P-656N	$ 32
Pirimicarb	23103-98-2	NEAT	P-304N	12
		MeOH	P-304S	12
Pirimiphos-ethyl	23505-41-1	NEAT	P-328N	12
		MeOH	P-328S	12
Pirimiphos-methyl	29232-93-7	NEAT	P-305N	32
		MeOH	P-305S	32
Pirimor	see Pirimicarb			
Pival	see Pindone			
PMA	see Phenyl mercury acetate			
Polytrin	see Cypermethrin			
Potassium dimethyl dithiocarbamate ‡	128-03-0	AcCN	P-714S-CN	52
Potassium n-hydroxymethyl-n-methyl dithiocarbamate ‡	51026-28-9	AcCN	P-715S-CN	52
Prallethrin	23031-36-9	MeOH	P-667S	52
Pramitol	see Prometon			
Prebane	886-50-0	NEAT	P-119N	12
		MeOH	P-119S	12
Preeglone	see Paraquat CL			
Prefar	see Bensulide			
Premerg	see Trichlorfon			
Pretilachlor	51218-49-6	NEAT	P-485N	22
		MeOH	P-485S	22
Primatol	see Prometon			
Primatol P	see Propazine			
Primatol Q	see Prometryne			
Primatol S	see Simazine			
Primaze	see Prometryne			
Primicid	see Pirimphos-ethyl			
Primisulfuron-methyl	86209-51-0	NEAT	P-833N	12
		AcCN	P-833S-CN	12
Princep	see Simazine			
Probenazole	27605-76-1	NEAT	P-710N	22
		Acetone	P-710S-A	22
Prochloraz	67747-09-5	NEAT	P-549N	32
		MeOH	P-549S	32
Procymidone	32809-16-8	NEAT	P-430N	22
		MeOH	P-430S	22
Prodiamine	29091-21-2	NEAT	P-739N	22
		MeOH	P-739S	22
Profenofos	41198-08-7	NEAT	P-260N	12
		MeOH	P-260S	12
Profluralin	26399-36-0	NEAT	P-099N	12
		MeOH	P-099S	12
Prolate	see Imidan			
Promecarb	2631-37-0	NEAT	P-265N	22
		MeOH	P-265S	22
Prometon	1610-18-0	NEAT	P-077N	12
		MeOH	P-077S	12
Prometryne	7287-19-6	NEAT	P-078N	12
		MeOH	P-078S	12
Pronamide	23950-58-5	NEAT	P-164N	12
		MeOH	P-164S	12
Propachlor	1918-16-7	NEAT	P-215N	12
		MeOH	P-215S	12
Propamocarb	24579-73-5	NEAT	P-312N	12
		MeOH	P-312S	12
Propanil	709-98-8	NEAT	P-049N	12
		MeOH	P-049S	12
Propargite	2312-35-8	NEAT	P-251N	12
		MeOH	P-251S	12
Propargite metabolite	see 2-(4-t-Butylphenoxy)cyclohexane			
Propazine	139-40-2	NEAT	P-079N	12
		MeOH	P-079S	12
Propetamphos	31218-83-4	NEAT	P-417N	22
		MeOH	P-417S	22
Propham	122-42-9	NEAT	P-052N	12
		MeOH	P-052S	12
Prophos	see Ethoprop			
Propiconazole	see Tilt			
Propineb	12071-83-9	NEAT	P-608N	22
Propoxur	see Baygon			

Δ Pesticides containing a carboxyl group will autoesterify in MeOH. The pesticides most likely to have this occur are marked with an Δ. These standards are intended for use as a post-esterification standard for GC analysis. For other types of analysis (ex. HPLC) we suggest a non-hydroxylic solvent such as Acetonitrile.

‡ To delay premature breakdown of thermally labile products in transit we suggest requesting a "**Cold Pack**"

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Propylenethiourea (PTU)	2055-46-1	NEAT	P-861N	$ 12
		AcCN	P-861S-CN	12
Propyzamide	see Pronamide			
Prosulfocarb	52888-80-9	NEAT	P-742N	52
		MeOH	P-742S	52
Prosulfuron	94125-34-5	NEAT	P-834N	12
		AcCN	P-834S-CN	12
Protector 3L	see Busan			
Protex	see Rotenone			
Prothiophos	see Tokution			
Prowl	see Pendimethalin			
Pursuit	see Imazethapyr			
Pymetrozin	123312-89-0	NEAT	P-835N	22
		AcCN	P-835S-CN	22
Pynamin	see Allethrin			
Pyraclofos	77458-01-6	MeOH	P-716S	62
Pyraclostrobin	175013-18-0	NEAT	P-863N	22
		AcCN	P-863S-CN	22
Pyrazon	1698-60-8	NEAT	P-395N	22
		MeOH	P-395S	22
Pyrazophos	13457-18-6	NEAT	P-359N	22
		MeOH	P-359S	22
Pyrazoxyfen	71561-11-0	NEAT	P-618N	22
		MeOH	P-618S	22
Pyrethrins	8003-34-7	NEAT	P-187N	42
		MeOH	P-187S	42
Pyrethrum	see Pyrethrins			
Pyridaben	96489-71-3	NEAT	P-693N	22
		MeOH	P-693S	22
Pyridaphenthion	119-12-0	MeOH	P-610S	32
Pyridate	55512-33-9	NEAT	P-404N	12
		MeOH	P-404S	12
Pyrimethanil	53112-28-0	NEAT	P-723N	32
		MeOH	P-723S	32
Pyriminil	see Vacor			
Pyriphenox	88283-41-4	MeOH	P-668S	32
Pyriproxyfen	95737-68-1	NEAT	P-795N	22
		AcCN	P-795S-CN	22
Pyron	see Pyridate			
Pyroquilon	57369-32-1	NEAT	P-696N	22
		MeOH	P-696S	22
Queletox	see Fenthion			
Quinalphos	13593-03-8	NEAT	P-462N	22
		MeOH	P-462S	22
Quinclorac Δ	84087-01-4	NEAT	P-692N	22
		MeOH	P-692S	22
		AcCN	P-692S-CN	22
Quinmerac	90717-03-6	NEAT	P-836N	12
		AcCN	P-836S-CN	12
Quintozene	see Pentachloronitrobenzene			
Quizalofop ethyl	76578-14-8	NEAT	P-293N	22
		AcCN	P-293S-CN	22
Racumin	see Coumatetralyl			
Radapon	see Dalapon acid			
Ramrod	see Propachlor			
Reglone	see Diquat dibromide			
Resmethrin	10453-86-8	NEAT	P-325N	22
		MeOH	P-325S	22
Rezifilm	see Thiram			
Rimsulfuron	122931-48-0	NEAT	P-837N	32
		AcCN	P-837S-CN	32
Rogor	see Dimethoate			
Rogue	see Propanil			
Ronilan	see Vinclozolin			
Ronnel	299-84-3	NEAT	P-080N	12
		MeOH	P-080S	12
Ronstar	see Oxadiazon			
Rospin	see Chloropropylate			
Rotenone	83-79-4	NEAT	P-056N	12
		MeOH	P-056S ‡	12
Roundup	see Glyphosate			
Rovral	see Iprodione			

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Roxion	see Dimethoate			
Rubigan	see Bloc			
Ruelene	see Crufomate			
S421	127-90-2	NEAT	P-749N	$ 32
		MeOH	P-749S	32
SADH	see Alar			
Safrotin	see Propetamphos			
Sancap	see Dipropetryn			
Sanmarton	see Fenvalerate			
Scepter	see Imazaquin			
Schradan	152-16-9	NEAT	P-418N	12
		MeOH	P-418S	12
Sebuthylazine	7286-69-3	NEAT	P-432N	22
		MeOH	P-432S	22
Secbumeton	26259-45-0	NEAT	P-165N	22
		MeOH	P-165S	22
Select	see Clethodim			
Sencor	see Metribuzin			
Sethoxydim	74051-80-2	NEAT	P-306N	72
		AcCN	P-306S-CN ‡	72
Sevin	see Carbaryl			
Siduron	1982-49-6	NEAT	P-063N	12
		MeOH	P-063S	12
Silafluofen	105024-66-6	NEAT	P-717N	32
		MeOH	P-717S	32
Silmurix	see Schradan			
Silvex Δ	93-72-1	NEAT	P-084N	12
		MeOH	P-084S	12
		AcCN	P-084S-CN	12
Silvex 2-ethylhexyl ester		NEAT	P-728N	22
		MeOH	P-728S	22
Silvex methyl ester	4841-20-7	NEAT	P-115N	12
		MeOH	P-115S	12
Simazine	122-34-9	NEAT	P-085N	12
		MeOH	P-085S	12
Simeton	673-04-1	NEAT	P-501N	32
		MeOH	P-501S	32
Simetryn	1014-70-6	NEAT	P-166N	22
		MeOH	P-166S	22
Sinbar	see Terbacil			
Siperin	see Cypermethrin			
Sipscasan	see Thiophanate-methyl			
SMDC	see Metam			
Sodium diethyldithiocarbamate trihydrate		NEAT	P-505N	12
	148-18-5	H_2O	P-505S-W	12
Solfac	see Cyfluthrin			
Sonalan	see Ethalfluralin			
Sonar	see Fluridone			
Spike	see Tebuthiuron			
Spinosad	168316-95-8	NEAT	P-864N	62
		AcCN	P-864S-CN	62
Spiroxamine	118134-30-8	NEAT	P-869N	12
		AcCN	P-869S-CN	12
Stam F-34	see Propanil			
Stirofos	see Tetrachlorvinphos			
Stomp	see Pendimethalin			
Strobane	8001-50-1	NEAT	P-339N	52
		MeOH	P-339S	52
Suffix	see Benzoylprop ethyl			
Sulfallate	95-06-7	NEAT	P-327N	22
		MeOH	P-327S	22
Sulfometuron methyl ester	74222-97-2	NEAT	P-336N	22
		MeOH	P-336S	22
Sulfoquinoxaline		MeOH	P-681S	32
Sulfosulfuron	141776-32-1	AcCN	P-865S-CN-0.1X	22
Sulfotep	3689-24-5	NEAT	P-167N	22
		MeOH	P-167S	22
Sulfox-cide	see Sulfoxide			
Sulfoxide	120-62-7	NEAT	P-396N	12
		MeOH	P-396S	12
Sulfoxyl	see Sulfoxide			
Sulprofos	see Bolstar			

Same Low Price in Neat (10 mg) or Solution (100 µg/mL) form

Most Pesticides are available in 1000 µg/mL (add -10X). Call or visit website for pricing.

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Sumicidin	see Fenvalerate			
Sumifly	see Fenvalerate			
Sumipower	see Fenvalerate			
Sumithrin	26002-80-2	NEAT	P-050N	$ 32
		MeOH	P-050S	32
Sumitol	see Secbumeton			
Summit	see Triadimenol			
Super X	see Terrazole			
Supracide	see Methidathion			
Surcopur	see Propanil			
Surflan	see Oryzalin			
Sutan	see Butylate			
Swebate	see Abate			
Swep	1918-18-9	NEAT	P-061N	12
		MeOH	P-061S	12
Systhane	see Myclobutanil			
Systox	see Demeton			
2,4,5-T acid Δ	93-76-5	NEAT	P-168N	12
		MeOH	P-168S	12
		AcCN	P-168S-CN	12
2,4,5-T butoxyethyl ester	2545-59-7	NEAT	P-441N	12
		AcCN	P-441S-CN	12
2,4,5-T n-butyl ester	93-79-8	NEAT	P-440N	12
		AcCN	P-440S-CN	12
2,4,5-T methyl ester	1928-37-6	NEAT	P-067N	12
		MeOH	P-067S	12
2,4,6-T Δ	575-89-3	NEAT	P-523N	12
		MeOH	P-523S	12
		AcCN	P-523S-CN	12
Talstar	see Bifenthrin			
Tame	see Danitol			
Tamaron	see Monitor			
Tamogan	see Bromadiolone			
Target	see MSMA			
TCA	see Trichloroacetic acid			
TCMTB	see Busan			
TCNB	see Tecnazene			
Tebuconazol	107534-96-3	NEAT	P-451N	42
		MeOH	P-451S	42
Tebufenozide	112410-23-8	NEAT	P-726N	72
		MeOH	P-726S	72
Tebupirimfos	96182-53-5	NEAT	P-727N	32
		MeOH	P-727S	32
Tebutam		MeOH	P-879S	32
Tebuthiuron	34014-18-1	NEAT	P-188N	12
		MeOH	P-188S	12
Tecto	see Thiabendazole			
Tecnazene	see 2,3,5,6-Tetrachloronitrobenzene			
Tedion	see Tetradifon			
Teflubenzuron	83121-18-0	NEAT	P-452N	22
		MeOH	P-452S	22
Tefluthrin	79538-32-2	MeOH	P-568S ‡	52
Telodrin	see Isobenzan			
Temephos	see Abate			
Temik	see Aldicarb			
Temus	see Bromadiolone			
Tenoran	see Chloroxuron			
TEPP	107-49-3	NEAT	P-207N	12
Terbacil	5902-51-2	NEAT	P-096N	12
		MeOH	P-096S	12
Terbufos	13071-79-9	NEAT	P-208N	12
		MeOH	P-208S	12
Terbufos sulfone	56070-16-7	MeOH	P-729S	42
Terbufos sulfoxide	10548-10-4	NEAT	P-730N	42
		MeOH	P-730S	42
Terbumeton	33693-04-8	NEAT	P-504N	22
		MeOH	P-504S	22
Terbuthylazine	5915-41-3	NEAT	P-169N	32
		MeOH	P-169S	32
Terbuthylazine desethyl	30125-63-4	NEAT	P-613N	22
		MeOH	P-613S	22

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Terbutol	1918-11-2	NEAT	P-464N	$ 12
		MeOH	P-464S	12
Terbutryn	see Prebane			
Terpene polychlorinates	see Strobane			
Terraclor	see Pentachloronitrobenzene			
Terracur P	see Dasanit			
Terrazole	2593-15-9	NEAT	P-190N	12
		MeOH	P-190S	12
Terre-Sytam	see Dimefox			
Tersan	see Thiram			
Tersan SP	see Chloroneb			
2,3,5,6-Tetrachloronitrobenzene	117-18-0	NEAT	P-467N	12
		MeOH	P-467S	12
Tetrachlorvinphos	961-11-5	NEAT	P-125N	12
		MeOH	P-125S	12
Tetraconazole	112281-77-3	NEAT	P-721N	62
		MeOH	P-721S	62
Tetradifon	116-29-0	NEAT	P-261N	12
		MeOH	P-261S	12
cis-d_4-Tetrahydrophthalimide	1469-48-3	MeOH	P-116S	22
1,2,3,6-Tetrahydrophthalimide	85-40-5	NEAT	P-621N	22
		MeOH	P-621S	22
Tetramethrin	7696-12-0	NEAT	P-406N	22
		MeOH	P-406S	22
Tetrasul	2227-13-6	NEAT	P-552N	22
		MeOH	P-552S	22
Tetron	see TEPP			
Thiabendazole	148-79-8	NEAT	P-068N	12
		MeOH	P-068S	12
Thiacloprid	111988-49-9	NEAT	P-838N	42
		AcCN	P-838S-CN	42
Thiamethoxam	153719-23-4	NEAT	P-866N	42
		AcCN	P-866S-CN	42
Thidiazuron	51707-55-2	NEAT	P-369N	12
		MeOH	P-369S	12
Thifensulfuron methyl	79277-27-3	NEAT	P-468N	22
		MeOH	P-468S	22
Thimet	see Phorate			
Thiobencarb	28249-77-6	NEAT	P-180N	12
		MeOH	P-180S	12
Thiocyclam hydrogen oxalate	31895-22-4	MeOH	P-688S	32
Thiodan I	see Endosulfan I			
Thiodan II	see Endosulfan II			
Thiodicarb	59669-26-0	NEAT	P-477N	32
		MeOH	P-477S	32
4,4'-Thiodiphenol	2664-63-3	NEAT	P-117N	12
		MeOH	P-117S	12
Thiofanox	39196-18-4	NEAT	P-266N	22
		MeOH	P-266S	22
Thiofanox sulfone		AcCN	P-839S-CN-0.1X	22
Thiofanox sulfoxide	39184-27-5	NEAT	P-702N	32
		MeOH	P-702S	32
Thiometon	640-15-3	NEAT	P-486N	32
		MeOH	P-486S	32
Thionazin	297-97-2	MeOH	P-171S	42
Thiophanate Δ	23564-06-9	NEAT	P-321N	12
		MeOH	P-321S	12
		AcCN	P-321S-CN	12
Thiophanate-methyl	23564-05-8	NEAT	P-349N	12
		MeOH	P-349S	12
Thiophos	see Parathion			
Thiram	137-26-8	NEAT	P-118N	12
		MeOH	P-118S	12
Tiguvon	see Fenthion			
Tillam	1114-71-2	NEAT	P-105N	12
		MeOH	P-105S	12
Tilt	60207-90-1	NEAT	P-280N	42
		MeOH	P-280S	42
Toamdorane	see 4-CPA			
Tobaz	see Thiabendazole			
Tokuthion	34643-46-4	NEAT	P-126N	32
		MeOH	P-126S	32
Tolban	see Profluralin			

Δ Pesticides containing a carboxyl group will autoesterify in MeOH. The pesticides most likely to have this occur are marked with an Δ. These standards are intended for use as a post-esterification standard for GC analysis. For other types of analysis (ex. HPLC) we suggest a non-hydroxylic solvent such as Acetonitrile.

‡ To delay premature breakdown of thermally labile products in transit we suggest requesting a "**Cold Pack**"

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Pesticide Standards Neats at 10 mg. Solutions at 100 µg/mL in 1 mL, except as noted.

Compound	Synonym / CAS No.	Matrix	Cat. No.	Price
Tolclofos-methyl	57018-04-9	NEAT	P-557N	$ 22
		MeOH	P-557S	22
Tolyfluanide	731-27-1	NEAT	P-553N	22
		MeOH	P-553S	22
Torak	see Dialifos			
Tordon	see Picloram			
Toxaphene	8001-35-2	NEAT	P-093N	12
		MeOH	P-093S	12
2,4,5-TP	see Silvex			
2,4,5-TP methyl ester	see Silvex methyl ester			
Tralkoxydim	87820-88-0	NEAT	P-405N	12
		MeOH	P-405S	12
Tralomethrin	66841-25-6	NEAT	P-478N	42
		MeOH	P-478S	42
Transfluthrin	118712-89-3	NEAT	P-743N	32
		MeOH	P-743S	32
Treflan	see Trifluralin			
Triadimefon	43121-43-3	NEAT	P-069N	12
		MeOH	P-069S	12
Triadimenol	55219-65-3	NEAT	P-361N	12
		MeOH	P-361S	12
Triallate	2303-17-5	NEAT	P-268N	12
		MeOH	P-268S	12
Triasulfuron	82097-50-5	NEAT	P-592N	62
		MeOH	P-592S	62
1,2,4-Triazole	288-88-0	NEAT	P-627N	22
		MeOH	P-627S	22
Triazophos	24017-47-8	NEAT	P-334N	12
		MeOH	P-334S	12
Tribenuron-methyl	101200-48-0	NEAT	P-666N	32
		MeOH	P-666S	32
Tribufos	see DEF			
Tributylphosphorotrithioite	see Merphos			
bis(Tributyltin)oxide	56-35-9	NEAT	P-455N	12
		MeOH	P-455S	12
Trichlorfon	52-68-6	NEAT	P-044N	12
		MeOH	P-044S	12
Trichloroacetic acid	76-03-9	NEAT	P-459N	12
		MeOH	P-459S	12
		AcCN	P-459S-CN	12
2,3,5-Trichlorobenzoic acid	50-73-7	NEAT	P-508N	12
		MeOH	P-508S	12
Trichloronate	327-98-0	NEAT	P-127N	22
		MeOH	P-127S	22
3,5,6-Trichloro-2-pyridinol	6515-38-4	NEAT	P-626N	52
		MeOH	P-626S	52
Trichloropyriphos	see Dursban			
Triclopyr Δ	55335-06-3	NEAT	P-289N	12
		MeOH	P-289S	12
		AcCN	P-289S-CN	12
Triclopyr-2-butoxy ethyl ester	64700-56-7	NEAT	P-703N	22
		AcCN	P-703S-CN	22
Triclopyr methyl ester		MeOH	P-291S	22
Tricresyl phosphate	1330-78-5	NEAT	P-209N	12
		MeOH	P-209S	12
Tricyclazole	41814-78-2	NEAT	P-090N	22
		MeOH	P-090S	22
Tridemorph	24602-86-6	NEAT	P-307N	32
		MeOH	P-307S	32
Trietazine	1912-26-1	NEAT	P-492N	42
		MeOH	P-492S	42
Triethylphosphate	78-40-0	NEAT	P-335N	12
		MeOH	P-335S	12
o,o,o-Triethylphosphorothioate	126-68-1	NEAT	P-172N	12
		MeOH	P-172S	12
Trifene	see Fenatrol			
Trifenmorph	1420-06-0	NEAT	P-300N	22
		MeOH	P-300S	22
Trifloxystrobin	141517-21-7	NEAT	P-867N	42
		AcCN	P-867S-CN	42
Triflumizole	68694-11-1	AcCN	P-479S-CN	42
Triflumuron	64628-44-0	NEAT	P-689N	$ 22
		MeOH	P-689S	22
Trifluralin	1582-09-8	NEAT	P-197N	12
		MeOH	P-197S	12
Triflusulfuron-methyl	126535-15-7	NEAT	P-840N	22
		AcCN	P-840S-CN	22
Triforine	26644-46-2	NEAT	P-308N	32
		MeOH	P-308S	32
2,3,5-Triiodobenzoic acid Δ	88-82-4	NEAT	P-507N	12
		MeOH	P-507S	12
		AcCN	P-507S-CN	12
2,3,5-Trimethacarb	2655-15-4	NEAT	P-515N	52
		MeOH	P-515S	52
3,4,5-Trimethacarb	2686-99-9	NEAT	P-516N	52
		MeOH	P-516S	52
Trimethyl phosphate	512-56-1	NEAT	P-210N	12
		MeOH	P-210S	12
Trimidal	63284-71-9	NEAT	P-422N	12
		MeOH	P-422S	12
Triphenyl phosphate	115-86-6	NEAT	P-192N	12
		MeOH	P-192S	12
Triphenyltin chloride	639-58-7	NEAT	P-526N	12
		MeOH	P-526S	12
Trithion	see Carbophenothion			
Triticonazole	131983-72-7	Isooctane	P-868S-TP-0.1X	22
Trucidor	see Vamidithion			
Tugon	see Trichlorfon			
Tupersan	see Siduron			
Unden	see Baygon			
Urab	see Fenuron-TCA			
Urox	see Monuron TCA			
Ustilan	see Ethidimuron			
Vacor	53558-25-1	NEAT	P-240N	12
		MeOH	P-240S	12
Vamidithion	2275-23-2	NEAT	P-350N	62
		MeOH	P-350S	62
Vamidoate	see Vamidithion			
Vancide 89	see Captan			
Vandyke 264	see MGK 264			
Vanicide-20S		NEAT	P-073N	12
		MeOH	P-073S	12
Vapona	see Dichlorvos			
Vapotone	see TEPP			
Vegadex	see Sulfallate			
Velpar	see Hexazinone			
Vernam	see Vernolate			
Vernolate	1929-77-7	NEAT	P-111N	12
		MeOH	P-111S	12
Vinclozolin	50471-44-8	NEAT	P-122N	12
		MeOH	P-122S	12
Warbex	see Famphur			
Warfarin	81-81-2	NEAT	P-076N	12
		MeOH	P-076S	12
Waylay	see Napropamide			
Weedol	see Paraquat CL			
Weedone	see 2,4,5-T acid			
Zectran	see Mexacarbate			
Zerlate	see Ziram			
Zinc Phosphide	1314-84-7	NEAT	P-527N	12
Zineb	12122-67-7	NEAT	P-098N	12
Zinophos	see Thionazin			
Ziram	137-30-4	NEAT	P-324N	12
		MeOH	P-324S	12
Zolone	see Phosalone			

Same Low Price in Neat (10 mg) or Solution (100 µg/mL) form

Most Pesticides are available in 1000 µg/mL (add -10X). Call or visit website for pricing.

Triazines and Metabolites

Solutions at 100 µg/mL in MeOH, except as noted

Compound	CAS No.	Neat Cat. No.	Price / 10 mg	Solution Cat. No.	Price / 1 mL
2,4-bis(Ethylamino)-6-diethylamino-s-triazine		P-536N	$ 22	P-536S-MC	$ 22
2-Chloro-4-ethylamino-6-propylamino-s-triazine		P-537N	22	P-537S-MC	22
2,4-Dichloro-6-ethylamino-s-triazine		P-538N	52	P-538S-MC	52
2-Chloro-4-ethylamino-6-methylethylamino-s-triazine		P-539N	22	P-539S-MC	22
2-Chloro-4-methylamino-6-sec-butylamino-s-triazine		P-540N	22	P-540S-MC	22
2-Chloro-4-methylamino-6-diethylamino-s-triazine		P-541N	22	P-541S-MC	22
2,3-Diuron [3(2,3-Dichlorophenyl)]-1,1-dimethylurea	10290-37-6	P-632N	22	P-632S	22
Atrazine-desethyl-2-hydroxy(4-Amino-2-hydroxy-6-isopropylamino-s-triazine)		----------	----	P-544S-MC	52
Desethyl atrazine	6190-65-4	P-343N	22	P-343S	22
Atrazine-desisopropyl	1007-28-9	P-345N	22	P-345S	22
Atrazine-desisopropyl-2-hydroxy		P-344N	22	P-344S-MC	22
Atrazine	1912-24-9	P-005N	12	P-005S	12
Ametryn	834-12-8	P-003N	12	P-003S	12
Cyanazine	21725-46-2	P-175N	12	P-175S	12
Gesatamine	1610-17-9	P-189N	22	P-189S	22
2-Hydroxyatrazine	2163-68-0	P-326N	22	P-326S-MC	52
Imazethapyr	81335-77-5	----------	----	P-285S	22
2-Isopropylamino-4,6-dichloro-S-triazine		P-635N	22	P-635S-A	22
Lethron 2-[2-(2-Butoxyethyl)ethyl]ethane thiocyanate		----------	----	P-634S	22
2-Monuron [3(2-Chlorophenyl)]-1,1-dimethylurea		P-633N	22	P-633S	22
Prometryne	7287-19-6	P-078N	12	P-078S	12
Propazine	139-40-2	P-079N	12	P-079S	12
Prometon	1610-18-0	P-077N	12	P-077S	12
Sebuthylazine	7286-69-3	P-432N	22	P-432S	22
Simazine	122-34-9	P-085N	12	P-085S	12
Terbuthylazine	5915-41-3	P-169N	32	P-169S	32

Solutions:
-MC (in Methyl cellosolve)
-A (in Acetone)

Custom Synthesis

If other **Triazine Compounds** are required, contact our Technical Service Department

Pesticide Kits and Mixtures

Neat Pesticide Kit

Z-004-SET — $ 250 / **set of 20 x 10 mg**

Aldrin (01)	Dieldrin (11)
α-BHC (02)	Heptachlor (12)
β-BHC (03)	Heptachlor epoxide (13)
δ-BHC (04)	Lindane *(γ-BHC)* (14)
o,p'-DDD (05)	Malathion (15)
p,p'-DDD (06)	Methoxychlor (16)
o,p'-DDE (07)	Mirex (17)
p,p'-DDE (08)	Parathion (18)
o,p'-DDT (09)	Carbaryl (19)
p,p'-DDT (10)	Toxaphene (20)

Pesticide (Solid Waste) Kit

Z-017-SET — $ 45 / **set of 6 x 10 mg**

2,4-Dichlorophenoxyacetic acid *(2,4-D acid)*	Methoxychlor
Endrin	Silvex
Lindane	Toxaphene

Pesticide Mixture for Evaluating GC Columns

M-100 — $ 45 / **1 x 1 mL**

At stated conc. in Isooctane — 13 comps.

Aldrin	(0.050 µg/mL)	*p,p'*-DDT	(0.260 µg/mL)
α-BHC	(0.025 µg/mL)	Dieldrin	(0.120 µg/mL)
β-BHC	(0.100 µg/mL)	Endrin	(0.200 µg/mL)
o,p'-DDD	(0.200 µg/mL)	Heptachlor	(0.025 µg/mL)
p,p'-DDD	(0.190 µg/mL)	Heptachlor epoxide	(0.080 µg/mL)
p,p'-DDE	(0.100 µg/mL)	Lindane *(γ-BHC)*	(0.025 µg/mL)
o,p'-DDT	(0.225 µg/mL)		

Technical Note

Designed for evaluating the ability of a column to separate pesticides and their degradation products.

Pesticides in Solutions (Individual and Kits)

Compound (in Isooctane)	Conc.	Cat. No.	Price
Aldrin	200 ng/µL	P-002S-1	$ 10
	2 ng/µL	P-002S-2	10
Chlordane, tech	200 ng/µL	P-017S-1	10
	2 ng/µL	P-017S-2	10
2,4-D methyl ester	200 ng/µL	P-021S-1	10
p,p'-DDE	200 ng/µL	P-027S-1	10
	2 ng/µL	P-027S-2	10
p,p'-DDT	200 ng/µL	P-029S-1	10
	2 ng/µL	P-029S-2	10
Dieldrin	200 ng/µL	P-037S-1	10
	2 ng/µL	P-037S-2	10
Endrin	200 ng/µL	P-045S-1	10
	2 ng/µL	P-045S-2	10
Heptachlor	200 ng/µL	P-053S-1	10
	2 ng/µL	P-053S-2	10
Lindane	200 ng/µL	P-059S-1	10
	2 ng/µL	P-059S-2	10
Methoxychlor	200 ng/µL	P-064S-1	10
	2 ng/µL	P-064S-2	10
Silvex methyl ester	200 ng/µL	P-115S-1	10
Toxaphene	200 ng/µL	P-093S-1	10

Set of above 21 pesticides (21 x 1 mL) **Z-023-SET** $ 150
At stated concentrations

Technical Note

Convenient concentrations in isooctane for use with different GC detectors. The concentrated solutions are suited for FID & TC detectors. The diluted solutions are suited for EC detectors.

Herbicide Kit and Mixtures

Herbicide Kit

Z-031-SET — $ 150 / **set of 15 x 1 mL**

0.1 mg/mL in MeOH — Individual Standards

Atrazine (01)	Prometryn (09)
Dicamba (02)	Prometone (10)
Benfluralin (03)	Propanil (11)
Bentazon (04) *	Propazine (12)
Dacthal (05)	Simazine (13)
Dichlobenil (06)	Tebuthiuron (14)
Diuron (07)	Trifluralin (15)
Metolachlor (08)	

** in Acetone*

Herbicide Mix #1

M-HERB-1 — $ 30 / **1 x 1 mL**

0.1 mg/mL each in EtOAc — 13 comps.

Atrazine	Oxyfluorfen
Bromacil	Sencor
Cycloate	Sutan
Eptam	Terbacil
Isopropalin	Tillam
Hexazinone	Trifluralin
Molinate	

Herbicide Mix #2

M-HERB-2 — $ 30 / **1 x 1 mL**

0.1 mg/mL each in EtOAc — 9 comps.

Benfluralin	Prowl
Metolachlor	Simazine
Oxadiazon	Tolban
Propachlor	Vernam
Propazine	

Phenylurea Pesticide Mixtures

Phenylurea Pesticide Mixture

PES-PU-001 — $ 45 / **1 x 1 mL**
PES-PU-001-PAK — ***SAVE 20%*** $ 180 / **5 x 1 mL**

200 µg/mL each in AcCN:Acetone — 8 comps.

Diflubenzuron	Propanil
Diuron	Siduron
Fluometuron	Tebuthiuron
Linuron	Thidiazuron

Phenylurea Surrogate Mixture

PES-PU-SS — $ 32 / **1 x 1 mL**
PES-PU-SS-PAK — ***SAVE 20%*** $ 128 / **5 x 1 mL**

500 µg/mL each in MeOH:AcCN — 2 comps.

Carbazole	Monuron

Synthesis Capabilities

Custom Synthesis

The AccuStandard Synthesis Department employs PhD Organic Chemists with many years of academic and industrial experience. This experienced team has developed hundreds of pure chemical compounds for companies and governmental agencies around the world. AccuStandard specializes in synthesizing chemicals of high purity to be used as reference standards, for milligram to kilogram batches. AccuStandard is the only company to synthesize all 209 individual PCB congeners as well as over 180 individual PBDE congeners.

Synthesis Experience

- PCBs (all 209 congeners), PBBs, PCB Metabolites
- Explosives - TNT, RDX, HMX, TATP, HND, HMTD
- PBDEs (over 180 congeners)
- PBDE Metabolites
- FBDEs
- Halo-Dibenzodioxins
- Halo-Dibenzofurans
- PAHs, Nitro-PAHs
- Substituted Diphenylethers
- Pesticides and Metabolites
- Forensics
- Wear Metals
- Pharmaceuticals
  and
  Other Rare Chemicals

Lab Resources

- Milligram to Kilogram Scale Glassware
- Equipment to work under N_2/Ar
- Liquid Solid Phase Chrom. (mg to 2 kg)
- Flash Chrom. (mg to 2 kg) including Horizon High Performance Flash Chrom. System
- Microwave Synthesis System
- Preparative TLC
- Buchi Rotary Evaporators
- Vacuum Drying Oven
- Parr Pressure Reactor (high pressure reaction, hydrogenation)
- Distillation Equipment - High Vacuum Distillation, Molecular Distillation (Kugelrohr), and Spinning Band Columns

Analytical Resources

- ^{1}H-NMR spectrometer - 400 MHZ
- GC/MS, GC/FID, GC/ECD, GC/NPD
- HPLC
- ICP
- ICP/MS
- Low Sulfur Analyzers (Antek, X-Ray Optical)
- LC/MS/MS
- Hg Analyzer

Custom Synthesized Rare Chemicals

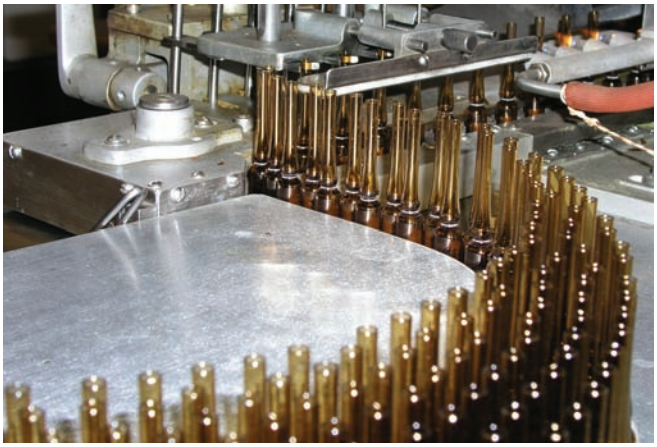
Neat Compounds, except as noted	CAS No.	Cat. No.	Price / Unit
2-Amino-7,8-dibromo-dibenzo-p-dioxin	Solution 0.1 mg/mL in Toluene	X-011	$ 50 / 1 mL
n,n'-bis(4-isopropylphenyl)urea	113260-74-5	X-012	20 / 10 mg
4-Chlorophenyl methyl sulfoxide	934-73-6	X-004	20 / 10 mg
4,6-Dinitro-*o*-toluidine	7477-94-3	X-002	20 / 10 mg
1,4-Dioxino(2,3-b:5,6-b')dipyridine (Dipyridine analog of dibenzo-*p*-dioxin)	262-16-8	X-005	100 / 5 mg
9-Methylacridine	611-64-3	X-008	30 / 10 mg
2,3,7,8-Tetrabromodibenzo-*p*-dioxin	50585-41-6	X-001	150 / 1 mg
3,3',4,4'-Tetrachloroazobenzene	14047-09-7	X-009	30 / 10 mg
3,3',4,4'-Tetrachloroazoxybenzene	21232-47-3	X-010	30 / 10 mg
N,N'-bis(2,4,6-Trichlorophenyl)urea	20632-35-3	X-003	20 / 10 mg

Custom Packaging & Bulk Quantity Requirements

AccuStandard has the resources and equipment to meet your custom packaging requirements.

- Automated ampule filling & sealing 0.2 mL up to 20 mL and ampule sizes from 1 mL to 20 mL
- Quantities from 500 to over 500,000 ampules
- Homogeneity testing
- Amber ampules for added product stability
- Private labeling and packaging (OEM)

We can reduce your costs using the Cozzoli Auto Filling/Sealing Machine to package just the right size product for your application. OEM Standards - Privately labeled standards manufactured and tested to your specifications. Cold and under-Nitrogen sealing available.



Volatile Organic Compounds (VOCs)

Volatile Organic Chemicals (VOCs) are generally classified as compounds that, under normal ambient conditions, can vaporize. This group includes aldehydes, ketones, as well as some light aromatic and straight chain hydrocarbons.

VOCs can enter the environment through many different routes. Many solvents, cleaners, paint thinners, dry cleaning solvents, and degreasers used both in industry and homes contain these compounds. Although not usually water soluble, if these compounds are released to the environment, they can still be found as contaminants in air, soil, as well as waste and drinking water.

Neats are as stated, Solutions are 1 mL

EPA Volatile Methods:

502	Volatiles (PID/ELCD), Volatile Surrogates & ISTDs	**602**	Purgeable Aromatics (PID)	**8020**	Aromatic Volatiles (PID)
503	VOC - Aromatics & Alkenes (PID/ELCD)	**603**	Acrolein & Acrylonitrile (FID)	**8021**	Halogenated Volatiles PID/ELCD
504	EDB & DBCP (ECD)	**624**	Purgeable Volatiles (GC/MS)	**8030**	Acrolein & Acrylonitrile (GC/FID)
524	Volatiles (GC/MS)	**1666**	PMI Volatiles (GC/MS)	**8031**	Acrylonitrile (GC/NPD)
551	Chlorinated Solvents, Trihalomethanes	**8010**	Halogenated Volatiles (ELCD)	**8032**	Acrylamide (GC/ECD)
556	Carbonyl Compounds (GC/ECD)	**8011**	EDB & DBCP (GC/MS)	**8033**	Acetonitrile (NPD)
601	Purgeable Halocarbons (ELCD)	**8015B**	Non Halogenated Organics (GC/FID)		

VOCs

Compound	Conc.	Matrix	Cat. No.	Price
Acetonitrile 75-05-8	100 µg/mL	MeOH	APP-9-005	$ 12
	10 mg/mL	Water	M-8015B/5031-02	25
	1 mg/mL	Water	M-8033	12
	1 mg/mL	MeOH	APP-9-005-10X	12
	5 mg/mL	MeOH	APP-9-005-50X	25
	5 mg/mL	IPA	AS-E0473	32
Acrylamide 79-06-1	1 mg/mL	MeOH	M-8032	10
Acrylonitrile 107-13-1	100 µg/mL	MeOH	APP-9-008	12
	10 mg/mL	Water	M-8015B/5031-04	25
	1 mg/mL	MeOH	APP-9-008-10X	20
	10 mg/mL	MeOH	AS-E0003	32
Allyl chloride 107-05-1	100 µg/mL	MeOH	APP-9-010	12
	2 mg/mL	MeOH	APP-9-010-20X	20
	1 mg/mL	MeOH	AS-E0476	32
n-Amylbenzene 538-68-1	100 mg	NEAT	V-001	12
Azobenzene 103-33-3	2 mg/mL	CH_2Cl_2	Z-014B-1	20
Benzene 71-43-2	1 gram		M-502-01N	20
	100 µg/mL	MeOH	APP-9-015	12
	1 mg/mL	MeOH	AS-E0004	32
	0.2 mg/mL	MeOH	M-502-01	10
	2 mg/mL	MeOH	M-502-01-10X	14
Benzene-d_6 1076-43-3	0.2 mg/mL	MeOH	M-624-SS-01	20
	2 mg/mL	MeOH	M-624-SS-01-10X	25
Benzyl chloride 100-44-7	0.2 mg/mL	MeOH	M-8010-01	10
	5 mg/mL	AcCN	AS-E0169	32
bis(2-Chloroethoxy)methane 111-91-1	100 µg/mL	CH_2Cl_2	APP-9-026	20
	1 mg/mL	MeOH	APP-9-026-M-10X	20
	5 mg/mL	MeOH	AS-E0041	32
2-Bromo-1-chloropropane 3017-95-6	20 mg/mL	MeOH	M-001R-3	10
	0.2 mg/mL	MeOH	M-624-SS-04	10
1-Bromo-2-nitrobenzene 577-19-5	1 mg/mL	Acetone	M-8081-IS-DC	10
Bromobenzene 108-86-1	1 gram	NEAT	M-502-02N	20
	5 mg/mL	MeOH	AS-E0406	32
	0.2 mg/mL	MeOH	M-502-02	10
	2 mg/mL	MeOH	M-502-02-10X	14
Bromochloroacetonitrile 83463-62-1	1 mg/mL	Acetone	AS-E1186	32
	5 mg/mL	Acetone	M-551B-1	15
2-Bromochlorobenzene 694-80-4	0.2 mg/mL	MeOH	M-624-SS-12	10
4-Bromochlorobenzene 106-39-8	2 mg/mL	MeOH	M-8020-SS-1	20
Bromochloromethane 74-97-5	100 mg	NEAT	K-007N	12
	1 gram	NEAT	M-502-03N	20
	10 mg/mL	MeOH	AS-E0136	32
	0.2 mg/mL	MeOH	M-502-03	10
	2 mg/mL	MeOH	M-502-03-10X	14
p-Bromofluorobenzene 460-00-4	25 µg/mL	MeOH	CLP-004	10
	250 µg/mL	MeOH	CLP-004-10X	10
	0.15 mg/mL	MeOH	AS-E0233	32
	25 mg/mL	MeOH	CLP-004-1000X	20
	2.5 mg/mL	MeOH	CLP-004-100X	10
	2 mg/mL	MeOH	CLP-004-80X	10
	0.2 mg/mL	MeOH	M-624-SS-03	10
	2 mg/mL	MeOH	M-624-SS-03-10X	10
	100 µg/mL	Acetone	M-551.1-IS	10
	10 mg/mL	Acetone	M-551.1-IS-100X	20

Compound	Conc.	Matrix	Cat. No.	Price
Bromoform 75-25-2	100 mg	NEAT	M-502-05N	$ 20
	0.2 mg/mL	MeOH	M-502-05	10
	2 mg/mL	MeOH	M-502-05-10X	14
	5 mg/mL	MeOH	AS-E0212	32
Bromomethane 74-83-9	100 µg/mL	MeOH	APP-9-032	12
	0.2 mg/mL	MeOH	M-502-06	10
	2 mg/mL	MeOH	M-502-06-10X	14
Bromotrichloromethane 75-62-7	100 mg	NEAT	K-009N	12
1,3-Butadiene 106-99-0	0.2 mg/mL	MeOH	S-406A	10
	2 mg/mL	MeOH	S-406A-10X	20
n-Butylbenzene 104-51-8	100 mg	NEAT	V-002	12
	1 gram	NEAT	M-502-07N	20
n-Butylbenzene 104-51-8	5 mg/mL	MeOH	AS-E1105	32
	0.2 mg/mL	MeOH	M-502-07	10
	2 mg/mL	MeOH	M-502-07-10X	14
sec-Butylbenzene 135-98-8	100 mg	NEAT	V-004	12
	1 gram	NEAT	M-502-08N	20
	5 mg/mL	MeOH	AS-E1104	32
	0.2 mg/mL	MeOH	M-502-08	10
	2 mg/mL	MeOH	M-502-08-10X	14
tert-Butylbenzene 98-06-6	1 gram	NEAT	M-502-09N	20
	5 mg/mL	MeOH	AS-E1106	32
	0.2 mg/mL	MeOH	M-502-09	10
	2 mg/mL	MeOH	M-502-09-10X	14
Carbon disulfide 75-15-0	100 µg/mL	MeOH	APP-9-035	12
	2 mg/mL	MeOH	APP-9-035-20X	20
	5 mg/mL	MeOH	AS-E0363	32
Carbon tetrabromide 558-13-4	100 mg	NEAT	K-006N	12
Carbon tetrachloride 56-23-5	100 mg	NEAT	K-003N	12
	1 gram	NEAT	M-502-10N	20
	100 µg/mL	MeOH	APP-9-036	12
	5 mg/mL	MeOH	AS-E0360	32
	0.2 mg/mL	MeOH	M-502-10	10
	2 mg/mL	MeOH	M-502-10-10X	14
Chloral hydrate 302-17-0	1 mg/mL	MeOH	M-E-1179-M	40
	1 mg/mL	Acetone	AS-E1179	32
	5 mg/mL	Acetone	M-551B-2	15
1-Chloro-2-fluorobenzene 348-51-6	2 mg/mL	MeOH	S-163	10
1-Chloro-3-nitrobenzene 121-73-3	1 mg/mL	Acetone	M-8091-SS-100X	10
1-Chloro-4-fluorobenzene 352-33-0	0.2 mg/mL	MeOH	M-624-SS-13	10
Chlorobenzene 108-90-7	100 mg	NEAT	A-001	12
	1 gram	NEAT	M-502-11N	20
	100 µg/mL	MeOH	APP-9-039	12
	1 mg/mL	MeOH	AS-E0006	32
	0.2 mg/mL	MeOH	M-502-11	10
	2 mg/mL	MeOH	M-502-11-10X	14
Chlorobenzene-d_5 3114-55-4	5 mg/mL	MeOH	CLP-PI-3-5X	15
Chloroethane 75-00-3	100 µg/mL	MeOH	APP-9-042	12
	1 mg/mL	MeOH	AS-E0015	40
	0.2 mg/mL	MeOH	M-502-12	10
	2 mg/mL	MeOH	M-502-12-10X	14
Chloroform 67-66-3	1 gram	NEAT	M-502-13N	20
	0.2 mg/mL	MeOH	M-502-13	10
	2 mg/mL	MeOH	M-502-13-10X	14

Volatile Organic Compounds (VOCs)

VOCs

Compound	Conc.	Matrix	Cat. No.	Price
1-Chlorohexane 544-10-5	0.2 mg/mL	MeOH	M-8010R-1-04	$ 15
	2 mg/mL	MeOH	M-8010R-1-04-10X	20
Chloromethane 74-87-3	100 µg/mL	MeOH	APP-9-044	12
	0.2 mg/mL	MeOH	M-502-14	10
	2 mg/mL	MeOH	M-502-14-10X	14
Chloroprene	100 µg/mL	MeOH	APP-9-048-R1	12
	200 µg/mL	MeOH	APP-9-048-R1-2X	10
	1 mg/mL	MeOH	APP-9-048-R1-10X	20
	2.0 mg/mL	MeOH	APP-9-048-R1-20X	30
3-Chloropropionitrile 542-76-7	1 mg/mL	MeOH	AS-E0375	32
2-Chlorotoluene 95-49-8	1 gram	NEAT	M-502-15N	20
	0.2 mg/mL	MeOH	M-502-15	10
	2 mg/mL	MeOH	M-502-15-10X	14
	5 mg/mL	MeOH	AS-E0150	32
3-Chlorotoluene 108-41-8	5 mg/mL	MeOH	AS-E0151	32
4-Chlorotoluene 106-43-4	1 gram	NEAT	M-502-16N	20
	0.2 mg/mL	MeOH	M-502-16	10
	2 mg/mL	MeOH	M-502-16-10X	14
Cyclohexane 110-82-7	1 gram	NEAT	TK-102-08N	10
	2 mg/mL	MeOH	TK-102-08S-10X	20
Decylbenzene 104-72-3	100 mg	NEAT	V-005	12
Diallate 2303-16-4	1 mg/mL	AcCN	AS-E0623	42
1,2-Dibromochloromethane 124-48-1	100 mg	NEAT	M-502-17N	20
	0.2 mg/mL	MeOH	M-502-17	10
	2 mg/mL	MeOH	M-502-17-10X	14
1,2-Dibromo-3-chloropropane 96-12-8	1 gram	NEAT	M-502-18N	20
	0.2 mg/mL	MeOH	M-502-18	10
	2 mg/mL	MeOH	M-502-18-10X	14
	5 mg/mL	MeOH	AS-E0993	32
Dibromoacetonitrile 3252-43-5	5 mg/mL	Acetone	M-551B-4	15
1,2-Dibromoethane 106-93-4	1 gram	NEAT	M-502-19N	20
	100 µg/mL	MeOH	APP-9-214	12
	0.2 mg/mL	MeOH	M-502-19	10
	2 mg/mL	MeOH	M-502-19-10X	14
	5 mg/mL	MeOH	AS-E0171	32
Dibromofluoromethane 1868-53-7	0.2 mg/mL	MeOH	M-8260-SS-2	20
	2 mg/mL	MeOH	M-8260-SS-2-10X	25
Dibromomethane 74-95-3	100 mg	NEAT	K-004N	12
	1 gram	NEAT	M-502-20N	20
	100 µg/mL	MeOH	APP-9-062	12
	0.2 mg/mL	MeOH	M-502-20	10
	2 mg/mL	MeOH	M-502-20-10X	14
	5 mg/mL	MeOH	AS-E1097	32
a,a-Dibromo-m-xylene 626-15-3	1 mg/mL	Acetone	M-8081-IS-X	10
1,2-Dibromopropane 78-75-1	5 mg/mL	MeOH	M-552-IS	15
	10 mg/mL	Hexane	M-556-IS	30
1,2-Dibromo-1,1,2,2-tetrafluoroethane 124-73-2	1000 µg/mL	MeOH	AS-E0463	32
2,3-Dichloro-1-propene 78-88-6	4.2 mg/mL	MeOH	AS-E0170	32
trans-1,4-Dichloro-2-butene 110-57-6	100 µg/mL	MeOH	APP-9-068	12
	2 mg/mL	MeOH	APP-9-068-20X	20
Dichloroacetonitrile 3018-12-0	5 mg/mL	Acetone	M-551B-5	15
1,2-Dichlorobenzene 95-50-1	100 mg	NEAT	A-002	12
	1 gram	NEAT	M-502-21N	20
	100 µg/mL	MeOH	APP-9-064	12
	0.2 mg/mL	MeOH	M-502-21	10
	2 mg/mL	MeOH	M-502-21-10X	14
	5 mg/mL	MeOH	AS-E0023	32
	2.0 mg/mL	Hexane	M-8120-02	25
1,2-Dichlorobenzene-d_4 2199-69-1	0.15 mg/mL	MeOH	AS-E0776	32
	0.2 mg/mL	MeOH	M-624-SS-11	20
	2 mg/mL	MeOH	M-624-SS-11-10X	20
1,3-Dichlorobenzene 541-73-1	100 mg	NEAT	A-003	12
	1 gram	NEAT	M-502-22N	20
	100 µg/mL	MeOH	APP-9-065	12
	0.2 mg/mL	MeOH	M-502-22	10
	1 mg/mL	MeOH	AS-E0214	32
	2 mg/mL	MeOH	M-502-22-10X	14
	2.0 mg/mL	Hexane	M-8120-03	25

Compound	Conc.	Matrix	Cat. No.	Price
1,4-Dichlorobenzene 106-46-7	100 mg	NEAT	A-004	$ 12
	1 gram	NEAT	M-502-23N	20
	100 µg/mL	MeOH	APP-9-066	12
	0.2 mg/mL	MeOH	M-502-23	10
	2 mg/mL	MeOH	M-502-23-10X	14
	5 mg/mL	MeOH	AS-E0025	32
	0.2 mg/mL	Acetone	M-8151-IS-2	10
	2.0 mg/mL	Hexane	M-8120-04	25
1,4-Dichlorobenzene-d_4 3855-82-1	2 mg/mL	MeOH	Z-014J-3-M-0.5X	20
	4 mg/mL	CH_2Cl_2	Z-014J-3	20
Dichlorobromomethane 75-27-4	100 mg	NEAT	M-502-04N	20
	0.2 mg/mL	MeOH	M-502-04	10
	2 mg/mL	MeOH	M-502-04-10X	14
	5 mg/mL	MeOH	AS-E0046	32
1,4-Dichlorobutane 110-56-5	0.2 mg/mL	MeOH	M-624-SS-05	10
	20 mg/mL	MeOH	M-001R-2	10
1,4-Dichlorobutane-d_8 83547-96-0	0.15 mg/mL	MeOH	AS-E0196	50
Dichlorodifluoromethane 75-71-8	100 µg/mL	MeOH	APP-9-069	12
	5000 µg/mL	MeOH	AS-E0346	40
	0.2 mg/mL	MeOH	M-502-24	10
	2 mg/mL	MeOH	M-502-24-10X	14
1,1-Dichloroethane 75-34-3	1 gram	NEAT	M-502-25N	20
	100 µg/mL	MeOH	APP-9-070	12
	0.2 mg/mL	MeOH	M-502-25	10
	1 mg/mL	MeOH	AS-E0012	32
	2 mg/mL	MeOH	M-502-25-10X	14
1,2-Dichloroethane 107-06-2	1 gram	NEAT	M-502-26N	20
	100 µg/mL	MeOH	APP-9-071	12
	1 mg/mL	MeOH	AS-E0009	32
	0.2 mg/mL	MeOH	M-502-26	10
	2 mg/mL	MeOH	M-502-26-10X	14
1,2-Dichloroethane-d_4 17060-07-0	0.2 mg/mL	MeOH	M-624-SS-06	20
	2.0 mg/mL	MeOH	M-624-SS-06-10X	20
1,1-Dichloroethene 75-35-4	1 gram	NEAT	M-502-27N	20
	100 µg/mL	MeOH	APP-9-072	12
	0.2 mg/mL	MeOH	M-502-27	10
	2 mg/mL	MeOH	M-502-27-10X	14
cis-1,2-Dichloroethene 156-59-2	1 gram	NEAT	M-502-28N	20
	0.2 mg/mL	MeOH	M-502-28	10
	2 mg/mL	MeOH	M-502-28-10X	14
	10 mg/mL	MeOH	AS-E0173	32
trans-1,2-Dichloroethene 156-60-5	1 gram	NEAT	M-502-29N	20
	100 µg/mL	MeOH	APP-9-073	12
	0.2 mg/mL	MeOH	M-502-29	10
	1 mg/mL	MeOH	AS-E0028	32
	2 mg/mL	MeOH	M-502-29-10X	14
Dichlorofluoromethane 75-43-4	0.2 mg/mL	MeOH	M-502-61	10
	2 mg/mL	MeOH	M-502-61-10X	14
Dichloromethane 75-09-2	100 mg	NEAT	K-001N	12
	1 gram	NEAT	M-502-39N	20
	100 µg/mL	MeOH	APP-9-074	12
	0.2 mg/mL	MeOH	M-502-39	10
	2 mg/mL	MeOH	M-502-39-10X	14
1,2-Dichloropropane 78-87-5	1 gram	NEAT	M-502-30N	20
	100 µg/mL	MeOH	APP-9-077	12
	0.2 mg/mL	MeOH	M-502-30	10
	1 mg/mL	MeOH	AS-E0030	32
	2 mg/mL	MeOH	M-502-30-10X	14
1,3-Dichloropropane 142-28-9	1 gram	NEAT	M-502-31N	20
	0.2 mg/mL	MeOH	M-502-31	10
	2 mg/mL	MeOH	M-502-31-10X	14
	5 mg/mL	MeOH	AS-E1109	32
2,2-Dichloropropane 594-20-7	1 gram	NEAT	M-502-32N	30
	0.2 mg/mL	MeOH	M-502-32	10
	2 mg/mL	MeOH	M-502-32-10X	14
	5 mg/mL	MeOH	AS-E1167	32
1,3-Dichloropropene (cis/trans) 542-75-6	1 gram	NEAT	M-502-34N	20
	0.2 mg/mL	MeOH	M-502-34	10
	0.4 mg/mL	MeOH	M-502-34-R	10
	4 mg/mL	MeOH	M-502-34-R-10X	15
1,1-Dichloropropene 563-58-6	0.2 mg/mL	MeOH	M-502-33	10
	2 mg/mL	MeOH	M-502-33-10X	14
cis-1,3-Dichloropropene 10061-01-5	100 µg/mL	MeOH	APP-9-078	12
trans-1,3-Dichloropropene 10061-02-6	100 µg/mL	MeOH	APP-9-079	12

VOCs

Compound	Conc.	Matrix	Cat. No.	Price
1,3-Dichloropropylene(cis & trans)	5 mg/mL	MeOH	AS-E0218	$ 32
1,1-Dichloro-1-propylene 563-58-6	5 mg/mL	MeOH	AS-E1166	32
2,4-Dichlorotoluene 95-73-8	5 mg/mL	MeOH	AS-E0149	32
1,2:3,4-Diepoxybutane 1464-53-5	1 mg/mL	AcCN	AS-E0577	32
1,4-Diethylbenzene 105-05-5	100 mg	NEAT	V-008	12
	100 µg/mL	Isooctane	M-GRA-ST	10
m-Diethylbenzene 141-93-5	100 mg	NEAT	V-007	12
o-Diethylbenzene 135-01-3	100 mg	NEAT	V-006	12
1,4-Difluorobenzene 540-36-3	0.2 mg/mL	MeOH	M-624-SS-07	10
	2 mg/mL	MeOH	M-624-SS-07-10X	20
Dimethyl sulfate 77-78-1	1 mg/mL	AcCN	AS-E0389	32
1,3-Dimethyl-2-nitrobenzene 81-20-9	0.2 mg/mL	MtBE	M-507-SS	10
1,3-Dinitrobenzene 99-65-0	100 µg/mL	CH_2Cl_2	APP-9-089	20
	1 mg/mL	CH_2Cl_2	APP-9-089-10X	20
	5 mg/mL	MeOH	AS-E0527	32
2,5-Dinitrotoluene 619-15-8	100 µg/mL	AcCN	M-8095-SS-03	50
3,4-Dinitrotoluene 610-39-9	100 µg/mL	AcCN	M-8095-SS-01	15
Dodecylbenzene 123-01-3	100 mg	NEAT	V-009	12
Epichlorohydrin 106-89-8	5 mg/mL	AcCN	AS-E0258	32
1,2-Epoxybutane 106-88-7	5 mg/mL	AcCN	AS-E0286	32
1,2-Epoxypropane(Propylene oxide) 75-56-9	1 mg/mL	AcCN	AS-E0308	32
Ethyl acetate 141-78-6	10 mg/mL	Water	M-8015B/5031-12	25
Ethyl methacrylate 97-63-2	100 µg/mL	MeOH	APP-9-105	12
	1 mg/mL	MeOH	AS-E0687	32
Ethyl methanesulfonate 62-50-0	100 µg/mL	CH_2Cl_2	APP-9-106	20
	1 mg/mL	AcCN	AS-E0456	32
Ethylbenzene 100-41-4	1 gram	NEAT	M-502-35N	20
	100 µg/mL	MeOH	APP-9-104	12
	0.2 mg/mL	MeOH	M-502-35	10
	2 mg/mL	MeOH	M-502-35-10X	14
	10 mg/mL	MeOH	AS-E0036	32
Ethylbenzene-d_{10} 25837-05-2	0.2 mg/mL	MeOH	M-624-SS-08	20
Ethylene glycol 107-21-1	2 mg/mL	Water	D-4291-93	20
Ethylene oxide 75-21-8	0.2 mg/mL	Isooctane	S-354-2	10
	5 mg/mL	Water	M-8015B/5031-14-R1	20
m-Ethyltoluene 620-14-4	100 mg	NEAT	V-031	12
o-Ethyltoluene 611-14-3	100 mg	NEAT	V-010	12
p-Ethyltoluene 622-96-8	100 mg	NEAT	V-011	12
2-Fluoroacetamide 640-19-7	5 mg/mL	AcCN	AS-E0299	32
Fluorobenzene 462-06-6	0.15 mg/mL	MeOH	AS-E0232	32
	0.2 mg/mL	MeOH	M-624-SS-09	10
	2 mg/mL	MeOH	M-524-IS-2	12
	20 mg/mL	MeOH	M-524-IS-2-10X	20
Fluorotrichloromethane 75-69-4	5 mg/mL	MeOH	AS-E0047	32
Heptadecylbenzene 14752-75-1	100 mg	NEAT	V-014	12
Heptylbenzene 1078-71-3	100 mg	NEAT	V-012	12
Hexachlorobenzene 118-74-1	100 mg	NEAT	A-012	12
	100 µg/mL	MeOH	APP-9-112	12
	1 mg/mL	Acetone	M-8091-IS-20X	17
	2 mg/mL	CH_2Cl_2	APP-9-112-D-20X	20
	2.0 mg/mL	Hexane	M-8120-05	25
Hexachlorobutadiene 87-68-3	1 gram	NEAT	M-502-36N	$ 20
	100 µg/mL	MeOH	APP-9-113	12
	0.2 mg/mL	MeOH	M-502-36	10
	2 mg/mL	MeOH	M-502-36-10X	14
	5 mg/mL	MeOH	AS-E0050	32
	2.0 mg/mL	Hexane	M-8120-06	25
Hexachlorocyclopentadiene 77-47-4	100 µg/mL	MeOH	APP-9-114	12
	1 mg/mL	MeOH	APP-9-114-10X	20
	2.0 mg/mL	Hexane	M-8120-07	25
Hexachloroethane 67-72-1	100 µg/mL	MeOH	APP-9-115	12
	1 mg/mL	MeOH	AS-E0011	32
	2.0 mg/mL	Hexane	M-8120-08	25
Hexachlorophene 70-30-4	100 µg/mL	MeOH	APP-9-116	12
	2 mg/mL	CH_2Cl_2	APP-9-116-D-20X	20
	5 mg/mL	MeOH	AS-E0323	32
Hexachloropropene 1888-71-7	100 µg/mL	MeOH	APP-9-117	12
	1 mg/mL	MeOH	AS-E0364	32
Hexadecylbenzene 1459-09-2	100 mg	NEAT	V-015	12
Hexylbenzene 1077-16-3	100 mg	NEAT	V-013	12
iso-Butylbenzene 538-93-2	100 mg	NEAT	V-003	12
Isopropylbenzene 98-82-8	1 gram	NEAT	M-502-37N	20
	0.2 mg/mL	MeOH	M-502-37	10
	2 mg/mL	MeOH	M-502-37-10X	14
p-Isopropyltoluene (p-Cymene) 99-87-6	1 gram	NEAT	M-502-38N	20
	5 mg/mL	MeOH	AS-E1108	32
	0.2 mg/mL	MeOH	M-502-38	10
	2 mg/mL	MeOH	M-502-38-10X	14
Methacrylonitrile 126-98-7	100 µg/mL	MeOH	APP-9-125	20
	1 mg/mL	MeOH	AS-E0686	32
Methyl 2,3-dibromopropionate 1729-67-5	1 mg/mL	MtBE	M-552.2-SS-ME	10
Methyl 2-bromopropionate 5445-17-0	1 mg/mL	MtBE	M-552.1-SS-ME	10
Methyl bromide 74-83-9	1 mg/mL	AcCN	AS-E0044	40
Methyl chloride 74-87-3	5 mg/mL	MeOH	AS-E0043	40
1-Methyl ethyl benzene 98-82-8	5 mg/mL	MeOH	AS-E0669	32
Methyl iodide 74-88-4	100 µg/mL	MeOH	APP-9-130	12
	2.0 mg/mL	MeOH	APP-9-130-20X	20
Methyl isothiocyanate 556-61-6	25 µg/mL	Acetone	M-1659-RPS	10
Methyl methacrylate 80-62-6	100 µg/mL	MeOH	APP-9-131	12
	1 mg/mL	MeOH	AS-E0439	32
	2 mg/mL	MeOH	APP-9-131-20X	20
Methyl methanesulfonate 66-27-3	100 µg/mL	CH_2Cl_2	APP-9-132	20
	1 mg/mL	AcCN	AS-E0431	32
Methylene chloride 75-09-2	1 mg/mL	MeOH	AS-E0042	32
Methylene chloride-d_2 1665-00-5	2 mg/mL	MeOH	M-502-IS-2-3	20
Naphthalene 91-20-3	1 gram	NEAT	M-502-40N	20
Nitrobenzene 98-95-3	100 µg/mL	MeOH	APP-9-143	12
	1 mg/mL	MeOH	APP-9-143-10X	20
	5 mg/mL	MeOH	AS-E0054	32
Nitrobenzene-d_5 4165-60-0	0.2 mg/mL	CH_2Cl_2	M-625-13	20
	2.0 mg/mL	CH_2Cl_2	M-625-13-10X	20
Nonadecylbenzene 29136-19-4	100 mg	NEAT	V-018	12
Nonylbenzene 1081-77-2	100 mg	NEAT	V-017	12
Octadecylbenzene 4445-07-2	100 mg	NEAT	V-020	12
Octylbenzene 2189-60-8	100 mg	NEAT	V-019	12
Pentachlorobenzene 608-93-5	100 mg	NEAT	A-011	12
	100 µg/mL	MeOH	APP-9-173	12
	2.5 mg/mL	MeOH	AS-E0260	32
Pentachloroethane 76-01-7	100 µg/mL	MeOH	APP-9-174	12
	2.0 mg/mL	MeOH	APP-9-174-20X	20
	5 mg/mL	MeOH	AS-E0300	32
Pentadecylbenzene 2131-18-2	100 mg	NEAT	V-021	12

Neats are as stated, Solutions are 1 mL

Volatile Organic Compounds (VOCs)

VOCs

Compound	Conc.	Matrix	Cat. No.	Price
Pentafluorobenzene 363-72-4	0.2 mg/mL	MeOH	M-624-SS-10	$ 10
1,2-Propanediol 57-55-6	1 mg/mL	AcCN	AS-E0524	32
Propionic acid 79-09-4	5 mg/mL	AcCN	AS-E0673	32
Propionitrile 107-12-0	100 µg/mL	MeOH	APP-9-184	12
	5 mg/mL	MeOH	AS-E0338	32
	10 mg/mL	Water	M-8015B/5031-25	25
n-Propylbenzene (1-Phenylpropane) 103-65-1	100 mg	NEAT	V-022	12
	1 gram	NEAT	M-502-41N	20
	0.2 mg/mL	MeOH	M-502-41	10
	2 mg/mL	MeOH	M-502-41-10X	14
	5 mg/mL	MeOH	AS-E1112	32
Styrene 100-42-5	1 gram	NEAT	M-502-42N	20
	100 µg/mL	MeOH	APP-9-189	12
	0.2 mg/mL	MeOH	M-502-42	10
	2 mg/mL	MeOH	M-502-42-10X	14
	5 mg/mL	MeOH	AS-E0257	32
TCMX 877-09-8	100 µg/mL	Hexane	M-8082-SS	20
	1 mg/mL	Hexane	M-8082-SS-10X	20
1,2,3,4-Tetrachlorobenzene 634-66-2	100 mg	NEAT	A-008	12
	1 mg/mL	MeOH	AS-E0225	32
1,2,3,5-Tetrachlorobenzene 634-90-2	100 mg	NEAT	A-009	12
1,2,4,5-Tetrachlorobenzene 95-94-3	100 mg	NEAT	A-010	12
	100 µg/mL	MeOH	APP-9-191	12
	1.0 mg/mL	MeOH	APP-9-191-10X	20
	2.0 mg/mL	Hexane	M-8120-09	25
	2.5 mg/mL	AcCN	AS-E0177	32
1,1,1,2-Tetrachloroethane 630-20-6	1 gram	NEAT	M-502-43N	30
	100 µg/mL	MeOH	APP-9-192	12
	0.2 mg/mL	MeOH	M-502-43	10
	1 mg/mL	MeOH	AS-E0335	32
	2 mg/mL	MeOH	M-502-43-10X	14
1,1,2,2-Tetrachloroethane 79-34-5	1 gram	NEAT	M-502-44N	25
	100 µg/mL	MeOH	APP-9-193	12
	0.2 mg/mL	MeOH	M-502-44	10
	2 mg/mL	MeOH	M-502-44-10X	14
	5 mg/mL	MeOH	AS-E0014	32
Tetrachloroethene 127-18-4	1 gram	NEAT	M-502-45N	20
	100 µg/mL	MeOH	APP-9-194	12
	0.2 mg/mL	MeOH	M-502-45	10
	2 mg/mL	MeOH	M-502-45-10X	14
	5 mg/mL	MeOH	AS-E0083	32
Tetrachloro-m-xylene 877-09-8	0.2 mg/mL	MeOH	S-279	10
	1 mg/mL	MeOH	S-279-5X	10
Tetradecylbenzene 1459-10-5	100 mg	NEAT	V-023	12
Tetrahydrofuran 109-99-9	0.2 mg/mL	MeOH	S-457S	10
	2 mg/mL	MeOH	S-457S-10X	10
	1 mg/mL	Water	M-1671A-IS	20
1,2,3,4-Tetramethylbenzene 488-23-3	100 mg	NEAT	V-024	12
1,2,3,5-Tetramethylbenzene 527-53-7	100 mg	NEAT	V-025	12
1,2,4,5-Tetramethylbenzene 95-93-2	100 mg	NEAT	V-026	12
Toluene 108-88-3	1 gram	NEAT	M-502-46N	20
	100 µg/mL	MeOH	APP-9-198	12
	0.2 mg/mL	MeOH	M-502-46	10
	1 mg/mL	MeOH	AS-E0084	32
	2 mg/mL	MeOH	M-502-46-10X	14
Toluene-d_8 2037-26-5	0.25 mg/mL	MeOH	CLP-PS-3	20
	2.5 mg/mL	MeOH	CLP-PS-3-10X	20
1,3,5-Tribromobenzene 626-39-1	50 µg/mL	Acetone	M-8121-IS	10
Trichloroacetonitrile 545-06-2	5 mg/mL	Acetone	M-551B-7	15
1,2,3-Trichlorobenzene 87-61-6	100 mg	NEAT	A-005	12
	1 gram	NEAT	M-502-47N	20
	0.2 mg/mL	MeOH	M-502-47	10
	2 mg/mL	MeOH	M-502-47-10X	14
	5 mg/mL	MeOH	AS-E0175	32
1,2,4-Trichlorobenzene 120-82-1	100 mg	NEAT	A-006	$ 12
	1 gram	NEAT	M-502-48N	20
	100 µg/mL	MeOH	APP-9-201	12
	0.2 mg/mL	MeOH	M-502-48	10
	1 mg/mL	MeOH	AS-E0007	32
	2 mg/mL	MeOH	M-502-48-10X	14
1,3,5-Trichlorobenzene 108-70-3	100 mg	NEAT	A-007	12
	5 mg/mL	MeOH	AS-E0176	32
1,1,1-Trichloroethane 71-55-6	1 gram	NEAT	M-502-49N	20
	100 µg/mL	MeOH	APP-9-202	12
	0.2 mg/mL	MeOH	M-502-49	10
	1 mg/mL	MeOH	AS-E0010	32
	2 mg/mL	MeOH	M-502-49-10X	14
1,1,2-Trichloroethane 79-00-5	1 gram	NEAT	M-502-50N	20
	100 µg/mL	MeOH	APP-9-203	12
	0.2 mg/mL	MeOH	M-502-50	10
	1 mg/mL	MeOH	AS-E0013	32
	2 mg/mL	MeOH	M-502-50-10X	14
Trichloroethene 79-01-6	1 gram	NEAT	M-502-51N	20
	100 µg/mL	MeOH	APP-9-204	12
	0.2 mg/mL	MeOH	M-502-51	10
	1 mg/mL	MeOH	AS-E0085	32
	2 mg/mL	MeOH	M-502-51-10X	14
Trichlorofluoromethane 75-69-4	100 µg/mL	MeOH	APP-9-205	12
	0.2 mg/mL	MeOH	M-502-52	10
	2 mg/mL	MeOH	M-502-52-10X	14
1,1,2-Trichloropropane 598-77-6	200 µg/mL	MeOH	S-1321B	30
1,2,3-Trichloropropane 96-18-4	1 gram	NEAT	M-502-53N	20
	100 µg/mL	MeOH	APP-9-208	12
	0.2 mg/mL	MeOH	M-502-53	10
	1 mg/mL	MeOH	APP-9-208-10X	10
	2 mg/mL	MeOH	M-502-53-10X	14
	5 mg/mL	MeOH	AS-E0368	32
a,a,a-Trichlorotoluene 98-07-7	0.2 mg/mL	MeOH	M-624-SS-14	10
Tridecylbenzene 123-02-4	100 mg	NEAT	V-027	12
1,2,3-Trimethylbenzene 526-73-8	100 mg	NEAT	V-028	12
1,2,4-Trimethylbenzene 95-63-6	100 mg	NEAT	V-029	12
	1 gram	NEAT	M-502-54N	20
	0.2 mg/mL	MeOH	M-502-54	10
	2 mg/mL	MeOH	M-502-54-10X	14
	5 mg/mL	MeOH	AS-E1107	32
1,3,5-Trimethylbenzene 108-67-8	100 mg	NEAT	V-016	12
	1 gram	NEAT	M-502-55N	20
	0.2 mg/mL	MeOH	M-502-55	10
	2 mg/mL	MeOH	M-502-55-10X	14
	5 mg/mL	MeOH	AS-E1103	32
1,2,3-Trimethylbenzene 526-73-8	3 % w/w	Isooctane	M-GRA-FP	20
1,3,5-Trinitrobenzene 99-35-4	100 µg/mL	MeOH	APP-9-210	12
	2 mg/mL	MeOH	M-8270-10	15
	2.0 mg/mL	CH_2Cl_2	APP-9-210-D-20X	20
Undecylbenzene 6742-54-7	100 mg	NEAT	V-030	12
Vinyl acetate 108-05-4	100 µg/mL	MeOH	APP-9-211	12
	2 mg/mL	MeOH	APP-9-211-20X	20
	1 mg/mL	AcCN	AS-E0327	32
Vinyl chloride 75-01-4	100 µg/mL	MeOH	APP-9-212	12
	0.2 mg/mL	MeOH	M-502-56	10
	1 mg/mL	MeOH	AS-E0536	40
	2 mg/mL	MeOH	M-502-56-10X	14
Xylene (total) 1330-20-7	100 µg/mL	MeOH	APP-9-213	12
m-Xylene 108-38-3	1 gram	NEAT	M-502-58N	20
	0.2 mg/mL	MeOH	M-502-58	10
	1 mg/mL	MeOH	AS-E0202	32
	2 mg/mL	MeOH	M-502-58-10X	14
o-Xylene 95-47-6	1 gram	NEAT	M-502-57N	20
	0.2 mg/mL	MeOH	M-502-57	10
	1 mg/mL	MeOH	AS-E0201	32
	2 mg/mL	MeOH	M-502-57-10X	20
p-Xylene 106-42-3	1 gram	NEAT	M-502-59N	20
	0.2 mg/mL	MeOH	M-502-59	10
	1 mg/mL	MeOH	AS-E0203	32
	2 mg/mL	MeOH	M-502-59-10X	14

Neats are as stated, Solutions are 1 mL

Individuals by Functional Group

In order to make it easier to find individual standards, AccuStandard has now organized them by functional group, as well as by application, and of course they are still listed with their applicable USEPA methods.

Search by
- ✔ **Functional Group**
- Application
- EPA Method

See also "Qualitative Kits" for material of these functional groups.

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Alcohol EPA Methods include: 1673, 8015

Alcohols

Neats are as stated, Solutions are 1 mL

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Allyl alcohol	107-18-6	1 mg/mL	MeOH	AS-E0475	$ 32
		10 mg/mL	Water	M-8015B/5031-05	25
Benzyl alcohol	100-51-6	100 µg/mL	MeOH	APP-9-021	12
		5 mg/mL	MeOH	APP-9-021-50X	25
		5 mg/mL	AcCN	AS-E0326	32
1-Butanol	71-36-3	10 mg/mL	Water	M-8015B/5031-06	25
t-Butanol	75-65-0	10 mg/mL	Water	M-8015B/5031-07	25
		2 mg/mL	MeOH	S-410	10
1,3-Dichloro-2-propanol	96-23-1	5 mg/mL	MeOH	AS-E0928	32
Ethanol	64-17-5	10 mg/mL	Water	M-8015B/5031-11	25
Ethylene glycol	107-21-1	10 mg/mL	Water	M-8015B/5031-13	25
Isobutanol (Isobutyl alcohol)	78-83-1	10 mg/mL	Water	M-8015B/5031-15	25
		100 µg/mL	MeOH	APP-9-120	12
		2.0 mg/mL	MeOH	APP-9-120-20X	20
Isopropanol	67-63-0	10 mg/mL	Water	M-8015B/5031-16	25
Methanol	67-56-1	10 mg/mL	Water	M-8015B/5031-17	20
2-Methyl-1-propanol (Isobutyl alcohol)	78-83-1	5 mg/mL	MeOH	AS-E0659	32
Polyethylene glycol (PEG-600)	25322-68-3	2.5 mg/mL	THF	M-1673	35
1-Propanol	71-23-8	10 mg/mL	Water	M-8015B/5031-24	25
Propargyl alcohol	107-19-7	1 mg/mL	CH	AS-E0543	32

Aldehydes EPA Methods include: 554, 556, 1667A, 8315, 8315A

Aldehydes and Derivatives

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Acetaldehyde	75-07-0	1 mg/mL	MeOH	M-554-01	$ 20
		1 mg/mL	Water	M-8315-01	20
Acetaldehyde-DNPH	1019-57-4	1 mg/mL	MeOH:AcCN	M-554-DNPH-01	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-01	20
Acrolein	107-02-8	100 µg/mL	MeOH:Water	APP-9-007	12
		1 mg/mL	MeOH:Water	APP-9-007-10X	20
		100 µg/mL	Water	APP-9-007-W	10
		1.0 mg/mL	Water	APP-9-007-W-10X	15
		5 mg/mL	p-Dioxane	AS-E0002	32
		10 mg/mL	Water	M-8015B/5031-03	25
Acrolein-DNPH	888-54-0	0.1 mg/mL	AcCN	M-8315-R-DNPH-03	20
		1 µg/mL	AcCN	S-1275-1-03	30
Benzaldehyde-DNPH	1157-84-2	0.1 mg/mL	AcCN	M-8315-R-DNPH-04	20
Butanal	123-72-8	1 mg/mL	MeOH	M-554-02	20
Butanal-DNPH	1527-98-6	1 mg/mL	MeOH:AcCN	M-554-DNPH-02	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-05	20
Crotonaldehyde	123-73-9	1 mg/mL	AcCN	AS-E0479	32
		1 mg/mL	MeOH	M-554-03	20
		10 mg/mL	Water	M-8015B/5031-08	25
Crotonaldehyde-DNPH	1527-96-4	1 mg/mL	MeOH:AcCN	M-554-DNPH-03	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-06	20
Decanal	112-31-2	1 mg/mL	MeOH	M-554-05	20
Decanal-DNPH		1 mg/mL	MeOH:AcCN	M-554-DNPH-05	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-08	20
2,5-Dimethylbenzaldehyde-DNPH	152477-96-8	0.1 mg/mL	AcCN	M-8315-R-DNPH-09	20

Aldehydes continued on next page

Individuals by Functional Group

Neats are as stated, Solutions are 1 mL

Aldehydes and Derivatives (continued)

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Formaldehyde	50-00-0	1 mg/mL	MeOH	M-554-06	$ 20
		1 mg/mL	Water	M-8315-02	20
Formaldehyde-DNPH	1081-15-8	1.0 mg/mL	AcCN	M-1667A-DNPH-01	35
		1 mg/mL	MeOH:AcCN	M-554-DNPH-06	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-10	20
Formamide	75-12-7	50 µg/mL	Water	M-1666A-DI-R-ADD2	30
2-Furaldehyde-DNPH		1.0 mg/mL	AcCN	M-1667A-DNPH-02	35
Heptanal	111-71-7	1 mg/mL	MeOH	M-554-07	20
Heptanal-DNPH		1 mg/mL	MeOH:AcCN	M-554-DNPH-07	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-11	20
Hexanal	66-25-1	1 mg/mL	MeOH	M-554-08	20
Hexanal-DNPH	1527-97-5	1 mg/mL	MeOH:AcCN	M-554-DNPH-08	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-12	20
Isobutyraldehyde-DNPH		1.0 mg/mL	AcCN	M-1667A-DNPH-03	35
		0.1 mg/mL	AcCN	M-8315-R-DNPH-13	20
Nonanal	124-19-6	1 mg/mL	MeOH	M-554-09	20
Nonanal-DNPH		1 mg/mL	MeOH:AcCN	M-554-DNPH-09	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-14	20
Octanal	124-13-0	1 mg/mL	MeOH	M-554-10	20
Octanal-DNPH	1726-77-8	1 mg/mL	MeOH:AcCN	M-554-DNPH-10	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-15	20
Paraldehyde	123-63-7	10 mg/mL	Water	M-8015B/5031-21	25
Pentanal	110-62-3	1 mg/mL	MeOH	M-554-11	20
Pentanal-DNPH	2057-84-3	1 mg/mL	MeOH:AcCN	M-554-DNPH-11	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-16	20
Propanal	123-38-6	1 mg/mL	MeOH	M-554-12	20
Propanal-DNPH	725-00-8	1 mg/mL	MeOH:AcCN	M-554-DNPH-12	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-17	20
m-Tolualdehyde-DNPH	2880-05-9	0.1 mg/mL	AcCN	M-8315-R-DNPH-18	20
o-Tolualdehyde-DNPH	1773-44-0	0.1 mg/mL	AcCN	M-8315-R-DNPH-19	20
p-Tolualdehyde-DNPH	2571-00-8	0.1 mg/mL	AcCN	M-8315-R-DNPH-20	20

Ketones EPA Methods include: 554, 556, 8091, 8315, 8315A

Ketones

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Acetone	67-64-1	100 µg/mL	MeOH	APP-9-003	$ 12
		2 mg/mL	MeOH	APP-9-003-20X	20
		5 mg/mL	MeOH	AS-E0284	32
		10 mg/mL	Water	M-8015B/5031-01	25
Acetone-DNPH	1567-89-1	0.1 mg/mL	AcCN	M-8315-R2-DNPH-02	20
Acetophenone	98-86-2	100 µg/mL	CH_2Cl_2	APP-9-004	12
		2 mg/mL	CH_2Cl_2	APP-9-004-20X	20
		5 mg/mL	MeOH	AS-E0411	32
Cyclohexanone	108-94-1	1 mg/mL	MeOH	M-554-04	20
Cyclohexanone-DNPH	1589-62-4	500 µg/mL	AcCN	AE-00046	20
		1 mg/mL	MeOH:AcCN	M-554-DNPH-04	20
		0.1 mg/mL	AcCN	M-8315-R-DNPH-07	20
1,1-Dichloro-2-propanone	513-88-2	5 mg/mL	Acetone	M-551B-6	15
2-Hexanone	591-78-6	100 µg/mL	MeOH	APP-9-118	12
		2.0 mg/mL	MeOH	APP-9-118-20X	25
Isophorone	78-59-1	100 µg/mL	MeOH	APP-9-122	12
		1.0 mg/mL	MeOH	APP-9-122-10X	20
		1 mg/mL	MeOH	AS-E0052	20
Methyl ethyl ketone	78-93-3	100 µg/mL	MeOH	APP-9-129	12
		1 mg/mL	MeOH	APP-9-129-10X	10
		2 mg/mL	MeOH	APP-9-129-20X	20
		5 mg/mL	MeOH	AS-E0311	32
		10 mg/mL	Water	M-8015B/5031-18	25
4-Methyl-2-pentanone	108-10-1	10 mg/mL	Water	M-8015B/5031-19	25
(Methyl isobutyl ketone)		100 µg/mL	MeOH	APP-9-135	12
		2 mg/mL	MeOH	APP-9-135-20X	20
		5 mg/mL	MeOH	AS-E0349	32
2-Pentanone	107-87-9	10 mg/mL	Water	M-8015B/5031-22	25
1,1,1-Trichloro-2-propanone	918-00-3	5 mg/mL	Acetone	M-551B-8	15
(1,1,1-Trichloroacetone)		1 mg/mL	Acetone	AS-E1181	32
2',4',5'-Trifluoroacetophenone	129322-83-4	20 µg/mL	AcCN	M-556-SS	10
		2 mg/mL	AcCN	M-556-SS-100X	20

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Phenols EPA Methods: 558, 604, 642, 8040, 8041, 8085

Phenols

Neats are as stated, Solutions are 1 mL

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Bisphenol A (BPA)	80-05-7	1000 µg/mL	MeOH	M-1626-01S	$ 20
4-Chloro-3-cresol	59-50-7	1.0 mg/mL	MeOH	M-8040-01	20
(4-Chloro-3-methylphenol)		100 µg/mL	MeOH	APP-9-041	12
2-Chlorophenol	95-57-8	100 mg	NEAT	A-013	12
		100 µg/mL	MeOH	APP-9-046	12
		5.0 mg/mL	MeOH	APP-9-046-50X	20
		2 mg/mL	CH_2Cl_2	APP-9-046-D-20X	22
		5 mg/mL	MeOH	AS-E0022	32
3-Chlorophenol	108-43-0	100 mg	NEAT	A-014	12
		5 mg/mL	MeOH	AS-E0182	32
4-Chlorophenol	106-48-9	100 mg	NEAT	A-015	12
		5 mg/mL	MeOH	AS-E0183	32
2-Chlorophenol-d_4	93951-73-6	0.2 mg/mL	CH_2Cl_2	M-625-20	20
o-Chlorophenol	95-57-8	1.0 mg/mL	MeOH	M-8040-02	20
m-Cresol	108-39-4	100 µg/mL	CH_2Cl_2	APP-9-050	12
		1 mg/mL	CH_2Cl_2	APP-9-050-10X	15
		5 mg/mL	MeOH	AS-E0251	32
		1.0 mg/mL	MeOH	M-8040-03	20
o-Cresol	95-48-7	100 µg/mL	CH_2Cl_2	APP-9-051	12
		2 mg/mL	CH_2Cl_2	APP-9-051-20X	20
		1.0 mg/mL	MeOH	M-8040-04	20
		5 mg/mL	MeOH	AS-E0250	32
p-Cresol	106-44-5	100 µg/mL	CH_2Cl_2	APP-9-052	12
		2 mg/mL	CH_2Cl_2	APP-9-052-20X	20
		1.0 mg/mL	MeOH	M-8040-05	20
		5 mg/mL	MeOH	AS-E0252	32
2-Cyclohexyl-4,6-dinitrophenol	131-89-5	1.0 mg/mL	MeOH	M-8040-06	20
2,4-Dibromophenol	615-58-7	1.6 µg/mL	IPA	M-8041-SS	10
		16 µg/mL	IPA	M-8041-SS-10X	10
		160 µg/mL	IPA	M-8041-SS-100X	10
		1 mg/mL	IPA	M-8041-SS-625X	10
2,3-Dichlorophenol	576-24-9	100 mg	NEAT	A-016	12
2,4-Dichlorophenol	120-83-2	100 mg	NEAT	A-017	12
		100 µg/mL	MeOH	APP-9-075	12
		1.0 mg/mL	MeOH	M-8040-07	20
		5 mg/mL	MeOH	APP-9-075-50X	30
		5 mg/mL	MeOH	AS-E0029	32
		1 mg/mL	MtBE	M-552A-R-06	15
2,5-Dichlorophenol	583-78-8	100 mg	NEAT	A-018	12
2,6-Dichlorophenol	87-65-0	100 mg	NEAT	A-019	12
		100 µg/mL	CH_2Cl_2	APP-9-076	12
		1.0 mg/mL	MeOH	M-8040-08	20
		5 mg/mL	MeOH	APP-9-076-M-50X	30
3,4-Dichlorophenol	95-77-2	100 mg	NEAT	A-020	12
3,5-Dichlorophenol	591-35-5	100 mg	NEAT	A-021	12
2,4-Dimethylphenol	105-67-9	100 µg/mL	MeOH	APP-9-087	12
		5 mg/mL	MeOH	APP-9-087-50X	25
		1.0 mg/mL	MeOH	M-8040-09	20
2,4-Dimethylphenol-3,5,6-d_3	93951-75-8	0.1 mg/mL	Acetone	AS-E0190	32
4,6-Dinitro-o-cresol	534-52-1	100 mg	NEAT	R-057N	10
		100 µg/mL	Toluene	R-057S	10
		1 mg/mL	MeOH	APP-9-090-10X	20
		5 mg/mL	MeOH	AS-E0058	32
2,4-Dinitrophenol	51-28-5	100 µg/mL	MeOH	APP-9-091	12
		1.0 mg/mL	MeOH	M-8040-10	20
		5 mg/mL	MeOH	APP-9-091-50X	20
2-Fluorophenol	367-12-4	0.1 mg/mL	Acetone	AS-E0193	32
		2 mg/mL	MeOH	CLP-AS-1	20
		0.2 mg/mL	CH_2Cl_2	M-625-16	20
		2 mg/mL	CH_2Cl_2	M-625-16-10X	25
2-Methyl-4,6-dinitrophenol	534-52-1	1.0 mg/mL	MeOH	M-8040-12	20
2-Nitrophenol	88-75-5	100 mg	NEAT	R-051N	10
(o-Nitrophenol)		100 µg/mL	Toluene	R-051S	10
		100 µg/mL	MeOH	APP-9-144	12
		1.0 mg/mL	MeOH	M-8040-13	20
		5.0 mg/mL	MeOH	APP-9-144-50X	25
3-Nitrophenol	554-84-7	5 mg/mL	MeOH	AS-E0662	32
4-Nitrophenol	100-02-7	100 µg/mL	MeOH	APP-9-145	12
(p-Nitrophenol)		1.0 mg/mL	MeOH	M-8040-14	20
		5 mg/mL	MeOH	APP-9-145-50X	20

Phenols continued on next page

Phenols and Nitrosamines

Phenols and Nitrosamines can react with the active sites on a column which can sometimes give inconsistent results from run to run. By saturating these sites, the problem should go away. To do this, run a standard that is between 2 to 5 times higher than your highest calibration point. This can be repeated if necessary until the problem is alleviated. Alternatively silylation can be performed on the column (contact column manufacturer for more details).

For New Nonylphenols and Octylphenols from ASTM D7065, see "Methods other than EPA" section, page 271.

Phenols (continued)

Neats are as stated, Solutions are 1 mL

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Pentachlorophenol	87-86-5	100 mg	NEAT	A-031	$ 12
		100 µg/mL	MeOH	APP-9-176	12
		1 mg/mL	MeOH	APP-9-176-10X	20
		2 mg/mL	CH_2Cl_2	APP-9-176-D-20X	20
		5 mg/mL	MeOH	AS-E0062	32
		25 µg/mL	CH_2Cl_2	M-625C-2	20
		0.2 mg/mL	CH_2Cl_2	M-625C-2-10X	20
		1.0 mg/mL	MeOH	M-8040-15	20
Pentachlorophenol-$^{13}C_6$	85380-74-1	0.1 mg/mL	Acetone	AS-E0191	40
Pentafluorophenol	771-61-9	0.2 mg/mL	CH_2Cl_2	M-625-17	20
Phenol	108-95-2	100 µg/mL	CH_2Cl_2	APP-9-179	12
		5 mg/mL	MeOH	AS-E0063	32
Phenol-d_5	4165-62-2	0.1 mg/mL	Acetone	AS-E0189	32
		0.2 mg/mL	CH_2Cl_2	M-625-18	20
		2 mg/mL	CH_2Cl_2	M-625-18-10X	25
2,3,4,5-Tetrachlorophenol	4901-51-3	5 mg	NEAT	A-028	25
2,3,4,6-Tetrachlorophenol	58-90-2	10 mg	NEAT	A-029-10MG	12
		100 µg/mL	MeOH	APP-9-195	20
		1.0 mg/mL	MeOH	M-8040-17	20
2,3,5,6-Tetrachlorophenol	935-95-5	100 mg	NEAT	A-030	65
2,4,6-Tribromophenol	118-79-6	20 µg/mL	MtBE	M-8085-HERB-SS	20
		0.2 mg/mL	CH_2Cl_2	M-625-19	20
		0.2 mg/mL	MeOH	M-604-SS	20
		2 mg/mL	MeOH	CLP-AS-3	20
		6 mg/mL	MeOH	CLP-LC-SS-2	10
2,3,4-Trichlorophenol	15950-66-0	100 mg	NEAT	A-022	12
2,3,5-Trichlorophenol	933-78-8	100 mg	NEAT	A-023	12
		5 mg/mL	MeOH	AS-E0222	32
2,3,6-Trichlorophenol	933-75-5	100 mg	NEAT	A-024	12
		1 mg/mL	MeOH	AS-E0181	32
2,4,5-Trichlorophenol	95-95-4	100 mg	NEAT	A-025	12
		0.1 mg/mL	Acetone	CLP-FC	10
		100 µg/mL	MeOH	APP-9-206	12
		1.0 mg/mL	MeOH	M-8040-18	20
		5 mg/mL	MeOH	AS-E0179	32
2,4,6-Trichlorophenol	88-06-2	100 mg	NEAT	A-026	12
		100 µg/mL	MeOH	APP-9-207	12
		5 mg/mL	MeOH	APP-9-207-50X	20
		0.1 µg/mL	Acetone	M-1618-SE	10
		0.1 mg/mL	Acetone	M-1600-SPE	10
		1 mg/mL	MtBE	M-552A-7	15
		1.0 mg/mL	MeOH	M-8040-19	20
3,4,5-Trichlorophenol	609-19-8	10 mg	NEAT	A-027	25
		1 mg/mL	MeOH	M-1653-IS	35
		1 mg/mL	Acetone	M-1653-IS-R	35

Amines, Anilines and Amino Compounds EPA Methods: 605, 607, 620, 625, 1666, 8015, 8095, 8131, 8325

Amines, Anilines and Amino Compounds

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
2-Amino-4-nitrotoluene	99-55-8	100 µg/mL	AcCN	RAC-03	$ 25
		1 mg/mL	AcCN	RAC-03-10X	35
p-Aminoazobenzene	60-09-3	100 µg/mL	AcCN	RAC-21	25
		1000 µg/mL	AcCN	RAC-21-10X	35
o-Aminoazotoluene	97-56-3	100 µg/mL	AcCN	RAC-01	25
		1 mg/mL	AcCN	RAC-01-10X	35
2-Aminobiphenyl	90-41-5	10 mg	NEAT	R-062N	10
		100 µg/mL	Toluene	R-062S	15
		100 µg/mL	AcCN	RAC-22	25
		1000 µg/mL	AcCN	RAC-22-10X	35
4-Aminobiphenyl	92-67-1	10 mg	NEAT	R-063N	10
		100 µg/mL	Toluene	R-063S	15
		100 µg/mL	CH_2Cl_2	APP-9-011	20
		100 µg/mL	AcCN	RAC-02	25
		1 mg/mL	AcCN	RAC-02-10X	35
		1 mg/mL	MeOH	AS-E0578	32
Aniline	62-53-3	100 mg	NEAT	L-001N	12
		100 µg/mL	MeOH	APP-9-012	12
		1 mg/mL	MeOH	APP-9-012-10X	20
		5 mg/mL	MeOH	AS-E0542	32
Aniline-d_5	4165-61-1	0.2 mg/mL	CH_2Cl_2	M-625-01	20
		2 mg/mL	CH_2Cl_2	M-625-01-10X	20
o-Anisidine	90-04-0	100 µg/mL	AcCN	RAC-23	25
		1000 µg/mL	AcCN	RAC-23-10X	35

Amines, Anilines and Amino Compounds (continued)

Neats are as stated, Solutions are 1 mL

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Benzidine	92-87-5	50 µg/mL	CH_2Cl_2	M-625C-1	$ 20
		2 mg/mL	CH_2Cl_2	M-625C-1-40X	20
		100 µg/mL	AcCN	RAC-04	25
		1 mg/mL	AcCN	RAC-04-10X	35
Benzidine (as dihydrochloride)	531-85-1	1 mg/mL	MeOH	AS-E0005	32
2-Bromo-4,6-dinitroaniline	1817-73-8	100 mg	NEAT	L-017N	12
4-Bromoaniline	106-40-1	100 mg	NEAT	L-007N	12
4-Chloro-2-nitroaniline	89-63-4	100 mg	NEAT	L-013N	12
2-Chloro-4,6-dinitroaniline	3531-19-9	100 mg	NEAT	L-015N	12
2-Chloro-4-nitroaniline	121-87-9	100 mg	NEAT	L-012N	12
2-Chloroaniline	95-51-2	100 mg	NEAT	L-002N	12
3-Chloroaniline	108-42-9	100 mg	NEAT	L-003N	12
4-Chloroaniline	106-47-8	100 mg	NEAT	L-004N	12
(p-Chloroaniline)		100 µg/mL	AcCN	RAC-05	25
		1 mg/mL	AcCN	RAC-05-10X	35
		100 µg/mL	MeOH	APP-9-038	12
		5 mg/mL	MeOH	AS-E0305	32
3-Chloro-o-toluidine	87-60-5	100 µg/mL	AcCN	RAC-24	25
		1000 µg/mL	AcCN	RAC-24-10X	35
4-Chloro-o-toluidine	95-69-2	100 µg/mL	AcCN	RAC-06	25
		1 mg/mL	AcCN	RAC-06-10X	35
p-Cresidine	120-71-8	100 µg/mL	AcCN	RAC-07	25
		1.0 mg/mL	AcCN	RAC-07-10X	35
2,4-Diaminoanisole sulfate hydrate	123333-56-2	100 µg/mL	Pyridine	RAC-08	25
		1 mg/mL	Pyridine	RAC-08-10X	35
3,3'-Diaminobenzidine	91-95-2	50 mg	NEAT	R-074N	10
		100 µg/mL	Toluene	R-074S	15
4,4'-Diaminodiphenylmethane	101-77-9	100 mg	NEAT	R-077N	10
(4,4'-Methylenedianiline)		100 µg/mL	Toluene	R-077S	15
		100 µg/mL	AcCN	RAC-09	25
		1 mg/mL	AcCN	RAC-09-10X	35
2,4-Diaminotoluene	95-80-7	100 mg	NEAT	R-078N	10
		100 µg/mL	Toluene	R-078S	15
		100 µg/mL	AcCN	RAC-10	25
		1 mg/mL	AcCN	RAC-10-10X	35
		1 mg/mL	MeOH	AS-E0932	32
2,6-Dibromo-4-nitroaniline	827-94-1	100 mg	NEAT	L-016N	12
2,6-Dichloro-4-nitroaniline	99-30-9	100 mg	NEAT	L-014N	12
3,4-Dichloroaniline	95-76-1	100 mg	NEAT	L-005N	12
3,3'-Dichlorobenzidine	91-94-1	50 mg	NEAT	R-075N	10
		100 µg/mL	MeOH	APP-9-067	20
		1 mg/mL	MeOH	AS-E0026	32
		100 µg/mL	Toluene	R-075S	15
		100 µg/mL	AcCN	RAC-11	25
		1 mg/mL	AcCN	RAC-11-10X	35
		2 mg/mL	MeOH	Z-014F-2	20
3,3'-Dimethoxybenzidine	119-90-4	50 mg	NEAT	R-076N	10
		100 µg/mL	Toluene	R-076S	15
		100 µg/mL	AcCN	RAC-12	25
		1 mg/mL	AcCN	RAC-12-10X	35
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	100 µg/mL	AcCN	RAC-14	25
		1 mg/mL	AcCN	RAC-14-10X	35
4-Dimethylaminoazobenzene	60-11-7	10 mg	NEAT	R-079N	10
		100 µg/mL	Toluene	R-079S	15
2,6-Dimethylaniline	87-62-7	100 mg	NEAT	L-018N	12
		100 µg/mL	AcCN	L-018S-CN	25
3,3'-Dimethylbenzidine	119-93-7	100 µg/mL	CH_2Cl_2	APP-9-085	20
		2.0 mg/mL	CH_2Cl_2	APP-9-085-20X	25
		100 µg/mL	AcCN	RAC-13	25
		1 mg/mL	AcCN	RAC-13-10X	35
a,a-Dimethylphenethylamine	122-09-8	100 µg/mL	CH_2Cl_2	APP-9-086	20
		2.0 mg/mL	CH_2Cl_2	APP-9-086-20X	30
2,4-Dinitroaniline	97-02-9	100 mg	NEAT	L-011N	12
Diphenylamine	122-39-4	100 µg/mL	CH_2Cl_2	APP-9-097	12
		1 mg/mL	MeOH	M-620	15
		5 mg/mL	MeOH	AS-E0263	32
Ethylenediamine	107-15-3	1 mg/mL	MeOH	AS-E0358	32
4-Fluoroaniline	371-40-4	0.2 mg/mL	CH_2Cl_2	M-625-08	20
		2 mg/mL	CH_2Cl_2	M-625-08-10X	20
2-Methyl-4-nitroaniline	99-52-5	100 µg/mL	AcCN	M-8095-SS-02	20
Methylamine	74-89-5	2500 µg/mL	Water	M-1666A-DI-R-ADD1	30
4,4'-Methylenebis(2-chloroaniline)	101-14-4	50 mg	NEAT	R-080N	10
		100 µg/mL	Toluene	R-080S	15
		100 µg/mL	AcCN	RAC-15	25
		1 mg/mL	AcCN	RAC-15-10X	35
		5 mg/mL	MeOH	AS-E0322	32
2-Naphthylamine	91-59-8	100 µg/mL	AcCN	RAC-16	25
		1 mg/mL	AcCN	RAC-16-10X	35

Amines, Anilines and Amino continued on next page

Amines, Anilines and Amino Compounds (continued)

Neats are as stated, Solutions are 1 mL

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
2-Nitroaniline	88-74-4	100 mg	NEAT	L-008N	$ 12
		100 mg	NEAT	R-054N	10
		100 µg/mL	Toluene	R-054S	10
3-Nitroaniline	99-09-2	100 mg	NEAT	L-009N	12
		100 µg/mL	Toluene	R-055S	10
4-Nitroaniline	100-01-6	100 mg	NEAT	L-010N	12
		100 µg/mL	Toluene	R-056S	10
m-Nitroaniline	99-09-2	100 µg/mL	CH_2Cl_2	APP-9-141	12
o-Nitroaniline	88-74-4	100 µg/mL	CH_2Cl_2	APP-9-140	12
		5 mg/mL	MeOH	AS-E0324	32
p-Nitroaniline	100-01-6	100 µg/mL	CH_2Cl_2	APP-9-142	12
		5 mg/mL	MeOH	AS-E0342	32
		5 mg/mL	AcCN	AS-E0392	32
5-Nitro-o-toluidine	99-55-8	100 µg/mL	CH_2Cl_2	APP-9-156	20
		5 mg/mL	MeOH	AS-E0344	32
N-Nitrosodiethylamine	55-18-5	100 µg/mL	CH_2Cl_2	APP-9-148	20
		2 mg/mL	CH_2Cl_2	APP-9-148-20X	20
		5 mg/mL	MeOH	AS-E0334	32
N-Nitrosodimethylamine	62-75-9	100 µg/mL	CH_2Cl_2	APP-9-149	20
		1 mg/mL	MeOH	APP-9-149-M-10X	30
		5 mg/mL	MeOH	AS-E0059	32
N-Nitrosodi-n-butylamine	924-16-3	100 µg/mL	CH_2Cl_2	APP-9-147	20
		2 mg/mL	CH_2Cl_2	APP-9-147-20X	30
		0.5 mg/mL	Water	M-8015B/5031-20	25
N-Nitrosodi-n-propylamine	621-64-7	100 µg/mL	CH_2Cl_2	APP-9-151	20
		2.5 mg/mL	CH_2Cl_2	APP-9-151-25X	30
		5 mg/mL	MeOH	AS-E0061	32
N-Nitrosodiphenylamine	86-30-6	100 µg/mL	CH_2Cl_2	APP-9-150	20
		1.0 mg/mL	MeOH	APP-9-150-M-10X	30
		5 mg/mL	MeOH	AS-E0060	32
N-Nitrosomethylethylamine	10595-95-6	100 µg/mL	CH_2Cl_2	APP-9-152	20
N-Nitroso-N-methyl ethylamine		1 mg/mL	MeOH	AS-E0974	32
1-Nitrosopiperidine	100-75-4	5 mg/mL	MeOH	AS-E0458	32
4,4'-Oxydianiline	101-80-4	100 µg/mL	AcCN	RAC-17	25
		1 mg/mL	AcCN	RAC-17-10X	35
p-Phenylenediamine	106-50-3	100 µg/mL	MeOH	APP-9-180	20
		1 mg/mL	AcCN	AS-E0275	32
		2 mg/mL	MeOH	APP-9-180-20X	20
1-Propanamine	107-10-8	1 mg/mL	MeOH	AS-E0657	32
Pyridine	110-86-1	100 µg/mL	CH_2Cl_2	APP-9-186	12
		2 mg/mL	CH_2Cl_2	APP-9-186-20X	20
		2 mg/mL	MeOH	APP-9-186-M-20X	20
		5 mg/mL	MeOH	AS-E0271	32
		10 mg/mL	Water	M-8015B/5031-26	25
Pyridine-d_5	7291-22-7	0.2 mg/mL	CH_2Cl_2	M-625-15	20
		2.0 mg/mL	CH_2Cl_2	M-625-15-10X	30
3,3',5,5'-Tetramethylbenzidene	54827-17-7	1 mg/mL	AcCN	RAC-IS	25
		1 mg/mL	Ethyl acetate	RAC-IS-EA	25
4,4'-Thiodianiline	139-65-1	100 µg/mL	AcCN	RAC-18	25
		1 mg/mL	AcCN	RAC-18-10X	35
o-Toluidine	95-53-4	100 µg/mL	MeOH	APP-9-199	12
		2 mg/mL	MeOH	AS-E0503	32
		100 µg/mL	AcCN	RAC-19	25
		1 mg/mL	AcCN	RAC-19-10X	35
		10 mg/mL	Water	M-8015B/5031-27	25
2,4,5-Trichloroaniline	636-30-6	100 mg	NEAT	L-006N	12
2,4,5-Trimethylaniline	137-17-7	100 µg/mL	AcCN	RAC-20	25
		1 mg/mL	AcCN	RAC-20-10X	35

Ether EPA Methods: 601, 8150

Ethers

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
bis(2-Chloroethyl)ether	111-44-4	4.0 mg/mL	MeOH	APP-9-027-40X	$ 20
2-Chloroethylvinyl ether	110-75-8	2 mg/mL	MeOH	M-601C-10X	10
2,4-Dichlorophenyl-3-methyl-4-nitrophenyl ether	42488-57-3	1.0 mg/mL	Isooctane	E-020S	15
Diethyl ether	60-29-7	10 mg/mL	Water	M-8015B/5031-09	25
Dinoseb methyl ether	6099-79-2	0.2 mg/mL	Hexane	M-8150-08	15
p-Dioxane	123-91-1	100 µg/mL	MeOH	APP-9-096	12
		1 mg/mL	MeOH	APP-9-096-10X	20
		10 mg/mL	MeOH	AS-E0480	32
1,4-Dioxane	123-91-1	10 mg/mL	Water	M-8015B/5031-10	25
MtBE	1634-04-4	0.2 mg/mL	MeOH	S-078	10
		2 mg/mL	MeOH	S-078-10X	12
TAME	994-05-8	0.2 mg/mL	MeOH	S-1019	10

Neats are as stated, Solutions are 1 mL

Halo Ethers

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
2-Chlorophenyl-4-nitrophenyl ether	209-61-4	1 mg/mL	Isooctane	E-005S	$ 15
3-Chlorophenyl-4-nitrophenyl ether	2303-23-3	1 mg/mL	Isooctane	E-006S	15
4-Chlorophenyl-4-nitrophenyl ether	1836-74-4	1 mg/mL	Isooctane	E-007S	15
2,4-Dibromophenyl-4-nitrophenyl ether	2671-93-4	1 mg/mL	Isooctane	E-004S	15
2,3-Dichlorophenyl-4-nitrophenyl ether	82239-20-1	1 mg/mL	Isooctane	E-008S	15
2,5-Dichlorophenyl-4-nitrophenyl ether	391-48-7	1 mg/mL	Isooctane	E-010S	15
2,6-Dichlorophenyl-4-nitrophenyl ether	2093-28-9	1 mg/mL	Isooctane	E-011S	15
3,5-Dichlorophenyl-4-nitrophenyl ether	21105-77-1	1 mg/mL	Isooctane	E-012S	15
2,4-Dichlorophenyl-4-nitrophenyl ether	1836-75-5	1 mg/mL	Isooctane	E-009S	15
3,4-Dichlorophenyl-4-nitrophenyl ether	22532-80-5	1 mg/mL	Isooctane	E-013S	15
4-Nitrophenyl phenyl ether	620-88-2	1 mg/mL	Isooctane	E-003S	15
2,3,5-Trichlorophenyl-4-nitrophenyl ether	142022-59-1	1 mg/mL	Isooctane	E-015S	15
2,3,6-Trichlorophenyl-4-nitrophenyl ether	142022-58-0	1 mg/mL	Isooctane	E-016S	15
2,3,4-Trichlorophenyl-4-nitrophenyl ether	142022-61-5	1 mg/mL	Isooctane	E-014S	15
2,4,5-Trichlorophenyl-4-nitrophenyl ether	22532-68-9	1 mg/mL	Isooctane	E-017S	15
2,4,6-Trichlorophenyl-4-nitrophenyl ether	1836-77-7	1 mg/mL	Isooctane	E-018S	15
3,4,5-Trichlorophenyl-4-nitrophenyl ether		1 mg/mL	Isooctane	E-019S	15

Haloacetic Acids EPA Methods: 552A, 552.1, 522.2, 515

Haloacetic Acids

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Bromoacetic acid	79-08-3	1 mg/mL	MtBE	M-552A-1	$ 15
Bromochloroacetic acid	5589-96-8	40 µg/mL	MtBE	M-552.2A-01	15
		1 mg/mL	MtBE	M-552A-R-02	25
Bromodichloroacetic acid	71133-14-7	40 µg/mL	MtBE	M-552.2A-02	20
Chloroacetic acid	79-11-8	1 mg/mL	MtBE	M-552A-2	15
Chlorodibromoacetic acid	5278-95-5	100 µg/mL	MtBE	M-552.2A-03	20
Dibromoacetic acid	631-64-1	20 µg/mL	MtBE	M-552.2A-05	15
		1 mg/mL	MtBE	M-552A-5	15
Dichloroacetic acid	79-43-6	60 µg/mL	MtBE	M-552.2A-06	15
		1 mg/mL	MtBE	M-552A-3	15
2,4-Dichlorophenylacetic acid	19719-28-9	2 µg/mL	Acetone	M-1618-SA	10
2,4-Dichlorophenylacetic methyl ester	55954-23-9	0.1 mg/mL	MtBE	M-515-SS	10
		5 mg/mL	MtBE	M-515-SS-50X	30
Methyl bromoacetate	96-32-2	40 µg/mL	MtBE	M-552.2-02	20
		200 µg/mL	MeOH	M-552.1-02	25
Methyl bromochloroacetate	20428-74-4	40 µg/mL	MtBE	M-552.2-03	20
		200 µg/mL	MeOH	M-552.1-03	25
		1 mg/mL	MtBE	M-552-R-03	30
Methyl bromodichloroacetate	20428-76-6	40 µg/mL	MtBE	M-552.2-04	20
Methyl chloroacetate	96-34-4	60 µg/mL	MtBE	M-552.2-05	20
		300 µg/mL	MeOH	M-552.1-04	25
		1 mg/mL	MtBE	M-552-R-04	25
Methyl chlorodibromoacetate	20428-75-5	100 µg/mL	MtBE	M-552.2-06	20
Methyl dibromoacetate	6482-26-4	20 µg/mL	MtBE	M-552.2-07	20
		100 µg/mL	MeOH	M-552.1-05	25
Methyl dichloroacetate	116-54-1	60 µg/mL	MtBE	M-552.2-08	20
		300 µg/mL	MeOH	M-552.1-06	25
Methyl tribromoacetate	3222-05-7	200 µg/mL	MtBE	M-552.2-09	20
Methyl trichloroacetate	598-99-2	20 µg/mL	MtBE	M-552.2-10	20
		100 µg/mL	MeOH	M-552.1-07	25
Monobromoacetic acid	79-08-3	40 µg/mL	MtBE	M-552.2A-07	15
Monochloroacetic acid	79-11-8	60 µg/mL	MtBE	M-552.2A-08	15
Tribromoacetic acid	75-96-7	200 µg/mL	MtBE	M-552.2A-09	15
		1 mg/mL	MtBE	M-552A-4	15
Trichloroacetic acid	76-03-9	20 µg/mL	MtBE	M-552.2A-10	15

Fatty Acid Ethyl Esters (FAEEs)

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Ethyl arachidate	18281-05-5	100 mg	NEAT	FAEE-008N	$ 15
		10 µg/mL	Hexane	FAEE-008S	15
Ethyl behenate	5908-87-2	100 mg	NEAT	FAEE-009N	15
		10 µg/mL	Hexane	FAEE-009S	15
Ethyl caprate	110-38-3	100 mg	NEAT	FAEE-003N	15
		10 µg/mL	Hexane	FAEE-003S	15
Ethyl caprylate	106-32-1	100 mg	NEAT	FAEE-002N	15
		10 µg/mL	Hexane	FAEE-002S	15
Ethyl erucate	37910-77-3	100 mg	NEAT	FAEE-011N	15
		10 µg/mL	Hexane	FAEE-011S	15

Fatty Acid Ethyl Esters continued on next page

Neats are as stated, Solutions are 1 mL

Fatty Acid Ethyl Esters (continued)

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Ethyl heptadecanoate	14010-23-2	100 mg	NEAT	FAEE-015N	$ 15
		10 µg/mL	Hexane	FAEE-015S	15
Ethyl laurate	106-33-2	100 mg	NEAT	FAEE-004N	15
		10 µg/mL	Hexane	FAEE-004S	15
Ethyl lignocerate	24634-95-5	100 mg	NEAT	FAEE-010N	25
		10 µg/mL	Hexane	FAEE-010S	25
Ethyl linoleate	544-35-4	100 mg	NEAT	FAEE-012N	15
		10 µg/mL	Hexane	FAEE-012S	15
Ethyl linolenate	1191-41-9	100 mg	NEAT	FAEE-016N	15
		10 µg/mL	Hexane	FAEE-016S	15
Ethyl linolenate gamma	31450-14-3	100 mg	NEAT	FAEE-020N	35
		10 µg/mL	Hexane	FAEE-020S	35
Ethyl myristate	124-06-1	100 mg	NEAT	FAEE-005N	15
		10 µg/mL	Hexane	FAEE-005S	15
Ethyl nervonate	137888-64-3	100 mg	NEAT	FAEE-013N	25
		10 µg/mL	Hexane	FAEE-013S	25
Ethyl oleate	111-62-6	100 mg	NEAT	FAEE-014N	15
		10 µg/mL	Hexane	FAEE-014S	15
Ethyl palmitate	628-97-7	100 mg	NEAT	FAEE-006N	15
		10 µg/mL	Hexane	FAEE-006S	15
Ethyl palmitoleate	56219-10-4	100 mg	NEAT	FAEE-001N	15
		10 µg/mL	Hexane	FAEE-001S	15
Ethyl stearate	111-61-5	100 mg	NEAT	FAEE-007N	15
		10 µg/mL	Hexane	FAEE-007S	15

Phthalates EPA Methods: 506, 8052

Phthalates

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Benzyl butyl phthalate	85-68-7	100 µg/mL	MeOH	APP-9-034	$ 20
		5 mg/mL	MeOH	AS-E0065	32
bis(2-Ethylhexyl)phthalate	117-81-7	100 µg/mL	MeOH	APP-9-029	12
		1 mg/mL	MeOH	APP-9-029-10X	20
bis(2-Ethylhexyl)phthalate-3,4,5,6-d_4	93951-87-2	100 mg	NEAT	J-001	12
		100 µg/mL	MeOH	PHTH-D4-011S	30
Diallyl phthalate	131-17-9	100 mg	NEAT	J-002	12
Dibenzylphthalate-d_4		100 µg/mL	MeOH	PHTH-D4-001S	30
Dibutyl phthalate	84-74-2	100 mg	NEAT	J-003	12
Dicyclohexyl phthalate	84-61-7	100 mg	NEAT	J-004	12
		1 mg/mL	AcCN	AS-E0318	32
Dicyclohexyl phthalate-3,4,5,6-d_4	358731-25-6	100 µg/mL	MeOH	PHTH-D4-004S	30
Diethyl phthalate	84-66-2	100 mg	NEAT	J-005	12
		100 µg/mL	MeOH	APP-9-081	12
		1 mg/mL	MeOH	APP-9-081-10X	20
		5 mg/mL	MeOH	AS-E0068	32
Diethyl phthalate-3,4,5,6-d_4	93952-12-6	100 µg/mL	MeOH	PHTH-D4-005S	30
Di-iso-butyl phthalate-3,4,5,6-d_4	358730-88-8	100 µg/mL	MeOH	PHTH-D4-003S	30
Diisodecyl phthalate	26761-40-0	100 mg	NEAT	J-006	12
Diisohexyl phthalate		100 mg	NEAT	J-007	12
Diisooctyl phthalate	27554-26-3	100 mg	NEAT	J-008	12
Dimethyl isophthalate	1459-93-4	100 mg	NEAT	J-009	12
Dimethyl phthalate	131-11-3	100 mg	NEAT	J-010	12
		100 µg/mL	MeOH	APP-9-088	12
		1 mg/mL	MeOH	APP-9-088-10X	20
		5 mg/mL	MeOH	AS-E0069	32
		0.1 mg/mL	EtOAc	M-8032-IS	10
Dimethyl phthalate-3,4,5,6-d_4	93951-89-4	100 µg/mL	MeOH	PHTH-D4-007S	30
Di-n-butyl phthalate	84-74-2	100 µg/mL	MeOH	APP-9-063	12
		1 mg/mL	MeOH	APP-9-063-10X	20
		5 mg/mL	MeOH	AS-E0066	32
Di-n-butyl phthalate-d_4	93952-11-5	100 µg/mL	MeOH	PHTH-D4-002S	30
Di-n-hexyl phthalate-3,4,5,6-d_4		100 µg/mL	MeOH	PHTH-D4-006S	30
Di-n-octyl phthalate	117-84-0	100 mg	NEAT	J-011	12
		100 µg/mL	MeOH	APP-9-095	12
		5 mg/mL	MeOH	AS-E0067	32
Di-n-octyl phthalate-3,4,5,6-d_4	93952-13-7	100 µg/mL	MeOH	PHTH-D4-008S	30
Di-n-pentyl phthalate-3,4,5,6-d_4	358730-89-9	100 µg/mL	MeOH	PHTH-D4-009S	30
Di-n-propyl phthalate-3,4,5,6-d_4	358731-29-0	100 µg/mL	MeOH	PHTH-D4-010S	30
Diphenyl isophthalate	744-45-6	100 mg	NEAT	J-012	12
Diphenyl phthalate	84-62-8	100 mg	NEAT	J-013	12
Isobutylcyclohexyl phthalate		100 mg	NEAT	J-014	12
n-Octyl n-decyl phthalate	119-07-3	100 mg	NEAT	J-015	12

Organic Individuals by Application

Methods by Application:
Many different industries have specific needs for reference standards. In order to make it easy for chemists to find products applicable to their analyses, AccuStandard has created industry specific listings for these different applications.

Individuals by Application	**99-125**
Explosives	**100-102**
Fuels & Hydrocarbons	**322-325**
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Explosives

Fuels and Hydrocarbons

Plastic Additives

Food Analytes

Allergens

Perfluorooctanoic Acids and Salts

Odor

Refrigerants

Dyes

Explosives

Explosive chemicals in solutions are used for several purposes. The major use is as reference standards to aid in the remediation of soil and water. Another use is to train dogs and other animals to detect explosive devices. A third use is to calibrate luggage screening explosives detectors at airports and other secure areas.

Explosives

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price / 1 mL
2-Amino-4,6-dinitrotoluene ■	35572-78-2	1 mg/mL	AcCN:MeOH	M-8330-13	$ 20
		0.1 mg/mL	AcCN:MeOH	M-8330-13-0.1X	20
4-Amino-2,6-dinitrotoluene ■	19406-51-0	1 mg/mL	AcCN:MeOH	M-8330-14	20
		0.1 mg/mL	AcCN:MeOH	M-8330-14-0.1X	20
Ammonium picrate	131-74-8	0.1 mg/mL	AcCN	M-8330-ADD-27	25
DEGDN ***New***	693-21-0	100 µg/mL	AcCN:MeOH	M-8330-ADD-36	30
1,2-Diaminopropane	78-90-0	0.1 mg/mL	MeOH	M-8330-ADD-9	20
2,4-Diamino-6-nitrotoluene ■	6629-29-4	0.1 mg/mL	AcCN	M-8330-ADD-12	40
2,6-Diamino-4-nitrotoluene ■	59229-75-3	0.1 mg/mL	AcCN	M-8330-ADD-13	40
2,3-Dimethyl-2,3-dinitrobutane (DMNB)	3964-18-9	100 µg/mL	AcCN	M-8330-ADD-21	30
3,5-Dinitroaniline	618-87-1	0.1 mg/mL	AcCN:MeOH	M-8330-ADD-4	20
1,2-Dinitrobenzene	528-29-0	1 mg/mL	MeOH	M-8330-SS	20
1,3-Dinitrobenzene	99-65-0	1 mg/mL	AcCN:MeOH	M-8330-01	15
		0.1 mg/mL	AcCN:MeOH	M-8330-01-0.1X	20
1,2-Dinitroglycerin ***New***	621-65-8	100 µg/mL	AcCN:MeOH	M-8330-ADD-33	20
1,3-Dinitroglycerin ***New***	623-87-0	100 µg/mL	AcCN:MeOH	M-8330-ADD-34	20
2,4-Dinitrotoluene ■	121-14-2	1 mg/mL	AcCN:MeOH	M-8330-02	15
		0.1 mg/mL	AcCN:MeOH	M-8330-02-0.1X	20
2,6-Dinitrotoluene ■	606-20-2	1 mg/mL	AcCN:MeOH	M-8330-03	15
		0.1 mg/mL	AcCN:MeOH	M-8330-03-0.1X	20
3,4-Dinitrotoluene	610-39-9	1 mg/mL	MeOH	M-8330-IS	15
3,5-Dinitrotoluene ■	618-85-9	100 µg/mL	AcCN:MeOH	M-8330-ADD-39	75
EGDN	628-96-6	0.1 mg/mL	AcCN	M-8330-ADD-5	20
Guanidine nitrate	506-93-7	0.1 mg/mL	MeOH	M-8330-ADD-10	20
Hexanitrodiphenylamine ***New***	131-73-7	100 µg/mL	AcCN:MeOH	M-8330-ADD-37	40
Hexanitrostilbene (HNS) ■	20062-22-0	0.1 mg/mL	AcCN	M-8330-ADD-26	60
Hexamethylenetriperoxide diamine (HMTD)	283-66-9	0.1 mg/mL	AcCN	M-8330-ADD-25	75
HMX	2691-41-0	1 mg/mL	AcCN:MeOH	M-8330-04	30
		0.1 mg/mL	AcCN:MeOH	M-8330-04-0.1X	20
Hydrazine	302-01-2	0.1 mg/mL	MeOH	M-8330-ADD-8	20
2-Hydroxylamino-4,6-dinitrotoluene ■ (3 month stability)		0.1 mg/mL	AcCN	M-8330-ADD-18	115
4-Hydroxylamino-2,6-dinitrotoluene ■ (3 month stability)		0.1 mg/mL	AcCN	M-8330-ADD-20	115
Nitrobenzene ■	98-95-3	1 mg/mL	AcCN:MeOH	M-8330-06	15
		0.1 mg/mL	AcCN:MeOH	M-8330-06-0.1X	20
N-Nitrodimethylamine ***New***	4164-28-7	100 µg/mL	AcCN	M-8330-ADD-40	75
Nitroglycerin	55-63-0	0.1 mg/mL	EtOH	M-8330-ADD-1	20
		1.0 mg/mL	EtOH:MeOH (97:3)	M-8330-ADD-1-10X	30
1-Nitroglycerin ***New***	624-43-1	100 µg/mL	AcCN:MeOH	M-8330-ADD-31	20
2-Nitroglycerin ***New***	620-12-2	100 µg/mL	AcCN:MeOH	M-8330-ADD-32	20
Nitroguanidine	556-88-7	0.1 mg/mL	MeOH	M-8330-ADD-6	20
Nitromethane	75-52-5	0.1 mg/mL	MeOH	M-8330-ADD-7	20
2-Nitrotoluene ■	88-72-2	1 mg/mL	AcCN:MeOH	M-8330-07	15
		0.1 mg/mL	AcCN:MeOH	M-8330-07-0.1X	15
3-Nitrotoluene ■	99-08-1	1 mg/mL	AcCN:MeOH	M-8330-08	15
		0.1 mg/mL	AcCN:MeOH	M-8330-08-0.1X	15
4-Nitrotoluene ■	99-99-0	1 mg/mL	AcCN:MeOH	M-8330-09	15
		0.1 mg/mL	AcCN:MeOH	M-8330-09-0.1X	15
PETN	78-11-5	0.1 mg/mL	AcCN:MeOH	M-8330-ADD-2	20
		1.0 mg/mL	AcCN:MeOH	M-8330-ADD-2-10X	30
Picramic acid	831-52-7	100 µg/mL	AcCN:MeOH	M-8330-ADD-22	30
Picric acid	88-89-1	0.1 mg/mL	AcCN:MeOH	M-8330-ADD-3	20
Propyleneglycol dinitrate	6423-43-4	100 µg/mL	MeOH	M-8330-ADD-35	35
PYX	38082-89-2	0.1 mg/mL	AcCN	M-8330-ADD-11	20
RDX	121-82-4	1 mg/mL	AcCN:MeOH	M-8330-05	30
		0.1 mg/mL	AcCN:MeOH	M-8330-05-0.1X	20
TATP	17088-37-8	0.1 mg/mL	AcCN	M-8330-ADD-24	75
TEGDN ***New***		0.1 mg/mL	AcCN	M-8330-ADD-41	30
2,2',6,6'-Tetranitro-4,4'-azotoluene ■		0.1 mg/mL	AcCN	M-8330-ADD-17	100
4,4',6,6'-Tetranitro-2,2'-azotoluene ■		0.1 mg/mL	AcCN	M-8330-ADD-19	100
2,2',6,6'-Tetranitro-4,4'-azoxytoluene ■		0.1 mg/mL	AcCN	M-8330-ADD-15	75
Tetryl	479-45-8	1 mg/mL	AcCN:MeOH	M-8330-10	30
		0.1 mg/mL	AcCN:MeOH	M-8330-10-0.1X	20
TNT	118-96-7	1 mg/mL	AcCN:MeOH	M-8330-11	25
		0.1 mg/mL	AcCN:MeOH	M-8330-11-0.1X	20
1,3,5-Triamino-2,4,6-trinitrobenzene	3058-38-6	40 µg/mL	DMF	M-8330-ADD-14-DMF	40
2,4,6-Triaminotoluene trihydrochloride	634-87-7	10 mg	NEAT	M-8330-ADD-23N	25
Trimethylolethane trinitrate	3032-55-1	100 µg/mL	AcCN:MeOH	M-8330-ADD-28	30
1,3,5-Trinitrobenzene ■	99-35-4	1 mg/mL	AcCN:MeOH	M-8330-12	20
		0.1 mg/mL	AcCN:MeOH	M-8330-12-0.1X	20
2,4,6-Trinitroresorcinol	82-71-3	1.0 mg/mL	AcCN:MeOH	M-8330-ADD-29	60

■ TNT Metabolites

Widest selection of Explosives and their Metabolites

HMTD, TATP & HNS

EXCLUSIVELY from AccuStandard

Technical Note

AccuStandard complies with ATF and other regulations for manufacuring and shipping explosives.

Matrix Key

(SOLUTIONS in 1 mL **NEATS** in mg**)**

AcCN:MeOH in (1:1 ratio)
AcCN Acetonitrile
DMF Dimethyl formamide
EtOH Ethanol
MeOH Methanol

Method 8330 Multi-Component Formulations for Explosive Analysis

The following A and B mixes provide better resolution between possible coeluting analytes, assisting the chemist to optimize the HPLC system. We suggest when first performing Method 8330 development, to purchase the high concentration 14 x 1 mL set "M-8330-R-10X-SET".

Mix A

M-8330A ‡ — $ 40 / **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1) — 7 comps.
M-8330A-10X ‡ — $ 50 / **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 7 comps.

1,3-Dinitrobenzene
2,4-Dinitrotoluene
HMX
Nitrobenzene
RDX
1,3,5-Trinitrobenzene
TNT

M-8330A-R ‡ — $ 45 / **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1) — 8 comps.
M-8330A-R-10X ‡ — $ 55 / **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 8 comps.

2-Amino-4,6-dinitrotoluene
1,3-Dinitrobenzene
2,4-Dinitrotoluene
HMX
Nitrobenzene
RDX
1,3,5-Trinitrobenzene
TNT

Composite Explosive Mixture

M-8330-R — $ 110 / **1 x 1 mL**
M-8330-R-PAK — ***SAVE 20%*** $ 440 / **5 x 1 mL**
1.0 mg/mL each in MeOH:AcCN (1:1) — 14 comps.

1,3-Dinitrobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
HMX
RDX
Nitrobenzene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene
Tetryl
TNT
1,3,5-Trinitrobenzene
2-Amino-4,6-dinitrotoluene
4-Amino-2,6-dinitrotoluene

Internal Standard

M-8330-IS — $ 15 / **1 x 1 mL**
M-8330-IS-PAK — ***SAVE 20%*** $ 60 / **5 x 1 mL**
1.0 mg/mL in MeOH

3,4-Dinitrotoluene

Explosives by HPLC Set

M-8330-R-SET ‡ — $ 175 / **14 x 1 mL**
Each at 100 µg/mL in AcCN:MeOH (1:1)
M-8330-R-10X-SET ‡ — $ 210 / **14 x 1 mL**
Each at 1000 µg/mL in AcCN:MeOH (1:1)

1,3-Dinitrobenzene (01)
2,4-Dinitrotoluene (02)
2,6-Dinitrotoluene (03)
HMX (04)
RDX (05)
Nitrobenzene (06)
2-Nitrotoluene (07)
3-Nitrotoluene (08)
4-Nitrotoluene (09)
Tetryl (10)
TNT (11)
1,3,5-Trinitrobenzene (12)
2-Amino-4,6-dinitrotoluene (13)
4-Amino-2,6-dinitrotoluene (14)

Gun Surveillance Standard

EXP-GSS — $ 35 / **1 x 1 mL**
At stated conc. (µg/mL) in AcCN — 9 comps.

Dimethyl phthalate	200	2,2'-Dinitrodiphenylamine	50
2,4'-Dinitrodiphenylamine	50	4,4'-Dinitrodiphenylamine	50
2,4-Dinitrodiphenylamine	50	Diphenylamine	200
2-Nitrodiphenylamine	50	N-Nitrosodiphenylamine	75
4-Nitrodiphenylamine	50		

Mix B

M-8330B ‡ — $ 25 / **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1) — 5 comps.
M-8330B-10X ‡ — $ 40 / **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 5 comps.

Tetryl
2,6-Dinitrotoluene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene

M-8330B-R ‡ — $ 30 / **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1) — 7 comps.
M-8330B-R-10X ‡ — $ 45 / **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 7 comps.

2-Amino-4,6-dinitrotoluene
4-Amino-2,6-dinitrotoluene
Tetryl
2,6-Dinitrotoluene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene

M-8330B-R2 ‡ — $ 30 / **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1) — 6 comps.
M-8330B-R2-10X ‡ — $ 40 / **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 6 comps.

4-Amino-2,6-dinitrotoluene
Tetryl
2,6-Dinitrotoluene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene

Surrogate Standard

M-8330-SS — $ 20 / **1 x 1 mL**
1.0 mg/mL in MeOH

1,2-Dinitrobenzene

DIN 38407-21 Explosives

Examination of water, wastewater, and sludge for determination of selected explosives and related compounds by HPLC with UV detection

DIN38407-21-A — $ 95 / **1 x 1 mL**
10 µg/mL each in MeOH — 12 comps.

Picric acid
HMX
RDX
Tetryl
EGDN
DEGDN
Nitroglycerin
TNT
2-Nitrotoluene
PETN
4-Nitrotoluene
3-Nitrotoluene

DIN 38407-21 Related Compounds

Examination of water, wastewater, and sludge for determination of selected explosives and related compounds by HPLC with UV detection

DIN38407-21-B — $ 65 / **1 x 1 mL**
10 µg/mL each in MeOH:AcCN (98:2) — 8 comps.

1,3,5-Trinitrobenzene
1,3-Dinitrobenzene
4-Amino-2,6-dinitrotoluene
2,2',4,4',6,6'-Hexanitrodiphenylamine
2-Amino-4,6-dinitrotoluene
2,6-Dinitrotoluene
2,4-Dinitrotoluene
Diphenylamine

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Method 529 Explosive & Related Compounds by SPE & Capillary Column GC/MS

Method 529 Calibration Curve

All in µg/mL in Ethyl acetate

M-529-	01	02	03	04	05	06	07	08	09
2-Amino-4,6-dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
4-Amino-2,6-dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
3,5-Dinitroaniline	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
1,3-Dinitrobenzene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
2,4-Dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
2,6-Dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
RDX	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
Nitrobenzene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
2-Nitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
3-Nitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
4-Nitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
1,3,5-Trinitrobenzene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
Tetryl	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
TNT	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10

Full Scan MS Calibration Set

M-529-MS-SET $ 325 / **6 x 1 mL**
M-529-03, M-529-05, M-529-06, M-529-07, M-529-08, M-529-09

SIM Calibration Set

M-529-SIM-SET $ 325 / **7 x 1 mL**
M-529-01, M-529-02, M-529-03, M-529-04, M-529-05, M-529-06, M-529-07

Storage Condition.: Freeze (<-10°C)

Internal Standard Stock Solution

M-529-IS $ 20 / **1 x 1 mL**
2.0 mg/mL Ethyl acetate

3,4-Dinitrotoluene

Internal Standard Fortification Solution

M-529-ISFS $ 90 / **1 x 1 mL**
200 µg/mL each in Ethyl acetate 14 comps.

2-Amino-4,6-dinitrotoluene
4-Amino-2,6-dinitrotoluene
3,5-Dinitroaniline
1,3-Dinitrobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
RDX
Nitrobenzene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene
1,3,5-Trinitrobenzene
Tetryl
TNT

Surrogate Analyte Stock Solutions

M-529-SS1 $ 55 / **1 x 1 mL**
M-529-SS1-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
1000 µg/mL each in MeOH 2 comps.

1,3,5-Trimethyl-2-nitrobenzene
1,2,4-Trimethyl-5-nitrobenzene

M-529-SS2 $ 15 / **1 x 1 mL**
M-529-SS2-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1000 µg/mL each in CH_2Cl_2

Nitrobenzene-d_5

Surrogate Analyte Fortification Solution

M-529-SAFS $ 60 / **1 x 1 mL**
100 µg/mL each in MeOH 3 comps.

1,3,5-Trimethyl-2-nitrobenzene
1,2,4-Trimethyl-5-nitrobenzene
Nitrobenzene-d_5

Method 8095 Explosives by GC/ECD

This method is a companion to EPA Method 8330, utilizing the sensitivity and selectivity of the ECD.

Explosive Stock Solution A

M-8095-SSA-100X $ 55 / **1 x 1 mL**
M-8095-SSA-100X-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
100 µg/mL each in AcCN:MeOH (1:1) 10 comps.

2-Amino-4,6-dinitrotoluene
4-Amino-2,6-dinitrotoluene
1,3-Dinitrobenzene
2,6-Dinitrotoluene
2,4-Dinitrotoluene
1,3,5-Trinitrobenzene
TNT
RDX
Tetryl
HMX

Explosive Stock Solution B

M-8095-SSB-100X $ 55 / **1 x 1 mL**
M-8095-SSB-100X-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
At stated conc. in AcCN:MeOH (1:1) 7 comps.

Nitrobenzene	(500 µg/mL)	Nitroglycerin	(500 µg/mL)
3-Nitrotoluene	(500 µg/mL)	PETN	(500 µg/mL)
2-Nitrotoluene	(500 µg/mL)	3,5-Dinitroaniline	(100 µg/mL)
4-Nitrotoluene	(500 µg/mL)		

Explosive Surrogate Standards

M-8095-SS-01 $ 15 / **1 x 1 mL**
M-8095-SS-01-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
100 µg/mL in AcCN

3,4-Dinitrotoluene

M-8095-SS-02 $ 20 / **1 x 1 mL**
M-8095-SS-02-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
100 µg/mL in AcCN

2-Methyl-4-nitroaniline

M-8095-SS-03 $ 50 / **1 x 1 mL**
M-8095-SS-03-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
10 µg/mL in AcCN

2,5-Dinitrotoluene

Plastic Additives

NEW

Plastics and other polymeric materials have become indispensable in our everyday lives. Although they offer many benefits, hazardous chemicals may be present in these materials. These hazardous materials can be introduced either intentionally as additives, or unintentionally as pollutants.

AccuStandard has collected or synthesized many of these polymer adjuncts and is pleased to present them in this newest unique product line as Certified Reference Standards for monitoring these chemicals.

The occurrence, toxicity and analytical methods used in the detection, monitoring (for both presence and levels) of these chemical classes and individual compounds within these classes are more thoroughly described in the book the "Handbook for the Chemical Analysis of Plastic and Polymer Additives" (published in 2007 by CRC Press). Both manufacturers and analytical laboratories will find the CRC book to be an authoritative source of information that compliments this catalog.

Calibrating with Certified Standards adds an additional layer of confidence in the analysis that can aid in meeting regulations, protecting in challenges from governmental regulations, and providing protection from legal issues that could be raised by consumers.

Below find a list of regulations that require analysis of many of these additives:

- EU Directives 2002/96/EC and 2002/95/EC WEEE (Waste Electrical and Electronic Equipment) that establishes limits for the content of a product that must be recyclable or reusable.
- EU Directive 2003/11/EC RoHS (restriction of the use of certain hazardous substances) restricting the use of six toxins from most electronic & electrical equipment.
- EU Directive 2002/72/EC relating to plastic materials and articles intended to come in contact with foodstuffs.
- EU Directive 2002/61/EC aryl amine breakdown products in azo dyes.
- EU Directive 67/548/EEC relating to the packaging of dangerous substances.
- FDA and The United States Code of Federal Regulations (CFR) - 21 CFR Parts 175-178 that regulate adhesives, components of coatings, paper and paperboard components, polymers and adjuvants and production aids.
- United States Environmental Protection Agency (USEPA) - Methods 606, 506-1 and 8061 regulating phthalates and adipates.

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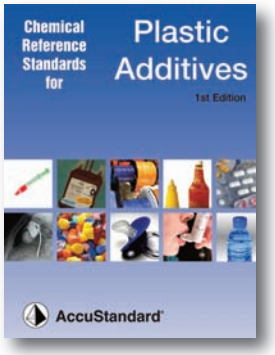


For chemical structures, formula and molecular weight, request catalog or visit our website.

PolyAdd ✔ Check™

We have listed the compounds by the most common uses. If you cannot find a particular compound, or are interested in a custom solvent, concentration, or a custom solution containing more that one compound please call our Technical Service Department for a quotation.

Solutions at 1000 µg/mL in Hexane, except where indicated
* Hexane:Acetone, -A Acetone, -T Toluene, -M Methanol, - DMSO

Accelerators

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	Price/1 mL
Accelerator BBTS	N-(1,1-dimethylethyl)2-benzothiazolesulfenamide	95-31-8	PLAS-AC-003N	$ 50	PLAS-AC-003S	$ 18
Accelerator ETU-22 PM *	Ethylene thiourea	96-45-7	PLAS-AC-002N	50	PLAS-AC-002S	18
Accelerator EZ & EZ-SP	Zinc diethyldithiocarbamate	14324-55-1	PLAS-AC-006N	50	PLAS-AC-006S	18
Accelerator MBT, MBT/MG	2-Mercaptobenzothiazole	149-30-4	PLAS-AC-001N	50	PLAS-AC-001S	18
Activator OT Urea **	Urea	57-13-3	PLAS-AC-005N	50	PLAS-AC-005S-A	18
Cure-Rite® IBT	Tetraisobutylthiuram disulfide	3064-73-1	PLAS-AC-004N	50	PLAS-AC-004S	18

Antidegradants

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	Price/1 mL
Ethanox® 314	1,3,5-Tris(3,5-di-tert-butyl-4-hydroxybenzyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione	27676-62-6	PLAS-AX-084N	$ 50	PLAS-AX-084S	$ 18
Ethanox 703	2-,6-Di-tert-butyl-N-N-dimethylamino-p-cresol	88-27-7	PLAS-AX-085N	50	PLAS-AX-085S	18
Santoflex 77PD	N,N'-bis(1,4-dimethylpentyl)-p-phenylenediamine	3081-14-9	PLAS-AD-002N	50	PLAS-AD-002S	18
Santoflex IPPD *	N-phenyl-N'-propan-2-yl-benzene-1,4-diamine	101-72-4	PLAS-AD-003N	50	PLAS-AD-003S	18
Wingstay L	Butylated reaction product of p-cresol and dicyclopentadiene	68610-51-5	PLAS-AD-001N	50	PLAS-AD-001S	18

Antifoams

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	Price/1 mL
SF100	Dimethyl silicone fluid	9016-00-6	PLAS-AF-001N	$ 50	PLAS-AF-001S	$ 18

Antiozonants

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	Price/1 mL
Antiozonant NIBUD	Nickel dibutyl dithiocarbamate	13927-77-0	PLAS-AZ-001N	$ 50	PLAS-AZ-001S	$ 18

Trade named products are usually technical mixtures.

Antioxidants

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	Price/1 mL
Alkanox® P27	bis(2,4-Di-tert-butylphenyl)pentaerythritol diphosphate and magnesium aluminum hydroxy carbonate hydrate	26741-53-7 / 11097-59-9	PLAS-AX-032N	$ 50	PLAS-AX-032S	$ 18
Alkanox TNPP	Tris(mono-nonylphenyl) phosphite with up to 1% triisopropanol amine	26523-78-4	PLAS-AX-077N	50	PLAS-AX-077S	18
Antioxidant 60	2H-benzimidazole-2-thione, 1,3-di-hydro-4(or 5)-methyl	53988-10-6	PLAS-AX-019N	50	PLAS-AX-019S-M	18
Antioxidant S	Benzenamine, N-phenyl, reaction products with 2,4,4-trimethylpentene	68411-46-1	PLAS-AX-057N	50	PLAS-AX-057S	18
Cyanox® 1212	Lauryl stearylthiopropionate	13103-52-1	PLAS-AX-047N	50	PLAS-AX-047S	18
Cyanox 1790	1,3,5-Tris(4-tert-butyl-3-hydroxy-2,6-dimethylbenzyl)-1,3,5-triazine-2,4,6-(1h, 3h,5h)-trione	40601-76-1	PLAS-AX-005N	50	PLAS-AX-005S	18
Cyanox 2246	2,2'-Methylene-bis-(4-methyl-6-tert-butyl-phenol)	119-47-1	PLAS-AX-013N	50	PLAS-AX-013S	18
Cyanox 425	2,2'-Methylene-bis-(4-ethyl-6-tert-butyl-phenol)	88-24-4	PLAS-AX-012N	50	PLAS-AX-012S	18
Cyanox LTDP	Dilaurylthiopropionate	123-28-4	PLAS-AX-041N	50	PLAS-AX-041S	18
Cyanox STDP	Distearylthiopropionate	693-36-7	PLAS-AX-044N	50	PLAS-AX-044S	18
Ethanox® 310	Pentaerythritol tetrakis (3-(3,5-di-t-butyl-4-hydroxyphenyl)propionate	6683-19-8	PLAS-AX-086N	50	PLAS-AX-086S	18
Ethanox 323	Nonylphenol disulfide oligomer		PLAS-AX-082N	50	PLAS-AX-082S	18
Ethanox 330	1,3,5-Trimethyl-2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl) benzene	1709-70-2	PLAS-AX-021N	50	PLAS-AX-021S	18
Ethanox 376	3,5-Di-tert-butyl-4-hydroxyhydrocinnamic acid, octadecyl ester	2082-79-3	PLAS-AX-054N	50	PLAS-AX-054S	18
Ethanox 702	4,4'-Methylenebis(2,6-di-tert-butylphenol)	118-82-1	PLAS-AX-025N	50	PLAS-AX-025S	18
Ethaphos® 368	Tris(2,4-di-tert-butylphenyl) phosphite	31570-04-4	PLAS-AX-074N	50	PLAS-AX-074S	18
Irganox® 1035	Thiodiethylene bis(3,5-di-tert-butyl-4-hydroxyhydrocinnamate)	41484-35-9	PLAS-AX-069N	50	PLAS-AX-069S	18
Irganox 1081	6,6'-Di-tert-butyl-2,2'-thiodi-p-cresol	90-66-4	PLAS-AX-080N	50	PLAS-AX-080S	18
Irganox 1098 *	N,N'-1,6-Hexanediyl bis[3,5-bis(1,1-dimethylethyl)-4-hydroxy-benzenepropanamide]	23128-74-7	PLAS-AX-050N	50	PLAS-AX-050S	18
Irganox 1425 WL	Ethyl 3,5-di-tert-butyl-4-hydroxybenzylphosphonate, calcium salt and polyethylene-wax mixture	65140-91-2 / 9002-88-4	PLAS-AX-079N	50	----------	---
Irganox 245	Triethyleneglycol bis[3-(3'-tert-butyl-4'hydroxy-5'-methylphenol)propionate]	36443-68-2	PLAS-AX-070N	50	PLAS-AX-070S	18
Irganox 259	Hexamethylene bis(3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate)	35074-77-2	PLAS-AX-045N	50	PLAS-AX-045S	18
Irganox 3114 FF	1,3,5-Tris(3,5-di-tert-butyl-4-hydroxybenzyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione	27676-62-6	PLAS-AX-078N	50	PLAS-AX-078S	18
Irganox 3125 *	3,5-Di-tert-butyl-4-hydroxyhydrocinnamic ester with 1,3,5-tris[2-hydroxyethyl]-s-triazine-2,4,6[1H,3H,5H]-trione	34137-09-2	PLAS-AX-020N	50	PLAS-AX-020S	18
Irganox 565	2,4-bis(n-Octylthio)-6-(4-hydroxy-3,5-di-tert-butylanilino)-1,3,5-triazine	991-84-4	PLAS-AX-014N	50	PLAS-AX-014S	18
Irganox E 201	alpha-Tocopherol	10191-41-0	PLAS-AX-027N	50	PLAS-AX-027S	18
Irganox MD 1024 *	1,2-bis(3,5-Di-tert-butyl-4-hydroxyhydrocinnamoyl)hydrazide	32687-78-8	PLAS-AX-001N	50	PLAS-AX-001S	18
Isonox® 132	2,6-Di-tert-butyl-4-sec-butylphenol	17540-75-9	PLAS-AX-018N	50	PLAS-AX-018S	18
Isonox 232	2,6-Di-tert-butyl-4-nonylphenol	4306-88-1	PLAS-AX-063N	50	PLAS-AX-063S	18
Lowinox AH25	2,5-bis(1,1-Dimethylpropyl)-1,4-benzenediol	79-74-3	PLAS-AX-016N	50	PLAS-AX-016S	18
Lowinox CPL	Polymeric sterically hindered phenol	68610-51-5	PLAS-AX-059N	50	PLAS-AX-059S	18
Lowinox TBM-6	4,4'-Thiobis(2-tert-butyl-5-methylphenol)	96-69-5	PLAS-AX-024N	50	PLAS-AX-024S	18
Markstat® 60	Polyglycol ester		PLAS-AX-028N	50	PLAS-AX-028S	18
Naugard® 412S	beta-Laurylthiopropionate	29598-76-3	PLAS-AX-030N	50	PLAS-AX-030S	18
Naugard 445	4,4'-bis(alpha,alpha-Dimethylbenzyl)diphenylamine	10081-67-1	PLAS-AX-022N	50	PLAS-AX-022S	18
Naugard 956	Proprietary blend of primary and secondary antioxidants		PLAS-AX-060N	50	PLAS-AX-060S-T	18
Naugard A *	Acetone diphenylamine condensation products	68412-48-6	PLAS-AX-026N	50	PLAS-AX-026S	18
Naugard B-25	1:1 blend of Naugard® 10 and Naugard® 524	6683-19-8 / 31570-04-4	PLAS-AX-061N	50	PLAS-AX-061S	18
Naugard BHT	2,6-Di-tert-butyl-4-methylphenol	128-37-0	PLAS-AX-017N	50	PLAS-AX-017S	18
Naugard HM-22	Blend of phenolic primary and diphenylamine secondary antioxidants (Naugards 76 and 445)		PLAS-AX-033N	50	PLAS-AX-033S	18
Naugard J *	N,N'-Diphenyl-p-phenylenediamine	74-31-7	PLAS-AX-048N	50	PLAS-AX-048S	18
Naugard NBC	Nickel dibutyl dithiocarbamate	13927-77-0	PLAS-AX-051N	50	PLAS-AX-051S	18
Naugard PANA	N-Phenyl-1-naphthylamine	90-30-2	PLAS-AX-058N	50	PLAS-AX-058S	18
Naugard PHR	Tris(mono-nonylphenyl) phosphite with up to 1% triisopropanol amine	26523-78-4	PLAS-AX-076N	50	PLAS-AX-076S	18
Naugard PS-30	Benzenamine, N-phenyl, reaction products with 2,4,4-trimethylpentene	68411-46-1	PLAS-AX-038N	50	PLAS-AX-038S	18
Naugard PS-35	Tris-nonyl phenyl phosphite		PLAS-AX-046N	50	PLAS-AX-046S	18
Naugard Q Extra	1,2-Dihydro-2,2,4-trimethylquinoline (polymerized)	26780-96-1	PLAS-AX-002N	50	PLAS-AX-002S	18
Naugard RM-51	Tris(mono-nonylphenyl)phosphite,2,2'-methylene bis (4-methyl-6-nonyl phenol)	26523-78-4	PLAS-AX-034N	50	PLAS-AX-034S	18
Naugard Super Q	1,2-Dihydro-2,2,4-trimethylquinoline (polymerized)	147-47-7	PLAS-AX-003N	50	PLAS-AX-003S	18
Naugard XL-1 *	2,2'-Oxamidobis[ethyl-3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate]	70331-94-1	PLAS-AX-008N	50	PLAS-AX-008S	18
Santicizer® 278	Benzyl 3-isobutyrloxy-1-isopropyl-2,2-dimethylpropyl phthalate	16883-83-3	PLAS-AX-029N	50	PLAS-AX-029S	18
Ultranox® 626	bis(2,4-Di-tert-butylphenyl)pentaerythritol diphosphite	26741-53-7	PLAS-AX-031N	50	PLAS-AX-031S	18

Trade named products are usally technical mixtures.

Solutions at 1000 µg/mL in Hexane, except where indicated
* Hexane:Acetone, -A Acetone, -T Toluene, -M Methanol, - DMSO

Blowing Agents, Plasticizers

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	Price/1 mL
Celogen® AZ	Carbamoyliminourea	123-77-3	PLAS-BA-002N	$ 50	PLAS-BA-002S-DMSO	$ 18
CPW-100	Chlorinated paraffin wax	63449-39-8	PLAS-BA-001N	50	PLAS-BA-001S	18

Coupling Agents

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	Price/1 mL
Silquest® A-187	gamma-Glycidoxypropyltrimethoxysilane	2530-83-8	PLAS-CA-004N	$ 50	PLAS-CA-004S	$ 18
Silquest A-1100	gamma-Aminopropyltriethoxysilane	919-30-2	PLAS-CA-002N	50	PLAS-CA-002S	18
Silquest A-1102	gamma-Aminopropyltriethoxysilane (Tech grade)	919-30-2	PLAS-CA-003N	50	PLAS-CA-003S	18
Silquest A-1289	bis-(Triethoxysilypropyl)tetrasulfane	211519-85-6	PLAS-CA-001N	50	PLAS-CA-001S	18
Silquest A-137	Octyltriethoxysilane	2943-75-1	PLAS-CA-005N	50	PLAS-CA-005S	18
Silquest A-2171	Vinylmethyldimethoxysilane	16753-62-1	PLAS-CA-006N	50	PLAS-CA-006S	18

Cross-Linking Agents

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	Price/1 mL
F-300, F-1000, F-1500, F-2000, F-3000	Stearic acid	57-11-4	PLAS-CL-006N	$ 50	PLAS-CL-006S	$ 18
Perkacit® DPG *	N,N'-Diphenylguanidine	102-06-7	PLAS-CL-004N	50	PLAS-CL-004S	18
Perkacit MBT	2-Mercaptobenzothiazole	149-30-4	PLAS-CL-002N	50	PLAS-CL-002S	18
Perkacit MBTS	2,2'-Dithiobis(benzothiazole)	120-78-5	PLAS-CL-001N	50	PLAS-CL-001S	18
Perkacit NDBC	Nickel dibutyl dithiocarbamate	13927-77-0	PLAS-CL-005N	50	PLAS-CL-005S	18
Perkacit ZDEC	Zinc diethyldithiocarbamate	14324-55-1	PLAS-CL-007N	50	PLAS-CL-007S	18
Resimene® 3520	Hexamethoxy methyl melamine	3089-11-0	PLAS-CL-003N	50	PLAS-CL-003S	18

Flame Retardants (see PCB and PBDE section for complete listings)

Chemical Name	CAS No.	Matrix	Solution	Price/1 mL
2,2',3,4,4',5',6-Heptabromodiphenyl ether	207122-16-5	50 µg/mL in Isooctane	BDE-183S	$ 160
2,2',4,4'-Tetrabromodiphenyl ether	40088-47-9	50 µg/mL in Isooctane	BDE-047S	50
2,2',4,4',5-Pentabromodiphenyl ether	32534-81-9	50 µg/mL in Isooctane	BDE-099S	90
2,2',4,4',5,5'-Hexabromodiphenyl ether	36483-60-0	50 µg/mL in Isooctane	BDE-153S	90
2,2',4,4',5,6'-Hexabromodiphenyl ether	207122-15-4	50 µg/mL in Isooctane	BDE-154S	90
2,2',4,4',6-Pentabromodiphenyl ether	189084-64-8	50 µg/mL in Isooctane	BDE-100S	90
Aroclor® 1016 (Tech Mix)	12674-11-2	1000 µg/mL in Hexane	C-216S-H-10X	20
		50 mg	C-216N-50MG	40
Aroclor 1221 (Tech Mix)	11104-28-2	1000 µg/mL in Hexane	C-221S-H-10X	20
		50 mg	C-221N-50MG	50
Aroclor 1232 (Tech Mix)	11141-16-5	1000 µg/mL in Hexane	C-232S-H-10X	20
Aroclor 1242 (Tech Mix)	53469-21-9	1000 µg/mL in Hexane	C-242S-H-10X	20
		50 mg	C-242N-50MG	40
Aroclor 1248 (Tech Mix)	12672-29-6	1000 µg/mL in Hexane	C-248S-H-10X	20
		50 mg	C-248N-50MG	40
Aroclor 1254 (Tech Mix)	11097-69-1	1000 µg/mL in Hexane	C-254S-H-10X	20
		50 mg	C-254N-50MG	55
Aroclor 1260 (Tech Mix)	11096-82-5	1000 µg/mL in Hexane	C-260S-H-10X	20
		50 mg	C-260N-50MG	40
Aroclor 1262 (Tech Mix)	37324-23-5	1000 µg/mL in Hexane	C-262S-H-10X	20
		50 mg	C-262N-50MG	40
Aroclor 1268 (Tech Mix)	11100-14-4	1000 µg/mL in Hexane	C-298S-H-10X	20
Aroclor 5432 (Tech Mix)	63496-31-1	35 µg/mL in Toluene	T-432S	25
Aroclor 5442 (Tech Mix)	12642-23-8	35 µg/mL in Toluene	T-442S	25
Aroclor 5460 (Tech Mix)	11126-42-4	35 µg/mL in Toluene	T-440S	25
Aroclor 6050 (Tech Mix)		35 µg/mL in Toluene	T-6050S	25
Decabromodiphenyl ether	1163-19-5	50 µg/mL in Isooctane:Toluene	BDE-209S	50
Firemaster BP4A (4,4'-(1-methylethylidene) bis (2,6-dibromophenol))	79-94-7	100 µg/mL in Toluene	FRS-006S	15
		10 mg	FRS-006N	15
Halowax 1000 (26 %Cl)	58718-66-4	100 µg/mL in Methanol	N-1000S	20
Halowax 1001 (50 %Cl)	58718-67-5	100 µg/mL in Methanol	N-1001S	20
Halowax 1013 (56 %Cl)	1321-64-8	100 µg/mL in Methanol	N-1013S	20
Halowax 1014 (62 %Cl)	1335-87-1	100 µg/mL in Methanol	N-1014S	20
Halowax 1051 (70 %Cl)	2234-13-1	100 µg/mL in Methanol	N-1051S	20
Halowax 1099 (52 %Cl)	39450-05-0	100 µg/mL in Methanol	N-1099S	20
m-Terphenyl	92-06-8	100 mg	T-002N	13
o-Terphenyl	84-15-1	100 mg	T-001N	13
p-Terphenyl	92-94-4	100 mg	T-003N	13
Tetradecachloro-*m*-terphenyl		35 µg/mL in Toluene	T-005S	25
Tetradecachloro-*o*-terphenyl		35 µg/mL in Toluene	T-004S	25
Tetradecachloro-*p*-terphenyl		35 µg/mL in Toluene	T-006S	25

Plastic Additives

Solutions at 1000 µg/mL in Hexane, except where indicated
* Hexane:Acetone, -A Acetone, -T Toluene, -M Methanol, - DMSO

Plasticizers

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	Price/1 mL
Benzoflex® 2-45	Diethylene glycol, dibenzoate	120-55-8	PLAS-PL-015N	$ 50	PLAS-PL-015S	$ 18
Bisphenol A	4,4'-Dihydroxy-2,2'-diphenylpropane	80-05-7			M-1626-01S	20
Celogen® SD-125	50% Azodicarbonamide in a phthalate plasticizer		PLAS-PL-009N	50	PLAS-PL-009S	18
Citroflex® 2	2-Hydroxy-1,2,3-propanetricarboxylic acid, triethyl ester	77-93-0	PLAS-PL-028N	50	PLAS-PL-028S	18
Citroflex 4	2-Hydroxy-1,2,3-propanetricarboxylic acid, tributyl ester	77-94-1	PLAS-PL-030N	50	PLAS-PL-030S	18
Citroflex A-2	2-(Acetyloxy)-1,2,3-propanetricarboxylic acid, triethyl ester	77-89-4	PLAS-PL-001N	50	PLAS-PL-001S	18
Citroflex A-4	2-Acetoxy-1,2,3-propanetricarboxylic acid, tributyl ester	77-90-7	PLAS-PL-002N	50	PLAS-PL-002S	18
Citroflex B-6	n-Butyltri-n-hexyl citrate	82469-79-2	PLAS-PL-025N	50	PLAS-PL-025S	18
Dibutyl Phthalate		84-74-2	PLAS-PL-013N	50	PLAS-PL-013S	18
Dioctyl Phthalate (DOP)		117-81-7	PLAS-PL-019N	50	PLAS-PL-019S	18
Hercoflex® 900	1,3-Isobenzofurandione, polymer with 2,2'-(1,2-ethanediylbis(oxy)) bis(ethanol), benzoate	68186-30-1	PLAS-PL-038N	50	PLAS-PL-038S	18
Hi-Point 90 (in DMP)	2-Butanone peroxide (in DMP)	1338-23-4	PLAS-PL-023N-R1	50	PLAS-PL-023S-R1	18
Hi-Point® PD-1	Methyl ethyl ketone peroxide solution	1338-23-4	PLAS-PL-024N	50	PLAS-PL-024S	18
Jayflex® 77	Diisoheptyl phthalate	71888-89-6	PLAS-PL-017N	50	PLAS-PL-017S	18
Jayflex DIDP Plasticizer	Diisodecyl phthalate	68515-49-1	PLAS-PL-016N	50	PLAS-PL-016S	18
Jayflex DINP Plasticizer	Diisononyl phthalate	68515-48-0	PLAS-PL-018N	50	PLAS-PL-018S	18
Jayflex DTDP plasticizer	Diisotridecyl phthalate	68515-47-9	PLAS-PL-020N	50	PLAS-PL-020S	18
Jayflex L11P-E plasticizer	Diundecyl phthalate	3648-20-2	PLAS-PL-021N	50	PLAS-PL-021S	18
Jayflex TINTM plasticizer	Triisononyl trimellitate	53894-23-8	PLAS-PL-029N	50	PLAS-PL-029S	18
Laurex®	Zinc salt of lauric and related fatty acids		PLAS-PL-032N	50	PLAS-PL-032S	18
Markstat® 51	Poly(ethylene glycol) monolaurate	9004-81-3	PLAS-PL-003N	50	PLAS-PL-003S	18
Morflex® 150	Dicyclohexyl phthalate	84-61-7	PLAS-PL-014N	50	PLAS-PL-014S	18
Morflex 190	Butylphthalyl butyl glycolate	85-70-1	PLAS-PL-008N	50	PLAS-PL-008S	18
Morflex 560	Tri-n-hexyl trimellitate	1528-49-0	PLAS-PL-031N	50	PLAS-PL-031S	18
Morflex x-1125	Ditridecyl phthalate	119-06-2	PLAS-PL-033N	50	PLAS-PL-033S	18
Paraplex® G-30	Proprietary dibasic acid polyester mixture		PLAS-PL-027N	50	PLAS-PL-027S	18
Plasthall® ESO	Epoxidized soybean oil	8013-07-8	PLAS-PL-035N	50	PLAS-PL-035S	18
Polycizer® Butyl Oleate	Butyl oleate	142-77-8	PLAS-PL-007N	50	PLAS-PL-007S	18
Polycizer DP 500	Dipropylene glycol dibenzoate	27138-31-4	PLAS-PL-011N	50	PLAS-PL-011S	18
Santicizer® 141	2-Ethylhexyldiphenyl phosphate	1241-94-7	PLAS-PL-026N	50	PLAS-PL-026S	18
Santicizer 148	Mixture: isodecyldiphenyl phosphate (80-90%) / diisodecyl phenyl phosphate / triphenyl phosphate	29761-21-5	PLAS-PL-022N	50	PLAS-PL-022S	18
Santicizer 160	Benzyl butyl phthalate	85-68-7	PLAS-PL-004N	50	PLAS-PL-004S	18
Santicizer 261	Benzyl phthalate	68515-40-2	PLAS-PL-005N	50	PLAS-PL-005S	18
Vinsol® powder			PLAS-PL-037N	50	PLAS-PL-037S	18
Vinsol resin	Gum rosin	8050-09-7	PLAS-PL-036N	50	PLAS-PL-036S	18

Processing Aids

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	1 mL / Price
Kemamide® E ultra	Erucamide	112-84-5	PLAS-PA-001N	$ 50	PLAS-PA-001S	$ 18

Retarders

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	1 mL / Price
Retarder AK *	Phthalic anhydride	85-44-9	PLAS-RT-001N	$ 50	PLAS-RT-001S	$ 18

Stearates

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	1 mL / Price
Stearic Acid RG (rubber grade)	Stearic acid	57-11-4	PLAS-ST-001N	$ 50	PLAS-ST-001S	$ 18
Stearic Acid TP	Stearic acid	57-11-4	PLAS-ST-002N	50	PLAS-ST-002S	18

UV Stabilizers

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	1 mL / Price
Tinuvin® PED	2-(-Hydroxy-5-methylphenyl)benzo triazole	2440-22-4	PLAS-UV-005N	$ 50	PLAS-UV-005S	$ 18
Uvinul® 3000	2,4-Dihydroxybenzophenone	131-56-6	PLAS-UV-001N	50	PLAS-UV-001S	18
Uvinul 3008	2-Hydroxy-4-octyloxybenzophenone	1843-05-6	PLAS-UV-002N	50	PLAS-UV-002S	18
Uvinul 3040	2-Hydroxy-4-methoxybenzophenone	131-57-7	PLAS-UV-003N	50	PLAS-UV-003S	18
Uvinul 3049	2,2-Dihydroxy-4,4-dimethoxybenzophenone	131-54-4	PLAS-UV-004N	50	PLAS-UV-004S	18

Vegetable Oils

Trade Name	Chemical Name	CAS No.	Neat	50 mg / Price	Solution	1 mL / Price
Akrofax A	Vulcanized vegetable oil		PLAS-VA-001N	$ 50	PLAS-VA-001S	$ 18
Akrofax B	Vulcanized vegetable oil		PLAS-VA-002N	50	PLAS-VA-002S	18

Trade named products are usally technical mixtures.

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Deuterated Phthalates

Chemical Name	CAS No.	Neat	5 mg Each	Solution	Price/1 mL
Dibenzyl phthalate-d_4		PHTH-D4-001N		PHTH-D4-001S	$ 30
Di-n-butyl phthalate-d_4	93952-11-5	PHTH-D4-002N		PHTH-D4-002S	30
Di-iso-butyl phthalate-3,4,5,6-d_4	358730-88-8	PHTH-D4-003N		PHTH-D4-003S	30
Dicyclohexyl phthalate-3,4,5,6-d_4	358731-25-6	PHTH-D4-004N		PHTH-D4-004S	30
Diethyl phthalate-3,4,5,6-d_4	93952-12-6	PHTH-D4-005N		PHTH-D4-005S	30
Di-n-hexyl phthalate-3,4,5,6-d_4		PHTH-D4-006N		PHTH-D4-006S	30
Dimethyl phthalate-3,4,5,6-d_4	93951-89-4	PHTH-D4-007N		PHTH-D4-007S	30
Di-n-octyl phthalate-3,4,5,6-d_4	93952-13-7	PHTH-D4-008N		PHTH-D4-008S	30
Di-n-pentyl phthalate-3,4,5,6-d_4	358730-89-9	PHTH-D4-009N		PHTH-D4-009S	30
Di-n-pentyl phthalate-3,4,5,6-d_4	358731-29-0	PHTH-D4-010N		PHTH-D4-010S	30
Di-n-pentyl phthalate-3,4,5,6-d_4	93951-87-2	PHTH-D4-011N		PHTH-D4-011S	30
Sets of Deuterated Phthalates		**PHTH-D4N-SET**	**$ 375 / 11 x 5 mg**	**PHTH-D4S-SET**	**$ 225/ 11 x 1 mL**

Technical Mixtures

When a compound has a purity identified as "Technical" or "Tech Mixture" it means that the standard is not comprised of just one main compound. These are mixtures of multiple chemicals that make up a particular product and every chemical in the mix are components that define the product. The analysis considers all compounds in the product. Aroclors, flame retardants, PBDE technical grade, halowaxes, and some allergens, plastic additives, and dyes may be classified as "Technical Mixtures".

ASTM Method D6042-92 Plastic Packaging Testing Standards

This method is used by both pharmaceutical companies and plastics manufacturers. The test ensures the quality of the plastic product during the manufacturing process, and as delivered to the pharmaceutical customer. Compounds are often added to the method's analyte list by pharmaceutical companies.

Calibration Mix

PLAS-CAL-001 $ 29 / **1 x 1 mL**
PLAS-CAL-001-PAK *SAVE 20%* $ 116 / **5 x 1 mL**
50 µg/mL each in Isopropanol 7 comps.

BHT
Erucamide Slip
Vitamin E
Irgafor 128
Irganox 3114
Irganox 1010
Irganox 1076

Internal Standard Mix

PLAS-IS-001 $ 20 / **1 x 1 mL**
PLAS-IS-001-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
51.8 µg/mL in Isopropanol

Tinuvin P

Expanded List of Additives

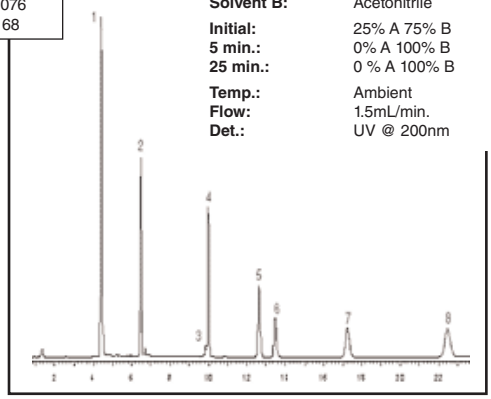
Each at 50 µg/mL in Isopropanol, except Ethanox 703 at 1000 µg/mL

Ultranox 626	PLAS-CAL-002-1	$ 20 / 1 mL
Santanox R	PLAS-CAL-002-2	20 / 1 mL
Ethanox 330	PLAS-CAL-002-3	20 / 1 mL
Ethanox 323	PLAS-CAL-002-4	20 / 1 mL
Ethanox 702	PLAS-CAL-002-5	$ 20 / 1 mL
Ethanox 703	PLAS-CAL-002-6	20 / 1 mL
Irganox 1035	PLAS-CAL-002-7	20 / 1 mL

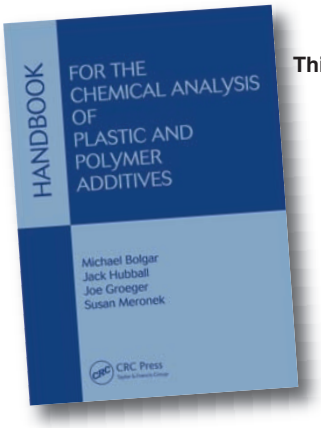
Component list:
1. Tinuvin® P
2. BHT
3. Erucamide
4. Irganox® 3114
5. Irganox 1010
6. Vitamin E
7. Irganox 1076
8. Irgafos® 168

Analysis Conditions:
10µL injection @ 50ppm each component, ASTM D6042-96 calibration mix and IS mix
Solvent: Isopropanol
Column: 150 X 4.6mm Ultra C8, 5µm, 100Å

Mobile phase:	Linear gradient
Solvent A:	Water
Solvent B:	Acetonitrile
Initial:	25% A 75% B
5 min.:	0% A 100% B
25 min.:	0 % A 100% B
Temp.:	Ambient
Flow:	1.5mL/min.
Det.:	UV @ 200nm



The figure shows the separation of the compounds on the method's analyte list, as analyzed by our HPLC specialists. The primary calibration standard mixture contains the common antioxidants and slips listed in ASTM D6042-96.



BOOK-PLAS-001 $ 250

The perfect companion for your analysis!

This CRC Press reference book contains the compounds in this catalog, with important reference data to aid in testing and compliance.

Each Compound has:
- Chemical Information
- Structure
- CAS Number (where applicable)
- RTECS Number (where available)
- Formula
- Molecular Weight
- IUPAC Name, other common names and some popular brand names
- Physical Properties
- Appearance
- Melting and Boiling Points
- Stability
- Solubilities in several common solvents
- Other Important Information
- Application
- Regulatory
- Environmental Impact
- Point of Release
- Toxicological Data
- Analytical Data
- Mass Spectrum with key Ions tabulated
- Chromatogram with conditions

As well as information to help with real world examples, tips for analysis in challenging matrices, and much, much more.

Food Analysis

Food Constituents, Lipid Standards

Food chemists routinely use AccuStandard's Analytical Reference Standards for their food analysis. These include Lipid Standards, Vitamin Standards, Preservative Standards and Antimicrobial Standards. Each Standard is methodically prepared, undergoes various quality control analysis and procedures and is then packaged under the strict guidelines of our ISO 9001 and ISO 17025 Quality System.

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- High Purity confirmed by GLC & TLC
- Packaged in Sealed Ampules under Nitrogen Blanket
- Certificate of Analysis

Unsaturated Methyl Esters

99% minimum purity	(Storage: -20°C, protect from light)	Neat	Each 10 mg/mL in Hexane	
Compound	**CAS No.**	**100 mg**	**Solution**	**Price / 1 mL**
Methyl cis-9-hexadecenoate *(Palmitoleate)* C16:1	1120-25-8	UFA-001N	UFA-001S	$ 12
Methyl trans-9-hexadecenoate C16:1	10030-74-7	UFA-002N	UFA-002S	12
Methyl cis-6-octadecenoate *(Petroselinate)* C18:1	2777-58-4	UFA-003N	UFA-003S	12
Methyl trans-6-octadecenoate *(Petroselaidate)* C18:1		UFA-004N	UFA-004S	12
Methyl cis-9-octadecenoate *(Oleate)* C18:1	112-62-9	UFA-005N	UFA-005S	12
Methyl trans-9-octadecenoate *(Elaidate)* C18:1	2462-84-2	UFA-006N	UFA-006S	12
Methyl cis-11-octadecenoate *(Vaccenate)* C18:1	1937-63-9	UFA-007N	UFA-007S	12
Methyl 12-hydroxy-cis-9-octadecenoate *(Ricinoleate)* C18:1	141-24-2	UFA-008N	UFA-008S	12
Methyl linoleate *(Linoleate)* C18:2	112-63-0	UFA-010N	UFA-010S	12
Methyl linolelaidate *(Linoelaidate)* C18:2	2566-97-4	UFA-011N	UFA-011S	20
Methyl octadecadienoate *(Conjugated)* C18:2		UFA-012N ‡	UFA-012S	12
Methyl linolenate *(Linolenate)* C18:3	301-00-8	UFA-014N ‡	UFA-014S	12
Methyl g-linolenate *(Gamma Linolenate)* C18:3	16326-32-2	UFA-015N ‡	UFA-015S	30
Methyl trans-11-eicosenoate C20:1	69119-90-0	UFA-016N	UFA-016S	75
Methyl cis-8-eicosenoate C20:1	69119-99-9	UFA-017N	UFA-017S	95
Methyl cis-11-eicosenoate C20:1	2390-09-2	UFA-018N	UFA-018S	30
Methyl cis-5-eicosenoate C20:1	20839-34-3	UFA-019N	UFA-019S	60
Methyl cis-11,14-eicosadienoate C20:2	2463-02-7	UFA-020N ‡	UFA-020S	40
Methyl cis-8,11,14-eicosatrienoate *(Hommogamma linolenate)* C20:3	1783-84-2	UFA-022N ‡	UFA-022S ‡	120
Methyl cis-11,14,17-eicosatrienoate C20:3	55682-88-7	UFA-023N ‡	UFA-023S ‡	50
Methyl arachidonate *(Arachidonate)* C 20:4	2566-89-4	UFA-024N ‡	UFA-024S	75
Methyl 5,8,11,14,17-Eicosapentaenoate C20:5	2734-47-6	UFA-025N ‡	UFA-025S ‡	95
Methyl cis-7,10,13,16,19-Docosapentaenoate (DPA) C22:5	108698-02-8	UFA-026N ‡	UFA-026S ‡	120
Methyl cis-13-docosenoate*(Erucate)* C22:1	1120-34-9	UFA-027N	UFA-027S	12
Methyl trans-13-docosenoate *(Brassidate)* C22:1	7439-44-3	UFA-028N	UFA-028S	30
Methyl cis-13,16-docosadienoate C22:2	61012-47-3	UFA-029N ‡	UFA-029S	120
Methyl cis-13,16,19-docosatrienoate C22:3	108698-01-7	UFA-030N ‡	UFA-030S ‡	120
Methyl cis-7,10,13,16-Docosatetraenoate C22:4	13487-42-8	UFA-031N ‡	UFA-031S ‡	120
Methyl cis-4,7,10,13,16,19-Docosahexenoate C22:6 95%	301-01-9	UFA-032N ‡	UFA-032S ‡	50
Methyl cis-15-tetracosenoate *(Nervonate)* C24:1	2733-88-2	UFA-033N	UFA-033S	20
Set of Unsaturated Fatty Acid Methyl Ester (UFA-001 to UFA-033)	**1 x 30 units**	**UFA-N-SET ‡**	**UFA-S-SET ‡**	**$ 1125**
		Same Price for Neat or Solutions		

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Lipid Standards analyzed by both GLC and TLC are supplied with complete analytical documentation.

Saturated Methyl Esters

Compound	CAS No.	Neat 100 mg	10 mg/mL in Hexane Solution	Price / 1 mL
Methyloctanoate *(Caprylate)* C8:0	111-11-5	SFA-001N	SFA-001S	$ 12
Methylnonoate *(Pelargonate)* C9:0	1731-84-6	SFA-002N	SFA-002S	12
Methyldecanoate *(Caprate)* C10:0	110-42-9	SFA-003N	SFA-003S	12
Methylundecanoate C11:0	1731-86-8	SFA-004N	SFA-004S	12
Methyldodecanoate *(Laurate)* C12:0	111-82-0	SFA-005N	SFA-005S	12
Methyltridecanoate C13:0	1731-88-0	SFA-006N	SFA-006S	12
Methyltetradecanoate *(Myristate)* C14:0	124-10-7	SFA-007N	SFA-007S	12
Methylpentadecanoate C15:0	7132-64-1	SFA-008N	SFA-008S	12
Methylhexadecanoate *(Palmitate)* C16:0	112-39-0	SFA-009N	SFA-009S	12
Methylheptadecanoate *(Margarate)* C17:0	1731-92-6	SFA-010N	SFA-010S	12
Methyloctadecanoate *(Stearate)* C18:0	112-61-8	SFA-011N	SFA-011S	12
Methyl 12-hydroxystearate C18:0	141-23-1	SFA-012N	SFA-012S	12
Methylnonadecanoate C19:0	1731-94-8	SFA-013N	SFA-013S	12
Methyleicosanoate *(Arachidate)* C20:0	1120-28-1	SFA-014N	SFA-014S	12
Methylheneicosanoate C21:0	6064-90-0	SFA-015N	SFA-015S	20
Methyldocosanoate *(Behenate)* C22:0	929-77-1	SFA-016N	SFA-016S	12
Methyltricosanoate C23:0	2433-97-8	SFA-017N	SFA-017S	20
Methyltetracosanoate *(Lignocerate)* C24:0	2442-49-1	SFA-018N	SFA-018S	20
Set of Saturated Fatty Acids Methyl ester (SFA-001 to SFA-018)	**1 x 18 units**	**SFA-N-SET**	**SFA-S-SET**	**$ 175**
		Same Price for Neat or Solutions		

Cold Packs

Cold packs may be recommended or required with certain temperature sensitive products. Some standards are susceptible to change at room temperature or higher. In some of these cases, AccuStandard may recommend or require that these products ship in a "Cold Pak" (styrofoam container that has an ice pack in it). The purpose of the Cold Pak is to delay the exposure of the product to higher temperatures, and NOT to keep the product frozen. The product will not immediately go out of specifications when the Cold Pak melts or when the product reaches room temperature. The Cold Pak simply delays exposure to higher temperatures. When a product is shipped with a Cold Pak, the customer should also consider requesting next-day delivery (where available) and should avoid having the shipment sent on a Friday unless it is approved for Saturday Delivery.

Glycerides

Saturated Glycerides

Compound	CAS No.	Neat 100 mg	Price
Trioctanoin *(Caprylin)* C8:0	538-23-8	GS-001N	$ 10
Dicaprylin C8:0	36354-80-0	GS-002N	20
Monocaprylin C8:0	19670-49-6	GS-003N	20
Tridecanoin *(Caprin)* C10:0	621-71-6	GS-004N	10
Dicaprin C10:0	53988-07-1	GS-005N	20
Monocaprin C10:0	26402-22-2	GS-006N	20
Tridodecanoin *(Laurin)* C12:0	538-24-9	GS-007N	10
Dilaurin C12:0	27638-00-2	GS-008N	20
Monolaurin C12:0	142-18-7	GS-009N	20
Tritetradecanoin *(Myristin)* C14:0	555-45-3	GS-010N	10
Dimyristin C14:0	53563-63-6	GS-011N	20
Monomyristin C14:0	589-68-4	GS-012N	20
Trihexadecanoin *(Palmitin)* C16:0	555-44-2	GS-013N	10
Dipalmitin C16:0	26657-95-4	GS-014N	20
Monopalmitin C16:0	542-44-9	GS-015N	20
Trioctadecanoin *(Stearin)* C18:0	555-43-1	GS-016N	10
Distearin C18:0)	1323-83-7	GS-017N	20
Monostearin C18:0	22610-63-5	GS-018N	20
Trieicosanoin *(Arachidin)* C20:0	620-64-4	GS-019N	20
Diarachidin C20:0	60586-60-9	GS-020N	30
Monoarachidin C20:0		GS-021N	30
Tridocosanoin *(Behenin)* C22:0	18641-57-1	GS-022N	20
Dibehenin C22:0		GS-023N	30
Monobehenin C22:0	6916-74-1	GS-024N	30
Set of Saturated glyceride (GS-001 to GS-024)	**1 x 24 units**	**GS-SET**	**$ 320**

Unsaturated Glycerides

Compound	CAS No.	Neat 10 mg	Price
Myristolein C14:1 cis		UG-001N	$ 30
Dimyristolein C14:1		UG-002N	30
Monomyristolein C14:1	56399-71-4	UG-003N	30
Palmitolein C16:1 cis	20246-55-3	UG-004N	30
Dipalmitolein C16:1	113728-10-2	UG-005N	30
Monopalmitolein C16:1	37515-61-0	UG-006N	30
Petroselinin 6 C18:1 cis	3296-43-3	UG-007N	30
Dipetroselinin 6 C18:1		UG-008N	30
Monopetroselinin 6 C18:1		UG-009N	30
Olein 9 C18:1 cis	122-32-7	UG-010N	30
Diolein 9 C18:1	25637-84-7	UG-011N	30
Monoolein 9 C18:1	111-03-5	UG-012N	30
Trielaidin 9 C18:1 trans	537-39-3	UG-013N	30
Dielaidin 9 C18:1 trans	98168-52-6	UG-014N	30
Monoelaidin 9 C18:1 trans	2716-53-2	UG-015N	30
Vaccenin 11 C18:1 cis		UG-016N	30
Divaccenin 11 C18:1		UG-017N	30
Monovaccenin 11 C18:1		UG-018N	30
Linolein C18:2 cis,cis	537-40-6	UG-019N ‡	30
Dilinolein C18:2	30606-27-0	UG-020N ‡	30
Monolinolein C18:2	2277-28-3	UG-021N ‡	30
Linolenin C18:3 cis,cis,cis	14465-68-0	UG-022N ‡	30
Dilinolenin C18:3		UG-023N ‡	30
Monolinolenin C18:3	75685-75-5	UG-024N ‡	30
Gamma linolenin C18:3 cis,cis,cis		UG-025N ‡	30
Gamma di-linolenin C18:3		UG-026N ‡	30
Gamma mono-linolenin C18:3		UG-027N ‡	30
Trieicosenoin C20:1 cis	80380-39-8	UG-028N	30
Dieicosenoin C20:1	102783-82-4	UG-029N	30
Monoeicosenoin C20:1		UG-030N	30
11-14 cis Trieicosadienoin C20:2 cis,cis		UG-031N ‡	30
Dieicosadienoin C20:2		UG-032N ‡	30
Monoeicosadienoin C20:2		UG-033N ‡	30
Set of Unsaturated Glyceride (UFA-001 to UFA-033)	**1 x 33 units**	**UG-N-SET ‡**	**$ 840**

(Storage: -20°C, protect from light)

Lipid Standards analyzed by both GLC and TLC are supplied with complete analytical documentation.

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

AOCS, Method Ce1-62 Animal & Vegetable Reference Mixes

AOCS Animal & Vegetable Reference Neat Mixtures)	Cat. No.	Price / Unit
Mix 1: Suitable standard for corn, cottonseed, kapok, poppyseed, rice, safflower, sesame, soybean, sunflower and walnut oils	AOCS-001N ‡	$ 35 / 100 mg
Mix 2: Suitable standard for hempseed, linseed, perrilla & rubberseed oils	AOCS-002N ‡	35 / 100 mg
Mix 3: Suitable standard for mustard seed, peanut and rapeseed oil	AOCS-003N ‡	35 / 100 mg
Mix 4: Suitable standard for neatsfoot, olive and teaseed oils	AOCS-004N ‡	35 / 100 mg
Mix 5: Suitable standard for babassu, coconut, ouri-curi & palm kernel oils	AOCS-005N ‡	35 / 100 mg
Mix 6: Suitable standard for lard, beef tallow, mutton tallow and palm oil	AOCS-006N ‡	35 / 100 mg
AOCS Rapeseed Mix, Suitable standard for modern low erucic acid oils	AOCS-007N ‡	35 / 100 mg
AOCS Animal & Vegetable Reference Mix Set (AOCS-001N to AOCS-007N)	**AOCS-SET ‡**	**$ 210 / 7 x 100 mg**

AOCS Reference Mix	Cat. No.	Methyl Ester (% Composition by Weight)														
		C8:0 Caprylate	C10:0 Caprate	C12:0 Laurate	C14:0 Myristate	C16:0 Palmitate	C16:1 Palmitoleate	C18:0 Stearate	C18:1 Oleate	C18:2 Linoleate	C18:3 Linolenate	C20:0 Arachidate	C20:1 Eicosenoate	C22:0 Behenate	C22:1 Eurcate	C24:0 Lignocerate
RM-1 ‡	AOCS-001N					6.0		3.0	35.0	50.0	3.0	3.0				
RM-2 ‡	AOCS-002N					7.0		5.0	18.0	36.0	34.0					
RM-3 ‡	AOCS-003N				1.0	4.0		3.0	45.0	15.0	3.0	3.0		3.0	20.0	3.0
RM-4 ‡	AOCS-004N					11.0		3.0	80.0	6.0						
RM-5 ‡	AOCS-005N	7.0	5.0	48.0	15.0	7.0		3.0	12.0	3.0						
RM-6 ‡	AOCS-006N				2.0	30.0	3.0	14.0	41.0	7.0	3.0					
Rapeseed ‡	AOCS-007N				1.0	4.0		3.0	60.0	12.0	5.0	3.0	1.0	3.0	5.0	3.0

NHI/NIH Fatty Acid Methyl Ester Profiling Mixes

Designed to test reliability of chromatographic system when performing quantitative analysis of Fatty Acids.

NHI/NIH Reference Mix	Cat. No.	Price per 100 mg	Methyl Ester (% Composition by Weight)											
			C8:0 Caprylate	C10:0 Caprate	C12:0 Laurate	C14:0 Myristate	C16:0 Palmitate	C16:1 Palmitoleate	C18:0 Stearate	C18:1 Oleate	C20:0 Arachidate	C22:0 Behenate	C24:0 Lignocerate
NHI-A	NHI-001N	$ 20					25.0	10.0		65.0				
NHI-B	NHI-002N	20					4.0	40.0		56.0				
NHI-C ‡	NHI-003N	20	1.5	3.0	6.0		12	19.4		24.9		33.2		
NHI-D	NHI-004N	20					11.8	23.6	6.9	13.1	44.6			
NHI-E	NHI-005N	20	6.3	9.1	12.0		23.3	49.2						
NHI-F ‡	NHI-006N	20					2.5	4.2		7.3		13.6	25.4	47.0

NHI-SET ‡ **$ 100 / 6 x 100 mg (NHI-001N to NHI-006N)**

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a “Cold Pack”

Fatty Acid Methyl Esters (FAMEs)

These mixes and kits are suitable for determining peak identification & establishing chromatographic retention times.

Saturated Straight Chain Kit

FAME-001-R1-KIT $ 150 / **10 units**
Methyl esters, purity 99%, 100 mg each

Me Caproic acid (C6:0)
Me Caprylic acid (C8:0)
Me Capric acid (C10:0)
Me Lauric acid (C12:0)
Me Myristic acid (C14:0)
Me Palmitic acid (C16:0)
Me Stearic acid (C18:0)
Me Arachidic acid (C20:0)
Me Behenic acid (C22:0)
Me Lignoceric acid (C24:0)

Saturated Straight Chain Kit

FAME-002-R1-KIT $ 475 / **19 units**
Methyl esters, 99% purity, 100 mg each

Me Caproic acid (6:0)
Me Heptanoic acid (7:0)
Me Caprylic acid (8:0)
Me Nonanoic acid (9:0)
Me Capric acid (10:0)
Me Undecanoic acid (11:0)
Me Lauric Acid (12:0)
Me Tridecanoic acid (13:0)
Me Myristic acid (14:0)
Me Pentadecanoic acid (15:0)
Me Palmitic acid (16:0)
Me Heptadecanoic acid (17:0)
Me Stearic acid (18:0)
Me Nonadecanoic acid (19:0)
Me Arachidic acid (20:0)
Me Heneicosanoic acid (21:0)
Me Behenic acid (22:0)
Me Tricosanoic acid (23:0)
Me Lignoceric acid (24:0)

Odd Carbon Straight Chain Kit

FAME-005-R1-KIT $ 215 / **9 units**
Methyl esters, 99+% purity, 100 mg each

Me Heptanoic acid (C7:0)
Me Nonanoic acid (C9:0)
Me Undecanoic acid (C11:0)
Me Tridecanoic acid (C13:0)
Me Pentadecanoic acid (C15:0)
Me Heptadecanoic acid (C17:0)
Me Nonadecanoic acid (C19:0)
Me Heneicosanoic acid (C21:0)
Me Tricosanoic acid (C23:0)

Unsaturated Straight Chain Kit

FAME-003-R1-KIT ‡ $ 250 / **14 units**
Storage -20°C, Protect from light
Saturated methyl esters, purity 99%, 10 mg each

Me Myristoleic acid (14:1)
Me Palmitoleic acid (16:1)
Me Petroselinic acid (18:1)
Me Elaidic acid (18:1)
Me cis-Vaccenic acid (18:1, cis)
Me Linoleic acid (18:2, cis)
Me Linolelaidic acid (18:2, trans)
Me Linolenic acid (18:3)
Me cis-11-Eicosenoic acid (20:1)
Me Arachidonic acid (20:4)
Me Erucic acid (22:1)
Me cis-4,7,10,13,16,19-Docosahexaenoic acid (22:6)
Me Nervonic acid (24:1)
Me Oleic acid (18:1)

Standards of Interest

For FAEE standards refer to BioFuels in the Petrochemical section.

Methyl Ester Mix #1

FAMQ-001 ‡ $ 90 / **40 mg**
Storage: -20°C, Protect from light 4 comps.
Approximately 10 mg of each in a qualitative mix

11-Eicosenoic acid methyl ester (20:1)
11,14-Eicosadienoic acid methyl ester (20:2)
Arachidonic acid methyl ester (20:4)
5,8,11,14,17-Eicosapentaenoic acid methyl ester (20:5)

Fatty Acid Methyl Ester Mix #2

FAMQ-002 ‡ $ 90 / **50 mg**
Storage: -20°C, Protect from light 5 comps.
Approximately 10 mg of each in a qualitative mix

11-Eicosenoic acid methyl ester (20:1)
11,14-Eicosadienoic acid methyl ester (20:2)
11,14,17-Eicosatriaenoic acid methyl ester (20:3)
Arachidonic acid methyl ester (20:4)
5,8,11,14,17-Eicosapentaenoic acid methyl ester (20:5)

Volatile Acid Standard Solution

FAMQ-004 $ 32 / **1 x 100 mL**
Storage: Refrigerate 10 comps.
10mM of each component in deionized H_2O.

Formic acid	Isovaleric acid
Acetic acid	*n*-Valeric acid
Propionic acid	Isocaproic acid *(4-Methyl valeric acid)*
Isobutyric acid	Hexanoic acid *(n-Caproic acid)*
Butyric acid	Heptanoic acid

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

FAME Quantitative Standard Mix

FAMQ-005 ‡ $ 85 / **1 x 1 mL**
Storage: -20°C, Protect from light
At stated conc. in CH_2Cl_2 (total of 10 mg/mL)

37 comps.	mg/mL
Me Butyric acid (C4:0)	0.4
Me Caproic acid (C6:0)	0.4
Me Caprylic acid (C8:0)	0.4
Me Capric acid (C10:0)	0.4
Me Undecanoic acid (C11:0)	0.2
Me Lauric acid (C12:0)	0.4
Me Tridecanoic acid (C13:0)	0.2
Me Myristic acid (C14:0)	0.4
Me Myristoleic acid (C14:1)	0.2
Me Pentadecanoic acid (C15:0)	0.2
Me cis-10-Pentadecenoic acid (C15:1)	0.2
Me Palmitic acid (C16:0)	0.6
Me Palmitoleic acid (C16:1)	0.2
Me Heptadecanoic acid (C17:0)	0.2
Me cis-10-Heptadecenoic acid (C17:1)	0.2
Me Stearic acid (C18:0)	0.4
Me Elaidic acid (C18:1n9t)	0.2
Me Oleic acid (C18:1n9c)	0.4
Me Linolelaidic acid (C18:2n6t)	0.2
Me Linoleic acid (C18:2n6c)	0.2
Me Arachidic acid (C20:0)	0.4
Me g-Linolenic acid (C18:3n6)	0.2
Me cis-11-Eicosenoic acid (C20:1)	0.2
Me Linolenic acid (C18:3n3)	0.2
Me Heneicosanoic acid (C21:0)	0.2
Me cis-11,14-Eicosadienoic acid (C20:2)	0.2
Me Behenic acid (C22:0)	0.4
Me cis-8,11,14-Eicosatrienoic acid (C20:3n6)	0.2
Me Erucic acid (C22:1n9)	0.2
Me cis-11,14,17-Eicosatrienoic acid (C20:3n3)	0.2
Me Arachidonic acid (C20:4n6)	0.2
Me Tricosanoic acid (C23:0)	0.2
Me cis-13,16-Docosadienoic acid (C22:2)	0.2
Me Lignoceric acid (C24:0)	0.4
Me cis-5,8,11,14,17-Eicosapentaenoic acid (C20:5n3)	0.2
Me Nervonic acid (C24:1)	0.2
Me cis-4,7,10,13,16,19-Docosahexaenoic acid (C22:6n3)	0.2

- 99+% Purity (except as noted)
- Convenient packaging size eliminates costly disposal
- Lot Analysis supplied with each Standard

Melamine Kit

Analysis for Melamine in pet food, formula milk, and other foodstuffs can now be more accurate and reliable with the Melamine Reference Standards Set which contains seven ampules: Melamine, Ammeline, Ammelide, Cyanuric acid, the method recommended Internal Standard, a column clean-up solution, and a Silylating Reagent.
Storage Cond. (0-5°C)

FDA-PROP-001-SET NEW $ 175 / **5 x 1 mL, 2 x 5 mL**

		Cat. No.	Price / 1 mL
Melamine	1000 µg/mL in Diethylamine:Water (1:4)	FDA-PROP-001A	$ 10
Ammeline	1000 µg/mL in Diethylamine:Water (1:4)	FDA-PROP-001B	65
Ammelide	1000 µg/mL in Diethylamine:Water (1:4)	FDA-PROP-001C	65
Cyanuric acid	1000 µg/mL in Diethylamine:Water (1:4)	FDA-PROP-001D	10

Internal Standard

FDA-PROP-001-IS $ 15 / **1 x 1 mL**
1000 µg/mL in Pyridine

2,6-Diamino-4-chloropyrimidine

Silylating Reagent

FDA-PROP-001-DER $ 35 / **1 x 5 mL**

	vol/vol%
BSTFA [bis(trimethylsilyl)trifluoroacetamide]	99
TMCS	1

Column Clean-up Check

FDA-PROP-001-CHK $ 25 / **1 x 5 mL**

	vol/vol%
Sylon BFT	50
Pyidine	50

EFSA for Isopropylthioxanthone (ITX)

Responding to the hazard found in Italy, France, Spain, and Portugal, we have formulated Isopropylthioxanth-9-one (a photographical chemical) found in baby milk in Italy. The 2-isomer as well as the technical mixture also contains the 4-isomer.

2-Isopropylthioxanthone (ITX)

EFSA-ITX-01 $ 45 / **1 x 1 mL**
1.0 mg/mL in Isooctane

2-Isopropylthioxanth-9-one

Isopropylthioxanthone (ITX) mixed isomers

EFSA-ITX-02 $ 25 / **1 x 1 mL**
1.0 mg/mL in Isooctane

2- & 4-Isopropylthioxanth-9-one

Vitamin Standards

Water Soluble		CAS No.	Unit	Cat. No.	Price
Thiamine • HCL	B1	67-03-8	1 gram	VIT-001N	$ 10
Riboflavin	B2	83-88-5	1 gram	VIT-002N	10
Pyridoxine • HCL	B6	58-56-0	1 gram	VIT-003N	10
L-Ascorbic acid	C	50-81-7	1 gram	VIT-004N	10
Nicotinic acid	Niacin	59-67-6	1 gram	VIT-005N	10
Nicotinamide		98-92-0	1 gram	VIT-006N	10
Folic Acid	M	59-30-3	1 gram	VIT-007N	10
Pantothenic acid		79-83-4	100 mg	VIT-008N	19
d-Biotin	H	58-85-5	100 mg	VIT-009N-R1	10
Cyanocobalamin	B12	68-19-9	25 mg	VIT-010N-R1	12
Water Soluble Vitamin Set, Includes: VIT-001N to VIT-010N			**10 units**	**VIT-WSK-R1-SET**	**$ 90**
Fat Soluble					
dl-alpha-Tocopherol	E	10191-41-0	100 mg	VIT-012N	$ 14
Cholecalciferol	D3	67-97-0	100 mg	VIT-013N	14
Retinol Palmitate	A, Palmitate	79-81-2	100 mg	VIT-014N	62
dl-alpha-Tocopherol acetate		7695-91-2	100 mg	VIT-015N	14
Phylloguinone	K1	84-80-0	100 mg	VIT-016N	14
Menaquinone	K2	11032-49-8	100 mg	VIT-017N	80
Menadione	K3	58-27-5	100 mg	VIT-018N	14
β-Carotene (Substantially free of alpha Carotene)		7235-40-7	10 mg	VIT-019N	20
d-alpha-Tocopherol succinate	E	4345-03-3	100 mg	VIT-020N	14
Ergocalciferol	D2	50-14-6	100 mg	VIT-022N	14
Fat Soluble Vitamin Set, Includes: VIT-012N to VIT-022N			**10 units**	**VIT-FSK-R2-SET**	**$ 175**

Technical Note

AccuStandard Vitamin Standards are thoroughly tested, packaged and stored under an ISO 9001 and 17025 Quality System to provide the highest quality Vitamin Standards available. Remember to always store Standards properly, away from light sources. Each Standard is provided with an actual lot analysis and additional transfer vial and label.

Preservative and Antimicrobial Standards

Compound	Purity	CAS No.	Unit	Cat. No.	Price
Benzoic acid	99 %	65-85-0	1 gram	AP-001N	$ 10
Sodium benzoate	99 %	532-32-1	1 gram	AP-002N	10
Potassium nitrite	97 %	7758-09-0	1 gram	AP-003N	10
Sodium nitrite	99 %	7632-00-0	1 gram	AP-004N	10
Sodium nitrate	99 %	7631-99-4	1 gram	AP-005N	10
Potassium nitrate	99 %	7757-79-1	1 gram	AP-006N	10
Methyl paraben	99 %	99-76-3	1 gram	AP-007N	10
Ethyl paraben	99 %	120-47-8	1 gram	AP-008N	10
Butyl paraben	99 %	94-13-3	1 gram	AP-009N	10
Propionic acid	99 %	79-09-4	1 gram	AP-010N	10
Sodium propionate	97 %	137-40-6	1 gram	AP-011N	10
Calcium propionate	97 %	4075-81-4	1 gram	AP-012N	10
Sorbic acid	99 %	110-44-1	1 gram	AP-013N	10
Potassium sorbate	99 %	590-00-1	1 gram	AP-014N	10
Preservative & Antimicrobial Set			**14 x 1 gram**	**AP-SET**	**$ 120**

Set includes: AP-001N through AP-014N

It has been estimated that 10% of the U.S. population is affected by allergens. Cosmetic allergens can be found in everything from shampoos to skin creams. The average person is now exposed to significantly higher levels of these chemicals than people were exposed to only a generation ago. The resulting synergistic effect, coupled with environmental exposure to chemicals, is the focus of an ever-increasing number of studies.

Some of these chemicals cause, or are suspected of causing, allergic reactions. Some chemicals are toxic. Phthalates are a health issue as well as a food safety concern as an Indirect Food Additive. They tend to migrate from plastic containers and wrappings into food. Finally, pesticides are a cosmetic ingredient issue since they can be present with other ingredients such as lanolin.

AccuStandard now offers AllergenCheck® Standards to meet analytical requirements of the cosmetic, pharmaceutical and food industries. These new products coupled with the widest selection of Certified Reference Standards for pesticide and pesticide metabolite analysis offers one-stop shopping for the analysis of allergens.

Many of the Standards are synthesized by AccuStandard and are not available elsewhere. If you do not see the chemicals or their metabolites that you need, let us know and we may be able to synthesize them. Additionally, if a certain custom mixture of allergens would make your analysis easier, we can provide you with a custom formulation that will save you time.

Allergen Standards are listed as follows:

- Neats and Single Solutions listed alphabetically by compound
- Allergens regulated by the EU
- Allergen standards listed by type

AllergenCheck®

Allergens

Solutions in 1 mL

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
2-Acetylpyridine	1122-62-9	100 mg	Neat	ALR-066N	$ 25
		100 µg/mL	MeOH	ALR-066S	25
Alanroot (Inula helenium)	97676-35-2	1000 µg/mL	EtOH	ALR-027S-ET-10X	15
Alkylphenol ethoxylates:					
Nonylphenol-ethylene oxide condensate (Nonoxynol-9)	26027-38-3	100 mg	Neat	ALR-079N	35
		100 µg/mL	MeOH	ALR-079S	35
Polyethylene glycol nonaphenyl ether (Triton N-101)	123359-41-1	100 mg	Neat	ALR-078N	35
		100 µg/mL	MeOH	ALR-078S	35
Allylisothiocyanate	57-06-7	100 mg	Neat	ALR-028N	15
		1000 µg/mL	EtOH	ALR-028S-ET-10X	15
Amyl cinnamal	122-40-7	100 mg	Neat	ALR-001N	20
		1000 µg/mL	AcCN	ALR-001S-CN-10X	20
Amylcinnamyl alcohol	101-85-9	1000 µg/mL	EtOH	ALR-008S-ET-10X	20
Anisyl alcohol	105-13-5	100 mg	Neat	ALR-014N	20
		1000 µg/mL	EtOH	ALR-014S-ET-10X	20
Arsenic	7440-38-2	1000 µg/mL	2-5% HNO_3	ALR-MET-01S	34
Balsam of Peru	8007-00-9	100 mg	Neat	ALR-080N	15
		100 µg/mL	MeOH	ALR-080S	15
Benzophenone-3 (Bp-3)	131-57-7	100 mg	Neat	ALR-081N	10
		100 µg/mL	AcCN	ALR-081S-CN	10
Benzyl alcohol	100-51-6	100 mg	Neat	ALR-002N	20
		1000 µg/mL	EtOH	ALR-002S-ET-10X	20
Benzyl benzoate	120-51-4	100 mg	Neat	ALR-019N	20
		1000 µg/mL	EtOH	ALR-019S-ET-10X	20
Benzyl butyl phthalate	85-68-7	100 mg	Neat	ALR-082N	12
		100 µg/mL	MeOH	ALR-082S	12
Benzyl cinnamate	103-41-3	100 mg	Neat	ALR-015N	20
		1000 µg/mL	EtOH	ALR-015S-ET-10X	20
Benzyl cyanide	140-29-4	100 mg	Neat	ALR-029N	15
		1000 µg/mL	EtOH	ALR-029S-ET-10X	15
Benzyl paraben	94-18-8	100 mg	Neat	ALR-083N	10
		100 µg/mL	MeOH	ALR-083S	10
Benzyl salicylate	118-58-1	100 mg	Neat	ALR-009N	20
		1000 µg/mL	AcCN	ALR-009S-CN-10X	20
Bithionol	97-18-7	100 mg	Neat	ALR-084N	20
		100 µg/mL	MeOH	ALR-084S	20
5-Bromo-5-nitro-1,3-dioxane (Bronidox L) (BND)	30007-47-7	100 mg	Neat	ALR-074N	50
		100 µg/mL	MeOH	ALR-074S	50
2-Bromo-2-nitropropane-1,3-diol (Bronopol)	52-51-7	100 mg	Neat	ALR-067N	10
		100 µg/mL	MeOH	ALR-067S	10
2-(4-tert-Butylbenzyl)propionaldehyde (technical grade)	80-54-6	1000 µg/mL	AcCN	ALR-017S-CN-10X	20
Butylated hydroxyanisole (BHA)	25013-16-5	100 mg	Neat	ALR-087N	10
		100 µg/mL	MeOH	ALR-087S	10
Butylated hydroxytoluene (BHT & 2,6-DBPC)	128-37-0	100 mg	Neat	ALR-088N	20
		100 µg/mL	MeOH	ALR-088S	20
Butylene glycol	107-88-0	100 mg	Neat	ALR-089N	10
		100 µg/mL	MeOH	ALR-089S	10
Butyl-methoxydibenzoylmethane (B-MDM) Sunblock, Parsol1789	70356-09-1	100 µg/mL	MeOH	ALR-086S	75
Butyl paraben	94-26-8	100 mg	Neat	ALR-085N	10
		100 µg/mL	MeOH	ALR-085S	10

Allergens

Solutions in 1 mL

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
p-tert-Butylphenol	98-54-4	100 mg	Neat	ALR-030N	$ 15
		1000 µg/mL	EtOH	ALR-030S-ET-10X	15
Cetone Alpha (technical grade)	127-51-5	1000 µg/mL	AcCN	ALR-024S-CN-10X	20
Chloroacetamide	79-07-2	100 mg	Neat	ALR-090N	25
		100 µg/mL	MeOH	ALR-090S	25
Chloroform	67-66-3	100 mg	Neat	ALR-091N	10
		100 µg/mL	MeOH	ALR-091S	10
2-Chloropyridine	109-09-1	100 mg	Neat	ALR-068N	25
		100 µg/mL	MeOH	ALR-068S	25
Chromium	7440-47-3	1000 µg/mL	2-5% HNO_3	ALR-MET-02S	34
Cinnamal	104-55-2	100 mg	Neat	ALR-010N	20
		1000 µg/mL	AcCN	ALR-010S-CN-10X	20
Cinnamyl alcohol	104-54-1	100 mg	Neat	ALR-003N	20
		1000 µg/mL	EtOH	ALR-003S-ET-10X	20
Citral	5392-40-5	100 mg	Neat	ALR-004N	20
		1000 µg/mL	AcCN	ALR-004S-CN-10X	20
b-Citronellol	106-22-9	100 mg	Neat	ALR-020N	20
		1000 µg/mL	EtOH	ALR-020S-ET-10X	20
Coal Tar (black)	8007-45-2	100 mg	Neat	ALR-094N	20
		100 µg/mL	Toluene	ALR-094S-T	20
Cobalt	7440-48-4	1000 µg/mL	2-5% HNO_3	ALR-MET-03S	34
Coumarin	91-64-5	100 mg	Neat	ALR-011N	20
		1000 µg/mL	AcCN	ALR-011S-CN-10X	20
2,4-Diaminoanisole sulfate hydrate	123333-56-2	100 µg/mL	Pyridine	ALR-070S-R1	30
2,4-Diaminophenol	137-09-7	100 mg	Neat	ALR-063N	15
		100 µg/mL	MeOH	ALR-063S	15
Diamyl phthalate	131-18-0	100 mg	Neat	ALR-098N	24
		100 µg/mL	MeOH	ALR-098S	24
Diazolidinyl urea	78491-02-8	100 mg	Neat	ALR-106N	15
		100 µg/mL	MeOH	ALR-106S	15
Dibromsalon (Halogenated salicylanilides)	87-12-7	100 mg	Neat	ALR-107N	50
		100 µg/mL	MeOH	ALR-107S	50
Dicyclohexyl phthalate	84-61-7	100 mg	Neat	ALR-099N	32
		100 µg/mL	MeOH	ALR-099S	32
Diethanolamine (DEA)	111-42-2	100 mg	Neat	ALR-109N	10
		100 µg/mL	MeOH	ALR-109S	10
Di(2-ethyl hexyl) phthalate (DEHP)	117-81-7	100 mg	Neat	ALR-097N	12
		100 µg/mL	MeOH	ALR-097S	12
Diethyl maleate	141-05-9	100 mg	Neat	ALR-033N	15
		1000 µg/mL	EtOH	ALR-033S-ET-10X	15
Diethyl phthalate	84-66-2	100 mg	Neat	ALR-110N	12
		100 µg/mL	MeOH	ALR-110S	12
Di-hexyl phthalate	84-75-3	100 mg	Neat	ALR-100N	24
		100 µg/mL	MeOH	ALR-100S	24
Dihydrocoumarin	119-84-6	100 mg	Neat	ALR-034N	15
		1000 µg/mL	Acetone	ALR-034S-A-10X	15
Diisodecyl phthalate	26761-40-0	100 mg	Neat	ALR-101N	12
		100 µg/mL	MeOH	ALR-101S	12
Diisononyl phthalate	68515-48-0	100 mg	Neat	ALR-102N	32
		100 µg/mL	MeOH	ALR-102S	32
Diisooctyl phthalate	27554-26-3	100 mg	Neat	ALR-103N	12
		100 µg/mL	MeOH	ALR-103S	12
Dimethyl citraconate	617-54-9	100 mg	Neat	ALR-038N	35
		1000 µg/mL	EtOH	ALR-038S-ET-10X	35
Dimethyl phthalate (DMP)	131-11-3	100 mg	Neat	ALR-111N	12
		100 µg/mL	MeOH	ALR-111S	12
6,10-Dimethyl-3,5,9-undecatrien-2-one (Pseudoionone)	141-10-6	100 mg	Neat	ALR-040N	15
		1000 µg/mL	Acetone	ALR-040S-A-10X	15
Di-n-butyl phthalate (DBP)	84-74-2	100 mg	Neat	ALR-104N	12
		100 µg/mL	MeOH	ALR-104S	12
Di-n-octyl phthalate	117-84-0	100 mg	Neat	ALR-105N	12
		100 µg/mL	MeOH	ALR-105S	12
1,4-Dioxane	123-91-1	100 mg	Neat	ALR-062N	20
		100 µg/mL	MeOH	ALR-062S	20
Diphenylamine	122-39-4	100 mg	Neat	ALR-041N	10
		1000 µg/mL	EtOH	ALR-041S-ET-10X	10
2-Ethoxyethanol	110-80-5	100 mg	Neat	ALR-064N	40
		100 µg/mL	MeOH	ALR-064S	40
2-Ethoxyethanol acetate	111-15-9	100 mg	Neat	ALR-065N	25
		100 µg/mL	MeOH	ALR-065S	25
Ethyl acrylate	140-88-5	100 mg	Neat	ALR-042N	10
		1000 µg/mL	EtOH	ALR-042S-ET-10X	10
Ethyl paraben	120-47-8	100 mg	Neat	ALR-113N	10
		100 µg/mL	MeOH	ALR-113S	10
Ethylene diamine dihydrochloride	333-18-6	100 mg	Neat	ALR-114N	25
		100 µg/mL	MeOH	ALR-114S	25

Allergens

Solutions in 1 mL

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
2-Ethylhexyl salicylate	118-60-5	100 mg	Neat	ALR-174N	$ 20
		100 µg/mL	AcCN	ALR-114S-CN	20
Eugenol	97-53-0	100 mg	Neat	ALR-005N	20
		1000 µg/mL	EtOH	ALR-005S-ET-10X	20
Farnesol	4602-84-0	100 mg	Neat	ALR-016N	20
		1000 µg/mL	EtOH	ALR-016S-ET-10X	20
Formaldehyde	50-00-0	100 µg/mL	Water	ALR-115S-W	10
Freon #11 Trichlorofluoromethane	75-69-4	200 µg/mL	MeOH	ALR-CFC-013S-2X	8
Freon #12 Dichlorodifluoromethane	75-71-8	200 µg/mL	MeOH	ALR-CFC-008S-2X	8
Freon #13 Chlorotrifluoromethane	75-72-9	200 µg/mL	MeOH	ALR-CFC-007S-2X	8
Freon #13b1 Bromotrifluoromethane	75-63-8	200 µg/mL	MeOH	ALR-CFC-001S-2X	8
Freon #21 Dichlorofluoromethane	75-43-4	200 µg/mL	MeOH	ALR-CFC-009S-2X	8
Freon #22 Chlorodifluoromethane	75-45-6	200 µg/mL	MeOH	ALR-CFC-003S-2X	8
Freon #23 Trifluoromethane	75-46-7	200 µg/mL	MeOH	ALR-CFC-015S-2X	8
Freon #40 Chloromethane	74-87-3	200 µg/mL	MeOH	ALR-CFC-005S-2X	8
Freon #113 1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	200 µg/mL	MeOH	ALR-CFC-014S-2X	10
Freon #114 1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	200 µg/mL	MeOH	ALR-CFC-010S-2X	20
Freon #115 Chloropentafluoroethane	76-15-3	200 µg/mL	MeOH	ALR-CFC-006S-2X	20
Freon #134a Tetrafluoroethane	811-97-2	200 µg/mL	MeOH	ALR-CFC-012S-2X	20
Freon #142b 1-Chloro-1,1-difluoroethane	75-68-3	200 µg/mL	MeOH	ALR-CFC-002S-2X	20
Freon #152a 1,1-Difluoroethane	75-37-6	200 µg/mL	MeOH	ALR-CFC-011S-2X	20
Freon #160 Chloroethane	75-00-3	200 µg/mL	MeOH	ALR-CFC-004S-2X	8
Geraniol	106-24-1	100 mg	Neat	ALR-012N	20
		1000 µg/mL	EtOH	ALR-012S-ET-10X	20
trans-2-Heptenal	18829-55-5	100 mg	Neat	ALR-044N	20
		1000 µg/mL	AcCN	ALR-044S-CN-10X	20
Heptyl paraben	1085-12-7	100 mg	Neat	ALR-117N	10
		100 µg/mL	MeOH	ALR-117S	10
trans-2-Hexenal diethyl acetal	67746-30-9	100 mg	Neat	ALR-045N	10
		1000 µg/mL	EtOH	ALR-045S-ET-10X	10
trans-2-Hexenal dimethyl acetal	18318-83-7	100 mg	Neat	ALR-046N	10
		1000 µg/mL	MeOH	ALR-046S-10X	10
Hexachlorophene (HCP)	70-30-4	100 mg	Neat	ALR-118N	10
		100 µg/mL	MeOH	ALR-118S	10
Hexyl cinnamaldehyde	101-86-0	1000 µg/mL	EtOH	ALR-021S-ET-10X	20
Homosalate (HMS)	118-56-9	100 µg/mL	MeOH	ALR-119S	50
Hydroabietyl alcohol	13393-93-6	100 mg	Neat	ALR-047N	75
		1000 µg/mL	EtOH	ALR-047S-ET-10X	75
Hydroquinone monoethyl ether (4-Ethoxyphenol)	622-62-8	100 mg	Neat	ALR-048N	10
		1000 µg/mL	EtOH	ALR-048S-ET-10X	10
p-Hydroxyanisole	150-76-5	100 mg	Neat	ALR-145N	15
		100 µg/mL	MeOH	ALR-145S	15
4-Hydroxybenzoic acid (Paraben)	99-96-7	100 mg	Neat	ALR-069N	10
		100 µg/mL	AcCN	ALR-069S-CN	10
Hydroxy-citronellal	107-75-5	100 mg	Neat	ALR-006N	20
		1000 µg/mL	AcCN	ALR-006S-CN-10X	20
tris(Hydroxymethyl)nitromethane (Tris Nitro)	126-11-4	100 mg	Neat	ALR-169N	10
		100 µg/mL	MeOH	ALR-169S	10
Hydroxymethylpentylcyclohexenecarboxaldehyde	31906-04-4	100 mg	Neat	ALR-013N	20
		1000 µg/mL	AcCN	ALR-013S-CN-10X	20
Imidazolidinyl urea	39236-46-9	100 mg	Neat	ALR-120N	10
		100 µg/mL	MeOH	ALR-120S	10
a-Ionone	127-41-3	100 mg	Neat	ALR-171N	15
		100 µg/mL	MeOH	ALR-171S	15
b-Ionone	79-77-6	100 mg	Neat	ALR-172N	15
		100 µg/mL	MeOH	ALR-172S	15
Isobutyl paraben	4247-02-3	100 mg	Neat	ALR-121N	20
		100 µg/mL	MeOH	ALR-121S	20
Isoeugenol	97-54-1	100 mg	Neat	ALR-007N	20
		1000 µg/mL	EtOH	ALR-007S-ET-10X	20
Isopropyl paraben	4191-73-5	100 mg	Neat	ALR-122N	20
		100 µg/mL	MeOH	ALR-122S	20
Lanolin, anhydrous	8006-54-0	100 mg	Neat	ALR-123N	20
		100 µg/mL	MeOH	ALR-123S-A	20
Lead	7439-92-1	1000 µg/mL	2-5% HNO_3	ALR-MET-04S	34
d-Limonene	5989-27-5	100 mg	Neat	ALR-022N	20
		1000 µg/mL	EtOH	ALR-022S-ET-10X	20
Linalool	78-70-6	100 mg	Neat	ALR-018N	20
		1000 µg/mL	EtOH	ALR-018S-ET-10X	20
Mercury	7439-97-6	1000 µg/mL	2-5% HNO_3	ALR-MET-05S	34
Metabromsalon	2577-72-2	100 mg	Neat	ALR-128N	50
		100 µg/mL	MeOH	ALR-128S	50
7-Methoxycoumarin	531-59-9	100 mg	Neat	ALR-050N	10
		1000 µg/mL	AcCN	ALR-050S-CN-10X	10

Allergens

Solutions in 1 mL

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
4-(p-Methoxyphenyl)-3-butene-2-one	943-88-4	1000 µg/mL	AcCN	ALR-051S-CN-10X	$ 40
4-Methoxy-m-phenylenediamine-sulfate hydrate	6219-67-6	100 mg	Neat	ALR-072N	15
		100 µg/mL	MeOH	ALR-072S	15
1-(p-Methoxyphenyl)-1-penten-3-one	104-27-8	100 mg	Neat	ALR-052N	20
		1000 µg/mL	AcCN	ALR-052S-CN-10X	20
4-Methyl-benzylidene camphor (4-MBC)	36861-47-9	100 mg	Neat	ALR-073N	50
		100 µg/mL	MeOH	ALR-073S	50
6-Methylcoumarin (6-MC)	92-48-8	100 mg	Neat	ALR-075N	25
		100 µg/mL	MeOH	ALR-075S	25
7-Methylcoumarin	2445-83-2	100 mg	Neat	ALR-054N	10
		1000 µg/mL	AcCN	ALR-054S-CN-10X	10
Methyl heptyne carbonate	111-12-6	100 mg	Neat	ALR-023N	20
		1000 µg/mL	EtOH	ALR-023S-ET-10X	20
5-Methyl-2,3-hexanedione (Acetyl isovaleryl)	13706-86-0	100 mg	Neat	ALR-055N	20
		1000 µg/mL	AcCN	ALR-055S-CN-10X	20
Methyl methacrylate monomer	80-62-6	100 mg	Neat	ALR-129N	10
		100 µg/mL	MeOH	ALR-129S	10
Methyl paraben	99-76-3	100 mg	Neat	ALR-130N	10
		100 µg/mL	MeOH	ALR-130S	10
Methyl trans-2-butenoate	623-43-8	100 mg	Neat	ALR-053N	30
		1000 µg/mL	MeOH	ALR-053S-10X	30
Methylchloroisothiazolinone	26172-55-4	100 mg	Neat	ALR-131N	20
		100 µg/mL	Water	ALR-131S-W	20
Methyldibromoglutaronitrile	35691-65-7	100 mg	Neat	ALR-132N	50
		100 µg/mL	MeOH	ALR-132S	50
Methylene chloride	75-09-2	100 mg	Neat	ALR-133N	35
		100 µg/mL	MeOH	ALR-133S	35
Methyleugenol	93-15-2	100 mg	Neat	ALR-061N	10
		1000 µg/mL	EtOH	ALR-061S-ET-10X	10
Monobenzyl phthalate (mBzP)	2528-16-7	100 mg	Neat	ALR-134N	24
		100 µg/mL	AcCN	ALR-134S-CN	24
Monobutyl phthalate (mBP)	131-70-4	100 mg	Neat	ALR-135N	12
		100 µg/mL	AcCN	ALR-135S-CN	12
Monoethanolamine (MEA) (2-Aminoethanol)	141-43-5	100 mg	Neat	ALR-136N	10
		100 µg/mL	MeOH	ALR-136S	10
Monoethyl phthalate (mEP)	2306-33-4	100 mg	Neat	ALR-137N	12
		100 µg/mL	AcCN	ALR-137S-CN	12
Monoethylhexyl phthalate (mEHP)	4376-20-9	100 mg	Neat	ALR-138N	24
		100 µg/mL	AcCN	ALR-138S-CN	24
Monomethyl phthalate	4376-18-5	100 mg	Neat	ALR-139N	12
		100 µg/mL	AcCN	ALR-139S-CN	12
Musk ambrette	83-66-9	1000 µg/mL	AcCN	ALR-056S-CN-10X	75
Nickel	7440-02-0	1000 µg/mL	2-5% HNO_3	ALR-MET-06S	34
N-Phenyl-p-phenylenediamine	101-54-2	100 mg	Neat	ALR-140N	15
		100 µg/mL	MeOH	ALR-140S	15
Oak Moss extract	90028-68-5	100 mg	Neat	ALR-026N	35
		1000 µg/mL	EtOH	ALR-026S-ET-10X	35
Octyl-dimethyl-PABA (OD-PABA)(Padimate O)	21245-02-3	100 mg	Neat	ALR-146N	15
		100 µg/mL	MeOH	ALR-146S	15
Octyl-methoxycinnamate (OMC)	5466-77-3	100 mg	Neat	ALR-144N	20
		100 µg/mL	MeOH	ALR-144S	20
4-Phenyl-3-buten-2-one	122-57-6	100 mg	Neat	ALR-058N	10
		1000 µg/mL	AcCN	ALR-058S-CN-10X	10
meta-Phenylenediamine (MPD)	108-45-2	100 mg	Neat	ALR-127N	10
		100 µg/mL	MeOH	ALR-127S	10
para-Phenylenediamine (PPD)	106-50-3	100 mg	Neat	ALR-147N	10
		100 µg/mL	MeOH	ALR-147S	10
Polyethylene glycol (PEG), appr. Molecular weight 200	25322-68-3	100 mg	Neat	ALR-149N-MW200	30
		100 µg/mL	MeOH	ALR-149S-MW200	30
Polyethylene glycol (PEG), appr. Molecular weight 400	25322-68-3	100 mg	Neat	ALR-149N-MW400	30
		100 µg/mL	MeOH	ALR-149S-MW400	30
Polyethylene glycol (PEG), appr. Molecular weight 600	25322-68-3	100 mg	Neat	ALR-149N-MW600	30
		100 µg/mL	MeOH	ALR-149S-MW600	30
Polyethylene glycol (PEG), appr. Molecular weight 1500	25322-68-3	100 mg	Neat	ALR-149N-MW1500	30
		100 µg/mL	MeOH	ALR-149S-MW1500	30
Polyethylene glycol (PEG), appr. Molecular weight 4000	25322-68-3	100 mg	Neat	ALR-149N-MW4000	30
		100 µg/mL	MeOH	ALR-149S-MW4000	30
Polyvinylpyrolidone PVP/PA Copolymer	9003-39-8	100 µg/mL	MeOH	ALR-150S	25
Potassium dichromate	7778-50-9	1000 µg/mL	Water	ALR-MET-07S	34
Potassium sorbate	24634-61-5	100 mg	Neat	ALR-152N	10
		100 µg/mL	MeOH	ALR-152S	10
Propyl paraben	94-13-3	100 mg	Neat	ALR-153N	10
		100 µg/mL	MeOH	ALR-153S	10
Propylene glycol (PG)	57-55-6	100 µg/mL	MeOH	ALR-154S	10
Protocatechuic acid	99-50-3	100 mg	Neat	ALR-155N	10
		100 µg/mL	AcCN	ALR-155S-CN	10

Allergens

Solutions in 1 mL

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price
Pyrocatechol	120-80-9	100 mg	Neat	ALR-156N	$ 10
		100 µg/mL	MeOH	ALR-156S	10
Quaternium-15	51229-78-8	100 mg	Neat	ALR-157N	20
		100 µg/mL	MeOH	ALR-157S	20
Resorcinol	108-46-3	100 mg	Neat	ALR-158N	35
		100 µg/mL	MeOH	ALR-158S	35
Salicylic acid	69-72-7	100 mg	Neat	ALR-173N	20
		100 µg/mL	Water	ALR-173S-W	20
Sodium hydroxide	1310-73-2	100 mg	Neat	ALR-159N	10
		100 µg/mL	MeOH	ALR-159S	10
Sodium nitrite	7632-00-0	100 mg	Neat	ALR-160N	10
		100 µg/mL	Water	ALR-160S-W	10
Talc	14807-96-6	100 mg	Neat	ALR-161N	10
Tetrachlorosalicylanilide	1154-59-2	100 mg	Neat	ALR-162N	50
		100 µg/mL	MeOH	ALR-162S	50
Thimerosal	54-64-8	100 mg	Neat	ALR-163N	30
		100 µg/mL	MeOH	ALR-163S	30
Thiuram (Thiram) (Tetramethylthiouram disulfide)	137-26-8	100 mg	Neat	ALR-164N	10
		100 µg/mL	MeOH	ALR-164S	10
Tree Moss extract	90028-67-4	100 mg	Neat	ALR-025N	35
		1000 µg/mL	EtOH	ALR-025S-ET-10X	35
Tribomsalan	87-10-5	100 mg	Neat	ALR-167N	50
		100 µg/mL	MeOH	ALR-167S	50
Triethanolamine (TEA)	102-71-6	100 mg	Neat	ALR-168N	10
		100 µg/mL	MeOH	ALR-168S	10
Verbena oil (Lippia citriodora Kunth)	8024-12-2	100 mg	Neat	ALR-060N	20
		1000 µg/mL	EtOH	ALR-060S-ET-10X	20
Vinyl chloride	75-01-4	100 µg/mL	MeOH	ALR-170S	12
Zirconium	7440-67-7	1000 µg/mL	2-5% HNO_3	ALR-MET-08S	34

EU Directive 76/768/EEC

EU Directive List of 26 Regulated Contact Allergens:

Set of all 26 EU Allergens (in Solution) **ALR-EU26-R1-SET** $ 425 /
Each at 1000 µg/mL Conc. (1 mL) **26 x 1 mL**

Compound	CAS No.	Cat. No	Price/1 mL
Amyl cinnamal	122-40-7	ALR-001S-CN-10X	$ 20
Amylcinnamyl alcohol	101-85-9	ALR-008S-ET-10X	20
Anisyl alcohol	105-13-5	ALR-014S-ET-10X	20
Benzyl alcohol	100-51-6	ALR-002S-ET-10X	20
Benzyl benzoate	120-51-4	ALR-019S-ET-10X	20
Benzyl cinnamate	103-41-3	ALR-015S-ET-10X	20
Benzyl salicylate	118-58-1	ALR-009S-CN-10X	20
2-(4-tert-Butylbenzyl)propionaldehyde (technical grade)	80-54-6	ALR-017S-CN-10X	20
Cetone Alpha (technical grade)	127-51-5	ALR-024S-CN-10X	20
Cinnamal	104-55-2	ALR-010S-CN-10X	20
Cinnamyl alcohol	104-54-1	ALR-003S-ET-10X	20
Citral	5392-40-5	ALR-004S-CN-10X	20
b-Citronellol	106-22-9	ALR-020S-ET-10X	20
Coumarin	91-64-5	ALR-011S-CN-10X	20
Eugenol	97-53-0	ALR-005S-ET-10X	20
Farnesol	4602-84-0	ALR-016S-ET-10X	20
Geraniol	106-24-1	ALR-012S-ET-10X	20
Hexyl cinnamaldehyde	101-86-0	ALR-021S-ET-10X	20
Hydroxy-citronellal	107-75-5	ALR-006S-CN-10X	20
Hydroxymethylpentylcyclohexene carboxaldehyde	31906-04-4	ALR-013S-CN-10X	20
Isoeugenol	97-54-1	ALR-007S-ET-10X	20
d-Limonene	5989-27-5	ALR-022S-ET-10X	20
Linalool	78-70-6	ALR-018S-ET-10X	20
Methyl heptyne carbonate	111-12-6	ALR-023S-ET-10X	20
Oak Moss extract	90028-68-5	ALR-026S-ET-10X	35
Tree Moss extract	90028-67-4	ALR-025S-ET-10X	35

EU Directive List of substances that may be banned:

Set of 25 Allergens (in Solution) **ALR-EU36-R1-SET** $ 400 /
Neats at 100 mg, Solutions are in 1000 µg/mL Conc. (1 mL) **25 x 1 mL**

Compound	CAS No.	Cat. No.	Price/1 mL
Alanroot (Inula helenium)	97676-35-2	ALR-027S-ET-10X	$ 15
Allylisothiocyanate	57-06-7	ALR-028S-ET-10X	15
Benzyl cyanide	140-29-4	ALR-029S-ET-10X	15
p-tert-Butylphenol	98-54-4	ALR-030S-ET-10X	15
Chenopodium oil (wormseed oil)	8006-99-3	ALR-031N (Only Neat) NOT IN SET	15
Diethyl maleate	141-05-9	ALR-033S-ET-10X	15
Dihydrocoumarin	119-84-6	ALR-034S-A-10X	15
Dimethyl citraconate	617-54-9	ALR-038S-ET-10X	35
6,10-Dimethyl-3,5,9-undecatrien-2-one (Pseudoionone)	141-10-6	ALR-040S-A-10X	15
Diphenylamine	122-39-4	ALR-041S-ET-10X	10
Ethyl acrylate	140-88-5	ALR-042S-ET-10X	10
trans-2-Heptenal	18829-55-5	ALR-044S-CN-10X	20
trans-2-Hexenal diethyl acetal	67746-30-9	ALR-045S-ET-10X	10
trans-2-Hexenal dimethyl acetal	18318-83-7	ALR-046S-10X	10
Hydroabietyl alcohol	13393-93-6	ALR-047S-ET-10X	75
Hydroquinone monoethyl ether (4-Ethoxyphenol)	622-62-8	ALR-048S-ET-10X	10
7-Methoxycoumarin	531-59-9	ALR-050S-CN-10X	10
4-(p-Methoxyphenyl)-3-butene-2-one	943-88-4	ALR-051S-CN-10X	40
1-(p-Methoxyphenyl)-1-penten-3-one	104-27-8	ALR-052S-CN-10X	20
7-Methylcoumarin	2445-83-2	ALR-054S-CN-10X	10
5-Methyl-2,3-hexanedione (Acetyl isovaleryl)	13706-86-0	ALR-055S-CN-10X	20
Methyl trans-2-butenoate	623-43-8	ALR-053S-10X	30
Methyleugenol	95-15-2	ALR-061S-ET-10X	10
Musk ambrette (solution only)	83-66-9	ALR-056S-CN-10X	75
4-Phenyl-3-buten-2-one	122-57-6	ALR-058S-CN-10X	10
Verbena oil (Lippia citriodora Kunth)	8024-12-2	ALR-060S-ET-10X	20

Technical Mixtures

When a compound has a purity identified as "Technical" or "Tech Mixture" it means that the standard is not comprised of just one main compound. These are mixtures of multiple chemicals that make up a particular product and every chemical in the mix are components that define the product. The analysis considers all compounds in the product. Aroclors, flame retardants, PBDE technical grade, halowaxes, and some allergens, plastic additives, and dyes are classified as "Technical Mixtures".

Key to Catalog Numbers	
N	Neat, 100 mg
S	Solution in Methanol
S-A	Solution in Acetone
S-CN	Solution in Acetonitrile
S-ET	Solution in Ethanol
S-T	Solution in Toluene
S-W	Solution in Water

Sun Block

Set of 6 Sun Block Solutions **ALR-SUN-SET** $ 176 / **6 x 1 mL**
Each at 100 µg/mL Conc. (1 mL)

Compound	CAS No.	Cat. No.	Price 1 mL
Benzophenone-3 (Bp-3)	131-57-7	ALR-081S-CN	$10
Butyl-methoxydibenzoylmethane(B-MDM) Sunblock, Parsol 1789	70356-09-1	ALR-086S	75
Homosalate (HMS)	118-56-9	ALR-119S	50
4-Methyl-benzylidene camphor (4-MBC)	36861-47-9	ALR-073S	50
Octyl-dimethyl-PABA (OD-PABA) (Padimate O)	21245-02-3	ALR-146S	15
Octyl-methoxycinnamate (OMC)	5466-77-3	ALR-144S	20

Parabens

Set of 11 Paraben Solutions **ALR-PAR-SET** $ 104 / **11 x 1 mL**
Each at 100 µg/mL Conc. (1 mL)

Compound	CAS No.	Cat. No.	Price 1 mL
Benzyl paraben	94-18-8	ALR-083S	$ 10
Butyl paraben	94-26-8	ALR-085S	10
Ethyl paraben	120-47-8	ALR-113S	10
Heptyl paraben		ALR-117S	10
4-Hydroxybenzoic acid (Paraben)	99-96-7	ALR-069S-CN	10
Isobutyl paraben	4247-02-3	ALR-121S	20
Isopropyl paraben	4191-73-5	ALR-122S	20
Methyl paraben	99-76-3	ALR-130S	10
Potassium sorbate	24634-61-5	ALR-152S	10
Propyl paraben	94-13-3	ALR-153S	10
Protocatechuic acid	99-50-3	ALR-155S-CN	10

Phthalates

Set of 17 Phthalate Solutions **ALR-PHT-SET** $ 234 / **17 x 1 mL**
Each at 100 µg/mL Conc. (1 mL)

Compound	CAS No.	Cat. No.	Price 1 mL
Benzyl butyl phthalate	85-68-7	ALR-082S	$ 12
Diamyl phthalate	131-18-0	ALR-098S	24
Dicyclohexyl phthalate	84-61-7	ALR-099S	32
Di(2-ethyl hexyl) phthalate (DEHP)	117-81-7	ALR-097S	12
Diethyl phthalate	84-66-2	ALR-110S	12
Di-hexyl phthalate	84-75-3	ALR-100S	24
Diisodecyl phthalate	26761-40-0	ALR-101S	12
Diisononyl phthalate	68515-48-0	ALR-102S	32
Diisooctyl phthalate	27554-26-3	ALR-103S	12
Dimethyl phthalate (DMP)	131-11-3	ALR-111S	12
Di-n-butyl phthalate (DBP)	84-74-2	ALR-104S	12
Di-n-octyl phthalate	117-84-0	ALR-105S	12
Monobenzyl phthalate (mBzP)	2528-16-7	ALR-134S-CN	24
Monobutyl phthalate (mBP)	131-70-4	ALR-135S-CN	12
Monoethyl phthalate (mEP)	2306-33-4	ALR-137S-CN	12
Monoethylhexyl phthalate (mEHP)	4376-20-9	ALR-138S-CN	12
Monomethyl phthalate	4376-18-5	ALR-139S-CN	12

Metals

Set of 8 Metals Solutions **ALR-MET-SET** $ 225 / **8 x 100 mL**
Each at 1000 µg/mL 2-5% HNO_3, except † in Water (100 mL Volume)

Compound	CAS No.	Cat. No.	Price 100 mL
Arsenic	7440-38-2	ALR-MET-01S	$ 34
Chromium	7440-47-3	ALR-MET-02S	34
Cobalt	7440-48-4	ALR-MET-03S	34
Lead	7439-92-1	ALR-MET-04S	34
Mercury	7439-97-6	ALR-MET-05S	34
Nickel	7440-02-0	ALR-MET-06S	34
Potassium dichromate	7778-50-9	ALR-MET-07S †	34
Zirconium	7440-67-7	ALR-MET-08S	34

† in Water

Key to Catalog Numbers	
N	Neat, 100 mg
S	Solution in Methanol
S-A	Solution in Acetone
S-CN	Solution in Acetonitrile
S-ET	Solution in Ethanol
S-T	Solution in Toluene
S-W	Solution in Water

Purchasing Neat Standards

There are two ways to purchase neat standards: Nominal weight and exact weight. With exact weight, the standards will come with the exact weight contained in the vial indicated on the label. The Cat. No. will have an X-WT to indicate that this is an exact weight. Rinse the sample out of the vial and cap with solvent and dilute to acheive the desired concentration. Unless specified, neat samples are provided with nominal weights. Typically, the vials contain up to 10 to 20% more product, however it is not known when you receive your standard what the exact amount is in the vial. Below is a standard procedure for removing all the neat material from the vial and determining the exact weight of the material in the vial.

Small amounts (5-10 mg) of powder often are spread over the surface of the vial and cap. If the chemical is a liquid it may coat the walls as a thin layer invisible to the eye.
To recover all of the contents contained in a vial of neat material please use the procedure described below:

1. Wipe the outside of the vial (containing the Standard) clean and dry (including the cap).
2. Weigh the entire unit on an analytical balance. Record the weight to the nearest 0.1 mg.
3. Carefully transfer the contents to a volumetric flask using a suitable solvent. Rinse the cap and vial several times to assure a complete transfer.
4. Dry inside and outside of the vial and cap with mild heat or inert gas.
5. Weigh the empty dry vial on the same analytical balance to the nearest 0.1 mg and calculate by difference the amount of material transferred.

Chlorofluorocarbon Propellants (CFCs)

Set of 15 ALR-CFCs Solutions **ALR-CFC-SET** $ 175 / **15 x 1 mL**
Each at 200 µg/mL Conc. (1 mL)

Freon	Compound	CAS No.	Cat. No.	Price 1 mL
Freon #11	Trichlorofluoromethane	75-69-4	ALR-CFC-013S-2X	$ 8
Freon #12	Dichlorodifluoromethane	75-71-8	ALR-CFC-008S-2X	8
Freon #13	Chlorotrifluoromethane	75-72-9	ALR-CFC-007S-2X	8
Freon #13b1	Bromotrifluoromethane	75-63-8	ALR-CFC-001S-2X	8
Freon #21	Dichlorofluoromethane	75-43-4	ALR-CFC-009S-2X	8
Freon #22	Chlorodifluoromethane	75-45-6	ALR-CFC-003S-2X	8
Freon #23	Trifluoromethane	75-46-7	ALR-CFC-015S-2X	8
Freon #40	Chloromethane	74-87-3	ALR-CFC-005S-2X	8
Freon #113	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ALR-CFC-014S-2X	10
Freon #114	1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	ALR-CFC-010S-2X	20
Freon #115	Chloropentafluoroethane	76-15-3	ALR-CFC-006S-2X	20
Freon #134a	Tetrafluoroethane	811-97-2	ALR-CFC-012S-2X	20
Freon #142b	1-Chloro-1,1-difluoroethane	75-68-3	ALR-CFC-002S-2X	20
Freon #152a	1,1-Difluoroethane	75-37-6	ALR-CFC-011S-2X	20
Freon #160	Chloroethane	75-00-3	ALR-CFC-004S-2X	8

AllergenCheck®

Azodyes may pose cancer risks and have been restricted in many countries, most notably of the European Union.

Individual Dyes

100 µg/mL in MeOH

Compound	Synonym	CAS No.	Neat Cat. No.	100 mg Price	Solution Cat. No.	1 mL Price
2-Amino-3-nitrophenol ***New***		603-85-0	DYE-107N	$ 22	DYE-107S	$ 22
2-Amino-4-chlorophenol ***New***		95-85-2	--------	---	DYE-034S	12
2-Amino-5-(diethylamino)toluene monohydrochloride ***New***		2051-79-8	DYE-104N	12	DYE-104S	12
2-Aminophenol ***New***		95-55-6	DYE-108N	12	DYE-108S	12
4-Hydroxyindole			--------	---	DYE-035S	35
Acid Red 26	*Ponceau Xylidine*	3761-53-3	DYE-031N	12	DYE-031S	12
Basic Blue	see Victoria Blue					
Basic Blue 7 ***New***		2390-60-5	DYE-113N	12	DYE-113S	12
Basic Fuchsin ***New***		548-62-9	DYE-049N	15	DYE-049S	15
Basic Red 2 ***New***		477-73-6	DYE-114N	12	DYE-114S	12
Basic Red 9		569-61-9	DYE-030N	12	DYE-030S	12
Basic Violet 1		8004-87-3	DYE-027N	12	DYE-027S	12
Basic Violet 3	see Crystal Violet					
Basic Violet 14		632-99-5	--------	---	DYE-012S	35
Congo Red	see Direct Red 28					
Crocein Scarlet 3b ***New***		5413-75-2	DYE-115N	12	DYE-115S	12
Crystal Violet	*Basic Violet 3*	548-62-9	DYE-028N	12	DYE-028S	12
D & C Red 7		569-61-9	DYE-060N	12	DYE-060S	12
3,4-Diaminobenzoic acid		619-05-6	--------	---	DYE-038S	15
2,4-Diaminodiphenylamine ***New***		136-17-4	DYE-102N	22	DYE-102S	22
2,6-Diaminopyridine ***New***		141-86-6	DYE-103N	12	DYE-103S	12
3-Diethylaminophenol			--------	---	DYE-036S	25
1,7-Dihydroxynaphthalene		575-38-2	--------	---	DYE-037S	25
N,N-Dimethyl-1,4-phenylenediamine ***New***		99-89-9	DYE-106N	12	DYE-106S	12
Direct Black 38		1937-37-7	--------	---	DYE-013S	35
Direct Blue 6		2602-46-2	--------	---	DYE-014S	35
Direct Red 28	*Congo Red*	573-58-0	DYE-064N	12	DYE-064S	12
Disperse Blue 1		2475-45-8	--------	---	DYE-001S	25
Disperse Blue 3		2475-46-9	--------	---	DYE-004S	25
Disperse Blue 7		3179-90-6	--------	---	DYE-015S	35
Disperse Blue 26		3860-63-7	--------	---	DYE-016S	35
Disperse Blue 35		12222-75-2	--------	---	DYE-009S	25
Disperse Blue 102		12222-97-8	--------	---	DYE-017S	35
Disperse Blue 124		61951-51-7	--------	---	DYE-010S	25
Disperse Brown 1		23355-64-8	DYE-051N	25	DYE-051S	25
Disperse Orange 1		2581-69-3	--------	---	DYE-005S	25
Disperse Orange 3		730-40-5	--------	---	DYE-006S	35
Disperse Orange 11		82-28-0	--------	---	DYE-002S	25
Disperse Orange 37		13301-61-6	--------	---	DYE-011S	25
Disperse Red 1		2872-52-8	--------	---	DYE-007S	25
Disperse Red 11		2872-48-2	--------	---	DYE-018S	35
Disperse Red 17		3179-89-3	--------	---	DYE-019S	35
Disperse Yellow 3		2832-40-8	DYE-003N	25	DYE-003S	25
Disperse Yellow 9		6373-73-5	--------	---	DYE-008S	25
Eriochrome Black A ***New***		3618-58-4	DYE-109N	12	DYE-109S	12
FD & C Blue 1 ***New***		3844-45-9	DYE-062N	12	DYE-062S	12
FD & C Blue 2		860-22-0	DYE-063N	12	DYE-063S	12
FD & C Red 3		16423-68-0	DYE-057N	12	DYE-057S	12
FD & C Red 40		25956-17-6	DYE-056N	12	DYE-056S	12
FD & C Yellow 5		1934-21-0	DYE-058N	12	DYE-058S	12
FD & C Yellow 6		2783-94-0	DYE-059N	12	DYE-059S	12
Food Yellow 3	*Sunset Yellow FCF*	2783-94-0	DYE-024N	12	DYE-024S	12
Methyl Violet 2B	*Methyl Violet 2B indicator grade*	8004-87-3	DYE-040N	12	DYE-040S	12
2,3-Naphthalenediol ***New***		92-44-4	--------	---	DYE-033S	35
2-Nitro-1,4-phenylenediamine ***New***		5307-14-2	DYE-110N	12	DYE-110S	12
Para Red		6410-10-2	DYE-026N	12	DYE-026S	15
4-Phenylazoaniline hydrochloride		3457-98-5	DYE-046N	12	DYE-046S	12
Ponceau SX ***New***		4548-53-2	--------	---	DYE-112S	12
Ponceau Xylidine	see Acid Red 26					
Solvent Orange 7	*Sudan II*	3118-97-6	DYE-021N	12	DYE-021S	12
Solvent Orange R	see Solvent Yellow 14					
Solvent Red 1		1229-55-6	--------	---	DYE-039S	12
Solvent Red 19	*Sudan Red 7B*	6368-72-5	DYE-025N	15	DYE-025S	15
Solvent Red 23	*Sudan III*	85-86-9	DYE-022N	35	DYE-022S	35
Solvent Red 24	*Sudan IV*	85-83-6	DYE-023N	35	DYE-023S	35
Solvent Yellow 1		3457-98-5	--------	---	DYE-029S	12
Solvent Yellow 3		97-56-3	--------	---	DYE-032S	25
Solvent Yellow 14	*Sudan I, Solvent Orange R*	842-07-9	DYE-020N	12	DYE-020S	12
Sudan I	see Solvent Yellow 14					
Sudan II	see Solvent Orange 7					
Sudan III	see Solvent Red 23					
Sudan IV	see Solvent Red 24					
Sudan Red 7B	see Solvent Red 19					
Sudan Red G	see Solvent Red 1					
Sunset Yellow FCF	see Food Yellow 3					
Victoria Blue ***New***	*Basic Blue 26*	2580-56-5	DYE-111N	12	DYE-111S	12

EU Directive 2002/61/EC Determination of Aryl Amine Breakdown Products in Azo Dyes

Individual Aryl Amine Standards

Analyte	100 µg/mL in AcCN $ 25 / 1 mL	1000 µg/mL in AcCN $ 35 / 1 mL	10 µg/mL in Ethyl acetate for 10 mL $ 20 / 10 mL
o-Aminoazotoluene (01)	RAC-01	RAC-01-10X	RAC-01-EA-0.1X-10ML
4-Aminobiphenyl (02)	RAC-02	RAC-02-10X	RAC-02-EA-0.1X-10ML
2-Amino-4-nitrotoluene (03)	RAC-03	RAC-03-10X	RAC-03-EA-0.1X-10ML
Benzidine (04)	RAC-04	RAC-04-10X	RAC-04-EA-0.1X-10ML
4-Chloroaniline (05)	RAC-05	RAC-05-10X	RAC-05-EA-0.1X-10ML
4-Chloro-*o*-toluidine (06)	RAC-06	RAC-06-10X	RAC-06-EA-0.1X-10ML
p-Cresidine (07)	RAC-07	RAC-07-10X	RAC-07-EA-0.1X-10ML
2,4-Diaminoanisole * (08)	RAC-08	RAC-08-10X	RAC-08-EA-0.1X-10ML
4,4'-Diaminodiphenylmethane (09)	RAC-09	RAC-09-10X	RAC-09-EA-0.1X-10ML
2,4-Diaminotoluene (10)	RAC-10	RAC-10-10X	RAC-10-EA-0.1X-10ML
3,3'-Dichlorobenzidine (11)	RAC-11	RAC-11-10X	RAC-11-EA-0.1X-10ML
3,3'-Dimethoxybenzidine (12)	RAC-12	RAC-12-10X	RAC-12-EA-0.1X-10ML
3,3'-Dimethylbenzidine (13)	RAC-13	RAC-13-10X	RAC-13-EA-0.1X-10ML
3,3'-Dimethyl-4,4'-diaminodiphenylmethane (14)	RAC-14	RAC-14-10X	RAC-14-EA-0.1X-10ML
4,4'-Methylenebis(2-chloroaniline) (15)	RAC-15	RAC-15-10X	RAC-15-EA-0.1X-10ML
2-Naphthylamine (16)	RAC-16	RAC-16-10X	RAC-16-EA-0.1X-10ML
4,4'-Oxydianiline (17)	RAC-17	RAC-17-10X	RAC-17-EA-0.1X-10ML
4,4'-Thiodianiline (18)	RAC-18	RAC-18-10X	RAC-18-EA-0.1X-10ML
o-Toluidine (19)	RAC-19	RAC-19-10X	RAC-19-EA-0.1X-10ML
2,4,5-Trimethylaniline (20)	RAC-20	RAC-20-10X	RAC-20-EA-0.1X-10ML
p-Aminoazobenzene (21)	RAC-21	RAC-21-10X	RAC-21-EA-0.1X-10ML
2-Aminobiphenyl (22)	RAC-22	RAC-22-10X	RAC-22-EA-0.1X-10ML
o-Anisidine (23)	RAC-23	RAC-23-10X	RAC-23-EA-0.1X-10ML
3-Chloro-*o*-toluidine (24)	RAC-24	RAC-24-10X	RAC-24-EA-0.1X-10ML

RAC-R1-SET $ 480 / **24 x 1 mL (Set includes the above ampules)** In Acetonitrile
100 µg/mL * In form of the Sulfate hydrate 171 µg/mL in Pyridine (100 µg/mL as the base)

RAC-R1-10X-SET $ 650 / **24 x 1 mL (Set includes the above ampules)** In Acetonitrile
1000 µg/mL in AcCN * In form of the Sulfate hydrate 1,710 µg/mL in Pyridine (1000 µg/mL as the base)

Carcinogenic Aryl Amine Mix

AE-00049-R1 $ 45 / **1 x 1 mL**
10 µg/mL in Ethyl acetate 23 comps.
AE-00049-SET $ 55 / **2 x 1 mL**
Contains **AE-00049-R1** (23 comps. Mix) plus **RAC-08** (2,4-Diaminoanisole) listed on the left
AE-00049-R1-10ML $ 245 / **1 x 10 mL**
10 µg/mL in Ethyl acetate 23 comps.

o-Aminoazotoluene (01)
4-Aminobiphenyl (02)
2-Amino-4-nitrotoluene (03)
Benzidine (04)
4-Chloroaniline (05)
4-Chloro-o-toluidine (06)
p-Cresidine (07)
4,4'-Diaminodiphenylmethane (09)
2,4-Diaminotoluene (10)
3,3'-Dichlorobenzidine (11)
3,3'-Dimethoxybenzidine (12)
3,3'-Dimethylbenzidine (13)
3,3'-Dimethyl-4,4'-diaminodiphenylmethane (14)
4,4'-Methylenebis(2-chloroaniline) (15)
2-Naphthylamine (16)
4,4'-Oxydianiline (17)
4,4'-Thiodianiline (18)
o-Toluidine (19)
2,4,5-Trimethylaniline (20)
p-Aminoazobenzene (21)
2-Aminobiphenyl (22)
o-Anisidine (23)
3-Chloro-*o*-toluidine (24)

Internal Standards

RAC-IS $ 25 / **1 x 1 mL**
1000 µg/mL in AcCN
RAC-IS-EA $ 25 / **1 x 1 mL**
1000 µg/mL in Ethyl acetate

3,3',5,5'-Tetramethylbenzidine

EU Directive 67/548/EEC Dyes

Criterion #22 Regulated Dyes

Carcinogenic

Each in 100 µg/mL in MeOH

Compound	Cat. No.	Price 1 mL
Disperse Blue 1	DYE-001S	$ 25
Disperse Orange 11	DYE-002S	25
Disperse Yellow 3	DYE-003S	25
Basic Violet 14	DYE-012S	35
Direct Black 38	DYE-013S	35
Direct Blue 6	DYE-014S	35

Criterion #23 Regulated Dye

Disperse dyes, Sensitizing

Each in 100 µg/mL in MeOH

Compound	Cat. No.	Price 1 mL
Disperse Blue 3	DYE-004S	$ 25
Disperse Orange 1	DYE-005S	25
Disperse Orange 3	DYE-006S	35
Disperse Red 1	DYE-007S	25
Disperse Yellow 9	DYE-008S	25
Disperse Blue 35	DYE-009S	25
Disperse Blue 124	DYE-010S	25
Disperse Orange 37	DYE-011S	25
Disperse Blue 7	DYE-015S	35
Disperse Blue 26	DYE-016S	35
Disperse Blue 102	DYE-017S	35
Disperse Red 11	DYE-018S	35
Disperse Red 17	DYE-019S	35

EU Directive 76/768/EEC Dyes

Substances contained in Hair Dyes Ban

Compound	CAS No.	Neat Cat. No.	100 mg Price	Each in 100 µg/mL in MeOH Solution Cat. No.	1 mL Price
2-Amino-3-nitrophenol	603-85-0	DYE-107N	$ 22	DYE-107S	$ 22
2-Amino-5-(diethylamino)toluene monohydrochloride	2051-79-8	DYE-104N	12	DYE-104S	12
2-Aminophenol	95-55-6	DYE-108N	12	DYE-108S	12
Basic Blue 7	2390-60-5	DYE-113N	12	DYE-113S	12
Basic Red 2	477-73-6	DYE-114N	12	DYE-114S	12
Crocein Scarlet 3b	5413-75-2	DYE-115N	12	DYE-115S	12
2,4-Diaminodiphenylamine	136-17-4	DYE-102N	22	DYE-102S	22
2,6-Diaminopyridine	141-86-6	DYE-103N	12	DYE-103S	12
N,N-Diethyl-1,4-phenylenediamine Sulfate	6283-63-2	DYE-105N	12	DYE-105S	12
N,N-Dimethyl-1,4-phenylenediamine	99-89-9	DYE-106N	12	DYE-106S	12
Eriochrome Black A	3618-58-4	DYE-109N	12	DYE-109S	12
2-Nitro-1,4-phenylenediamine	5307-14-2	DYE-110N	12	DYE-110S	12
Ponceau SX	4548-53-2	DYE-112N	12	DYE-112S	12
Victoria Blue	2580-56-5	DYE-111N	12	DYE-111S	12

NEW

Perfluorooctanoic Acid (PFOA)

The acronym PFOA is used to refer to not only the Perfluorooctanoic Acid, but also its principal salts. PFOS is used to refer to Perfluorooctane sulfonate. They are synthetic chemicals that do not occur naturally in the environment and are typically used to aid in the manufacturing of fluoropolymers. These polymers have valuable properties of fire resistance and oil, stain and grease repellence. Another common use is as fire fighting foams. Fluoroteloners will thermally and biologically decompose to form the PFOAs.

The EPA has indicated the potential need for concern and the necessity for additional analytical testing and monitoring. PFOAs have been determined to bioaccumulate and are highly persistent. Continued testing has shown that this class of compounds is widely distributed in the environment. Toxicological studies have shown that exposure to PFOAs can result in developmental/reproductive toxicity, liver damage and possibly cancer.

Compound	CAS No.	Conc.	Matrix	Cat. No.	Price (Solutions in 1 mL)
Perfluoroctanoic acid	335-67-1	100 mg	NEAT	PFOA-001N	$ 22
		100 µg/mL	MeOH	PFOA-001S	22
Perfluorooctane sulfonic acid	1763-23-1	100 mg	NEAT	PFOS-001N	22
		100 µg/mL	MeOH	PFOS-001S	22
Potassium perfluorooctanesulfonate	2795-39-3	100 mg	NEAT	PFOS-002N	22
		100 µg/mL	MeOH	PFOS-002S	22
Scotchgard™ Pre-2002 Formulation (Tech mix)		100 µg/mL	MeOH	PFOS-SCG-001S	22
Scotchgard™ Post-2002 Formulation (Tech mix)		100 µg/mL	MeOH	PFOS-SCG-002S	22

Registered Trademarks
Scotchgard 3M

Odor Standards

The determination of odor in drinking water, waste water, and solids also include Japanese quantitative standards to meet the standard methods odor testing parameters. Odor Chemical Reference Materials, include both Quantitative and Qualitative Standards.

Individual Odor Standards

Solutions are in 1 mL, except * in 10 mL **Storage: Refrig (0-5° C), except ODOR-01S & ODOR-02S**

	CAS No.	Conc.	Matrix	Cat. No.	Price
Cumene	98-82-8	10 mg	NEAT	ODOR-06N	$ 20
(+/-) Geosmin	16423-19-1	2 µg/mL	MeOH	ODOR-01S	45
Indan	496-11-7	10 mg	NEAT	ODOR-12N	20
Indene	95-13-6	10 mg	NEAT	ODOR-11N	20
2-Isobutyl-3-methoxypyrazine *	24683-00-9	1000 µg/mL	MeOH	ODOR-17S-10ML	45
2-Isopropyl-3-methoxypyrazine *	25773-40-4	1000 µg/mL	MeOH	ODOR-16S-10ML	45
cis-3-Hexenyl acetate	3681-71-8	10 mg	NEAT	ODOR-08N	35
cis-3-Hexen-1-ol	928-96-1	10 mg	NEAT	ODOR-09N	35
2-Methylbenzofuran	4265-25-2	10 mg	NEAT	ODOR-14N	45
2-Methylisoborneol	2371-42-8	2 µg/mL	MeOH	ODOR-02S	45
Methyl isobutyl ketone	108-10-1	10 mg	NEAT	ODOR-10N	20
Naphthalene	91-20-3	10 mg	NEAT	ODOR-13N	20
trans-2, cis-6-Nonadienal	557-48-2	10 mg	NEAT	ODOR-03N	30
Styrene	100-42-5	10 mg	NEAT	ODOR-04N	20
Toluene	108-88-3	10 mg	NEAT	ODOR-05N	20
2,4,6-Trichloroanisole *	87-41-1	1000 µg/mL	MeOH	ODOR-15S-10ML	45
m-Xylene	108-38-3	10 mg	NEAT	ODOR-07N	20

Japan Drinking Water Odor Standard

ODOR-JDWOS **$ 80 / 1 x 1 mL**
100 µg/mL each in MeOH 2 comps.

(+/-) Geosmin
2-methylisoborneol

Odor Set

ODOR-STM-SET **$ 200 / 12 x 10 mg**

trans-2, cis-6-Nonadienal
Styrene
Toluene
Cumene
m-Xylene
cis-3-Hexenyl acetate
cis-3-Hexen-1-ol
Methyl isobutyl ketone
Indene
Indan
Naphthalene
2-Methylbenzofuran

CFCs and Refrigerants

Refrigerants - Chlorofluorohydrocarbons (CFCs)

Chlorofluorohydrocarbons (CFCs) are ozone-depleting substances that were used primarily in air-conditioning and refrigeration systems. Under the Clean Air Act, CFCs were to be phased out of production in the U.S. by January 1, 1996. In order to monitor various refrigerants that may be present in the environment, the following single and multi-component mixes are offered to help labs screen for these compounds.

Compound	CAS No.	Conc.	Solvent	Cat. No.	Price/ 1 mL
Bromochlorodifluoromethane	353-59-3	0.2 mg/mL	MeOH	M-REF-X-01	$ 20
Bromotrifluoromethane (Freon #13b1)	75-63-8	0.2 mg/mL	MeOH	M-REF-01	8
1-Chloro-1,1-difluoroethane (Freon #142b)	75-68-3	0.2 mg/mL	MeOH	M-REF-02	20
2-Chloro-1,1,1,2-tetrafluoroethane (Freon #124)	2837-89-0	0.2 mg/mL	MeOH	M-REF-X-02	20
Chlorodifluoromethane (Freon #22)	75-45-6	0.2 mg/mL	MeOH	M-REF-03	8
Chloroethane (Freon #160)	75-00-3	0.2 mg/mL	MeOH	M-REF-04	8
Chloromethane	74-87-3	0.2 mg/mL	MeOH	M-REF-05	8
Chloropentafluoroethane	76-15-3	0.2 mg/mL	MeOH	M-REF-06	20
Chlorotrifluoromethane (Freon #13)	75-72-9	0.2 mg/mL	MeOH	M-REF-07	8
1,2-Dibromotetrafluoroethane	124-73-2	0.2 mg/mL	MeOH	M-REF-X-03	20
1,1-Dichloro-1-fluoroethane (Freon #141B)	1717-00-6	0.2 mg/mL	MeOH	M-REF-X-04	20
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon #114)	76-14-2	0.2 mg/mL	MeOH	M-REF-10	20
2,2-Dichloro-1,1,1-trifluoroethane (Freon #123)	306-83-2	0.2 mg/mL	MeOH	M-REF-X-05	20
Dichlorodifluoromethane (Freon #12)	75-71-8	0.2 mg/mL	MeOH	M-REF-08	8
Dichlorofluoromethane (Freon #21)	75-43-4	0.2 mg/mL	MeOH	M-REF-09	8
1,1-Difluoroethane (Freon 152a)	75-37-6	0.2 mg/mL	MeOH	M-REF-11	20
Pentafluoroethane (Freon #125)	354-33-6	0.2 mg/mL	MeOH	M-REF-X-06	20
1,1,2,2-Tetrafluoroethane (Freon #134)	359-35-3	0.2 mg/mL	MeOH	M-REF-X-07	20
Tetrafluoroethane	811-97-2	0.2 mg/mL	MeOH	M-REF-12	20
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.2 mg/mL	MeOH	M-REF-14	10
		2.0 mg/mL	MeOH	M-REF-14-10X	10
Trichlorofluoromethane	75-69-4	0.2 mg/mL	MeOH	M-REF-13	8
1,1,1-Trifluoroethane (Freon #143A)	420-46-2	0.2 mg/mL	MeOH	M-REF-X-08	20
Trifluoromethane (Freon #23)	75-46-7	0.2 mg/mL	MeOH	M-REF-15	8

Refrigerant Solutions (CFCs)

Individuals

Each at 0.2 mg/mL in MeOH — At stated prices / **1 mL**

Set

M-REF-SET — $ 175 / **15 x 1 mL**

Each at 0.2 mg/mL in MeOH — (below 15 comps.)

Multi-Component Solution

M-REF — $ 60 / **1 x 1 mL**

0.2 mg/mL each in MeOH — (below 15 comps.)

Freon #	Compound	Cat. No.	Price
13b1	Bromotrifluoromethane (01)	M-REF-01	$ 8
142b	1-Chloro-1,1-difluoroethane (02)	M-REF-02	20
22	Chlorodifluoromethane (03)	M-REF-03	8
160	Chloroethane (04)	M-REF-04	8
40	Chloromethane (05)	M-REF-05	8
115	Chloropentafluoroethane (06)	M-REF-06	20
13	Chlorotrifluoromethane (07)	M-REF-07	8
12	Dichlorodifluoromethane (08)	M-REF-08	8
21	Dichlorofluoromethane (09)	M-REF-09	8
114	1,2-Dichloro-1,1,2,2-tetrafluoroethane (10)	M-REF-10	20
152a	1,1-Difluoroethane (11)	M-REF-11	20
134a	Tetrafluoroethane (12)	M-REF-12	20
11	Trichlorofluoromethane (13)	M-REF-13	8
113	1,1,2-Trichloro-1,2,2-trifluoroethane (14)	M-REF-14	10
23	Trifluoromethane (15)	M-REF-15	8

Additional Individual Refrigerant Solutions (CFCs)

Individuals

Each at 0.2 mg/mL in MeOH — At stated prices / **1 mL**

Set

M-REF-X-R1-SET — $ 112 / **set of 9 x 1 mL**

Each at 0.2 mg/mL in MeOH — (below 9 comps.)

Multi-Component Solution

M-REF-X — $ 40 / **1 x 1 mL**

0.2 mg/mL each in MeOH — (below 8 comps., not including Freon 113a)

Freon #	Compound	Cat. No.	Price
12B1	Bromochlorodifluoromethane	M-REF-X-01	$ 20
124	2-Chloro-1,1,1,2-tetrafluoroethane	M-REF-X-02	20
114B2	1,2-Dibromotetrafluoroethane	M-REF-X-03	20
141b	1,1-Dichloro-1-fluoroethane	M-REF-X-04	20
123	2,2-Dichloro-1,1,1-trifluoroethane	M-REF-X-05	20
125	Pentafluoroethane	M-REF-X-06	20
134	1,1,2,2-Tetrafluoroethane	M-REF-X-07	20
113a	1,1,1-Trichlorotrifluoroethane (Freon 113a)	M-REF-X-09	18
143a	1,1,1-Trifluoroethane	M-REF-X-08	20

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Qualitative Kits

PolyStandard™

These PolyStandard™ Kits were originally produced by Dr. Seaton Preston of the PolyScience Analytical Division 40 years ago. In 1999, AccuStandard acquired this division and renamed it PolyStandard. AccuStandard offers this selection of kits for qualitative and retention time analysis, and enables identification of unknown components or to analysis of a broad range of chemicals. All kits are in either vials or ampules (amps.) and each kit includes an empty transfer vial.

Alcohols

C_1-C_5 Alcohols

PS-111C-R1-SET

$ 110 / **14 amps.**

Neats at 1 mL each.

(01) Methanol
(02) Ethanol
(03) 1-Propanol
(04) 2-Propanol
(05) 1-Butanol
(06) 2-Butanol
(07) 2-Methyl-1-propanol
(08) 2-Methyl-2-propanol
(09) 1-Pentanol
(10) 2-Pentanol
(11) 3-Pentanol
(12) 2-Methyl-1-butanol
(13) 3-Methyl-1-butanol
(14) 2-Methyl-2-butanol

C_6-C_8 Alcohols

PS-131C-R1-SET

$ 185 / **14 amps.**

Neats at 1 mL each.

(01) 1-Hexanol
(02) 2-Hexanol
(03) 3-Hexanol
(04) 2-Methyl-1-pentanol
(05) 4-Methyl-2-pentanol
(06) 2-Methyl-3-pentanol
(07) 3-Methyl-3-pentanol
(08) 2-Ethyl-1-butanol
(09) 3,3-Dimethyl-2-butanol
(10) 1-Heptanol
(11) 2-Heptanol
(12) 2,4-Dimethyl-3-pentanol
(13) 1-Octanol
(14) 2-Octanol

nC_6-C_{22} Alcohols

PS-121C-R1-SET

$ 250 / **14 amps.**

Neat at 10 mg each. Solutions are weight % in Ethylbenzene, 1 mL each.

(01) 1-Hexanol	Neat
(02) 1-Heptanol	Neat
(03) 1-Octanol	Neat
(04) 1-Nonanol	Neat
(05) 1-Decanol	Neat
(06) 1-Undecanol	Neat
(07) 1-Dodecanol	10%
(08) 1-Tridecanol	10%
(09) 1-Tetradecanol	10%
(10) 1-Pentadecanol	10%
(11) 1-Hexadecanol	10%
(12) 1-Octadecanol	5%
(13) 1-Eicosanol	5%
(14) 1-Docosanol	5%

Ketones

Normal Ketones

PS-411C-R1-SET

$ 160 / **14 amps.**

Neats at 1 mL each.

(01) 2-Butanone
(02) 2-Pentanone
(03) 3-Pentanone
(04) 2-Hexanone
(05) 2-Heptanone
(06) 3-Heptanone
(07) 4-Heptanone
(08) 2-Octanone
(09) 3-Octanone
(10) 2-Nonanone
(11) 5-Nonanone
(12) 2-Methylcyclohexanone
(13) 3-Methylcyclohexanone
(14) 4-Methylcyclohexanone

Branched Ketones

PS-421D-R1-SET

$ 220 / **14 amps.**

Neats at 1 mL each.

(01) 3-Methyl-2-butanone
(02) 3,3-Dimethyl-2-butanone
(03) 2-Methyl-3-pentanone
(04) 4-Methyl-2-pentanone
(05) 2,4-Dimethyl-3-pentanone
(06) 2-Methyl-3-hexanone
(07) 5-Methyl-2-hexanone
(08) 2-Methyl-3-heptanone
(09) 5-Methyl-3-heptanone
(10) 2,6-Dimethyl-4-heptanone
(11) Mesityl oxide
(12) Acetophenone
(13) Cyclopentanone
(14) Cyclohexanone

Food Additives

Antioxidants

PS-920CX-R1-SET

$ 180 / **15 vials**

Neats at 10 mg each.

(01) BHA (2 and 3-*tert*-Butyl-4-methoxy phenol)
(02) BHT (2,6-*di-tert*-Butyl-4-methyl phenol)
(03) 4-Hydroxymethyl-2,6-*di-tert*-butyl phenol
(04) THBP (2,4,5-Trihydroxybutyrophenone)
(05) Ethoxyquin (1,2-Dihydro-6-ethoxy-2,2,4-trimethyl quinoline)
(06) *tert*-Butyl hydroquinone
(07) DLTDP (Dilaurylthiodipropionate)
(08) Thiodipmpionic acid
(09) Propyl gallate
(10) Ascorbyl palmitate
(11) Ascorbic acid
(12) Erythorbic acid (*iso*-Ascorbic acid)
(13) Tocopherols (mixed)
(14) Glycine
(15) Lecithin

Aromatics

Aromatics C_6-C_{16}

PS-251C-R1-SET

$ 180 / **14 amps.**

Neats at 1 mL each.

(01) Benzene
(02) Toluene
(03) *o*-Xylene
(04) *m*-Xylene
(05) *p*-Xylene
(06) Ethylbenzene
(07) Cumene
(08) Mesitylene
(09) *p*-Cymene
(10) *n*-Propylbenzene
(11) *n*-Butylbenzene
(12) *n*-Hexylbenzene
(13) *n*-Octylbenzene
(14) *n*-Decylbenzene

Aromatics C_6-C_9

PS-252C-R1-SET

$ 195 / **14 amps.**

Neats at 1 mL each.

(01) Toluene
(02) *o*-Xylene
(03) *m*-Xylene
(04) *p*-Xylene
(05) Ethylbenzene
(06) Cumene
(07) Mesitylene
(08) *n*-Propylbenzene
(09) 1,2,4-Trimethybenzene
(10) 1,2,3-Trimethybenzene
(11) 1-Ethyl-2-Methylbenzene
(12) 1-Ethyl-3-Methylbenzene
(13) 1-Ethyl-4-Methylbenzene
(14) Benzene

Sugars & Sugar Alcohols

Sugars & Sugar Alcohols

PS-960C-R1-SET $ 160 / **15 vials**

Neats at 10 mg each.

(01) D-Xylose
(02) D-Ribose
(03) L-Arabinose
(04) D-Fructose
(05) D-Galactose
(06) α-D-Glucose
(07) D-Mannose
(08) L-Rhamnose monohydrate
(09) L-Sorbose
(10) Xylitol
(11) Ribitol (Adonitol)
(12) D-Arabitol
(13) L-Arabitol
(14) D-Mannitol
(15) D-Sorbitol

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(Over 10,000 Listed and over 30,000 formulated custom standards)

AccuStandard.com

Hydrocarbons

Alkanes nC_6-nC_{19}

PS-211C-R1-SET $ 115 / **14 amps.**

Neats at 10 mg each. Solutions are weight % in Ethylbenzene, 1 mL each.

(01) *n*-Hexane	Neat
(02) *n*-Heptane	Neat
(03) *n*-Octane	Neat
(04) *n*-Nonane	Neat
(05) *n*-Decane	Neat
(06) *n*-Undecane	Neat
(07) *n*-Dodecane	Neat
(08) *n*-Tridecane	Neat
(09) *n*-Tetradecane	Neat
(10) *n*-Pentadecane	Neat
(11) *n*-Hexadecane	10%
(12) *n*-Heptadecane	10%
(13) *n*-Octadecane	10%
(14) *n*-Nonadecane	10%

Branched Alkanes C_6-C_9

PS-221D-R1-SET $ 215 / **14 amps.**

Neats at 1 mL each.

(01) 2-Methylpentane
(02) 3-Methylpentane
(03) 2,2-Dimethylbutane
(04) 2,3-Dimethylbutane
(05) 3-Methylhexane
(06) 2,3-Dimethylpentane
(07) 2,4-Dimethylpentane
(08) 3-Methylheptane
(09) 2,5-Dimethylhexane
(10) 2,2,4-Trimethylpentane
(11) 2,3,4-Trimethylpentane
(12) 2,2,5-Trimethylhexane
(13) Cyclohexane
(14) Methylcyclohexane

Alkanes nC_{19}-nC_{40}

PS-261C-R1-SET $ 220 / **14 amps.**

At the stated conc. by weight % in Ethylbenzene, 1 mL each.

(01) *n*-Nonadecane	10%
(02) *n*-Eicosane	10%
(03) *n*-Heneicosane	10%
(04) *n*-Docosane	10%
(05) *n*-Tricosane	10%
(06) *n*-Tetracosane	10%
(07) *n*-Pentacosane	10%
(08) *n*-Hexacosane	10%
(09) *n*-Octacosane	10%
(10) *n*-Triacontane	1%
(11) *n*-Dotriacontane	1%
(12) *n*-Hexatriacontane	1%
(13) *n*-Octatriacontane	1%
(14) *n*-Tetracontane	1%

Naphthenes C_5-C_{10}

PS-281C-R1-SET $ 210 / **14 amps.**

Neats at 1 mL each.

(01) Cyclopentane
(02) Methylcyclopentane
(03) Cyclohexane
(04) Methylcyclohexane
(05) *cis*-1,2-Dimethylcyclohexane
(06) *trans*-1,2-Dimethylcyclohexane
(07) *cis* & *trans*-1,3-Dimethylcyclohexane
(08) *cis* & *trans*-1,4-Dimethylcyclohexane
(09) Ethylcyclohexane
(10) *n*-Propylcyclohexane
(11) *iso*-Propylcyclohexane
(12) *n*-Butylcyclohexane
(13) *iso*-Butylcyclohexane
(14) *tert*-Butylcyclohexane

Alkenes C_6-C_{10}

PS-231C-R1-SET $ 250 / **14 amps.**

Neats at the stated quantities.

(01) Hexene-1	1 mL
(02) Hexene-2 (*cis, trans*)	0.5 mL
(03) 2-Methylpentene-1	1 mL
(04) 4-Methylpentene-1	1 mL
(05) 4-Methylpentene-2 (*cis, trans*)	0.5 mL
(06) 2-Ethylbutene-1	0.5 mL
(07) Heptene-1	1 mL
(08) Heptene-2 (*cis, trans*)	0.5 mL
(09) Heptene-3 (*cis, trans*)	0.5 mL
(10) Octene-1	1 mL
(11) Octene-2	1 mL
(12) 2-Ethylhexene-1	0.5 mL
(13) Nonene-1	1 mL
(14) Decene-1	1 mL

Alkenes C_8-C_{22}

PS-241D-R1-SET $ 185 / **14 vials**

Neats at the stated quantities.

(01) 2,4,4-Trimethylpentene-1	1 mL
(02) 2,4,4-Trimethylpentene-2	0.5 mL
(03) Nonene-1	0.5 mL
(04) Nonene-4 (*cis, trans*)	0.5 mL
(05) 3,5,5-Trimethyl-1-hexene	0.5 mL
(06) Decene-1	1 mL
(07) Undecene-1	1 mL
(08) Dodecene-1	1 mL
(09) Tridecene-1	1 mL
(10) Tetradecene-1	1 mL
(11) Hexadecene-1	1 mL
(12) Octadecene-1	1 mL
(13) Eicosene-1	1 mL
(14) Docosene-1	0.5 mL

Glycols & Glycol Ethers

Glycols C_3-C_{12}

PS-151C-SET $ 175 / **15 amps.**

Neats at 1 mL each. Solutions at the stated conc. by weight % in MeOH, at 1 mL each.

(01) 1,2-Propanediol	Neat	(09) 1,6-Hexanediol	10%
(02) 1,3-Propanediol	Neat	(10) 2,5-Hexanediol	10%
(03) 1,2-Butanediol	Neat	(11) 1,7-Heptanediol	10%
(04) 1,3-Butanediol	Neat	(12) 1,8-Octanediol	10%
(05) 1,4-Butanediol	Neat	(13) 1,9-Nonanediol	10%
(06) 2,3-Butanediol	Neat	(14) 1,10-Decanediol	10%
(07) 1,5-Pentanediol	Neat	(15) 1,12-Dodecanediol	10%
(08) 2,4-Pentanediol	Neat		

Glycols Ethers C_3-C_{10}

PS-160C-R-SET $ 160 / **15 amps.**

Neats at 1 mL each.

(01) Ethylene glycol methyl ether (2-Methoxyethanol)
(02) Ethylene glycol ethyl ether (2-Ethoxyethanol)
(03) Ethylene glycol *n*-butyl ether (2-*n*-Butoxyethanol)
(04) Ethylene glycol *n*-hexyl ether (2-Hexoxyethanol)
(05) Ethylene glycol phenyl ether (2-Phenoxyethanol)
(06) Diethylene glycol methyl ether [2-(2-Methoxyethoxy)-ethanol]
(07) Diethylene glycol ethyl ether [2-(2-Ethoxyethoxy)-ethanol]
(08) Diethylene glycol *n*-butyl ether [2-(2-*n*-Butoxyethoxy)-ethanol]
(09) Diethylene glycol *n*-hexyl ether [2-(2-*n*-Hexoxyethoxy)-ethanol]
(10) Propylene glycol methyl ether (1-Methoxy-isopropanol)
(11) Propylene glycol *n*-propyl ether (1-Propoxy-isopropanol)
(12) Propylene glycol *n*-butyl ether (1-*n*-Butoxy-isopropanol)
(13) Dipropylene glycol methyl ether [1-(1-Methoxyisopropoxy)isopropanol]
(14) Tripropylene glycol methyl ether
(15) Glycol ethers Mixture PS-16C
Neat at the stated weight %.
Ethylene glycol ethyl ether 10%
Ethylene glycol butyl ether 10%
Diethylene glycol ethyl ether 30%
Diethylene glycol butyl ether 50%

Calibration Mixture

PS-16C-1ML $ 50 / **1 mL vial**

Neats at the stated weight % listed above.

Aldehydes

Aldehydes

PS-450E-R2-SET $ 190 / **15 amps.**

Solutions at the stated conc. by weight % in Toluene, at 1 mL each.

(01) Propionaldehyde *(Propanal)*	Neat
(02) Butyraldehyde *(Butanal)*	Neat
(03) Isobutyraldehyde *(2-Methylpropanal)*	Neat
(04) Valeraldehyde *(Pentanal)*	Neat
(05) Isovaleraldehyde *(3-Methylbutanal)*	Neat
(06) Caproicaldehyde *(Hexanal)*	Neat
(07) Enanthaldehyde *(Heptanal)*	Neat
(08) Caprylaldehyde *(Octanal)*	Neat
(09) Pelargonaldehyde *(Nonanal)*	Neat
(10) Capraldehyde *(Decanal)*	10%
(11) Undecylaldehyde *(Hendecanal)*	10%
(12) Lauraldehyde *(Dodecanal)*	10%
(13) Tridecylaldehyde *(Tridecanal)*	10%
(15) Benzaldehyde *(Benzenecarbonal)*	Neat

Acids & Esters

Saturated Fatty Acids Methyl Ester

SFA-N-SET $ 175 / **18 vials**
Neats at 100 mg each.

(01) Methyloctanoate*(Caprylate)* C8:0
(02) Methylnonoate *(Pelargonate)* C9:0
(03) Methyldecanoate*(Caprate)* C10:0
(04) Methylundecanoate C11:0
(05) Methyldodecanoate *(Laurate)* C12:0
(06) Methyltridecanoate C13:0
(07) Methyltetradecanoate*(Myristate)* C14:0
(08) Methylpentadecanoate C15:0
(09) Methylhexadecanoate*(Palmitate)* C16:0
(10) Methylheptadecanoate*(Margarate)* C17:0
(11) Methyloctadecanoate*(Stearate)* C18:0
(12) Methyl 12-hydroxystearate C18:0
(13) Methylnonadecanoate C19:0
(14) Methyleicosanoate*(Arachidate)* C20:0
(15) Methylheneicosanoate C21:0
(16) Methyldocosanoate*(Behenate)* C22:0
(17) Methyltricosanoate C23:0
(18) Methyltetracosanoat*(Lignocerate)* C24:0

Mixture

SFA-N-SET $ 175 / **18 vials**
Mixture at 100 mg each.

Ethyl Esters

PS-621C-R1-SET $ 160 / **14 vials**
Solution at stated conc. by weight % in Hexane in 1 mL. Neats at 1 mL each.

(01) Ethyl acetate	Neat
(02) Ethyl propionate	Neat
(03) Ethyl butyrate	Neat
(04) Ethyl valerate	Neat
(05) Ethyl caproate	Neat
(06) Ethyl heptanoate	Neat
(07) Ethyl caprylate	Neat
(08) Ethyl pelargonate	Neat
(09) Ethyl caprate	Neat
(10) Ethyl undecanoate	Neat
(11) Ethyl laurate	Neat
(12) Ethyl myristate	10%
(13) Ethyl palmitate	10%
(14) Ethyl stearate	10%

Fatty Acids C_3-C_{18}

PS-651C-R1-SET $ 155 / **14 vials**
Neat at the stated quantities

(01) Propionic acid	1 mL
(02) Butyric acid	1 mL
(03) Valeric acid	1 mL
(04) Caproic acid	1 mL
(05) Heptanoic acid	1 mL
(06) Caprylic acid	1 mL
(07) Pelargonic acid	1 mL
(08) Capric acid	1 mL
(09) *n*-Hendecanoic acid	1 mL
(10) 10-Hendecenoic acid	10 mg
(11) Lauric acid	10 mg
(12) Myristic acid	10 mg
(13) Palmitic acid	10 mg
(14) Stearic acid	10 mg

Dicarboxylic Acids

PS-670CX-R1-SET
$ 160 / **15 vials**
Neats at 10 mg each.

(01) Oxalic acid
(02) Malonic acid
(03) Maleic acid
(04) Fumaric acid
(05) Succinic acid
(06) Glutaric acid
(07) Adipic acid
(08) Pimelic acid
(09) Suberic acid
(10) Azelaic acid
(11) Sebacic acid
(12) 1,12-Dodecanedioic acid
(13) Phthalic acid
(14) Isophthalic acid
(15) Terephthalic acid

Amino Acids

L-Amino Acid Kit

PS-970C-R1-SET $ 160 / **22 vials**
Neats at 10 mg each.

(01) L-Alanine
(02) L-Arginine
(03) L-Asparagine
(04) L-Aspartic acid
(05) L-Cysteine
(06) L-Cystine
(07) L-Glutamic acid
(08) L-Glutamine
(09) Glycine
(10) L-Histidine
(11) *trans*-4-Hydroxy-L-proline
(12) L-Isoleucine
(13) L-Leucine
(14) L-Lycine
(15) L-Methionine
(16) L-Phenylalanine
(17) L-Proline
(18) L-Serine
(19) L-Threonine
(20) L-Tryptophan
(21) L-Tyrosine
(22) L-Valine

Phenols

PS-170D-R1-SET $ 105 / **14 vials**
At the stated quantities and conc. by weight % in Toluene.

(01) Phenol	1 mL/Neat
(02) *o*-Cresol	1 mL/Neat
(03) *m*-Cresol	1 mL/Neat
(04) *p*-Cresol	1 mL/Neat
(05) *o*-Ethylphenol	1 mL/10%
(06) *p*-Ethylphenol	1 mL/10%
(07) 2-*iso*-Propylphenol	1 mL/10%
(08) 2,3-Xylenol	1 mL/10%
(09) 2,4-Xylenol	1 mL/10%
(10) 2,5-Xylenol	1 mL/10%
(11) 2,6-Xylenol	1 mL/10%
(12) 3,4-Xylenol	1 mL/10%
(13) 3,5-Xylenol	1 mL/10%
(14) 2,3,5-Trimethylphenol	1 mL/5%

Pesticides & Herbicides

Chlorinated Pesticides

PS-510D-R1-SET
$ 180 / **15 amps.**
Solution at 0.1% in MeOH, 1 mL each.

(01) DDT
(02) BHC
(03) DDE
(04) Endrin
(05) Lindane
(06) Toxaphene
(07) Chlordane
(08) Methoxychlor
(09) Heptachlor
(10) Strobane
(11) Aldrin
(12) Dieldrin
(13) TDE
(14) Endosulfan (mix of isomers)
(15) Chloropicrin

Organophosphorus Insecticides

PS-520E-R1-SET
$ 215 / **13 amps.**
Solution at 0.1% in MeOH, 1 mL each.

(01) Methyl Parathion
(02) Ethion
(03) Co-Ral
(04) Guthion *(Azinphos methyl)*
(05) Di-Syston *(Disulfoton)*
(06) Phosdrin
(07) Naled (Dibrom)
(08) Diazinon
(09) DDVP *(Vapona) (Dichlorvos)*
(11) Cygon
(12) Malathion
(13) Zolone
(15) Phorate *(Thimet)*

Capillary Column Probe Solutions (also Grob Mixes)

The PS-CP-01 mixture provides a more complete capillary column test because a wider variety of organic compounds is included. Test mixture PS-CP-01 contains interactive and labile components. Refrigerate when not in use.

Non-Polar Columns Test Mix

PS-CP-01-1ML $ 95 / **1 mL**
At the stated conc. in CH_2Cl_2
12 comps.

Methyl decanoate	0.42 mg/mL
Methyl undecanoate	0.42 mg/mL
Methyl dodecanoate	0.41 mg/mL
2,3-Butanediol	0.53 mg/mL
Dicyclohexylamine	0.31 mg/mL
2,6-Dimethylaniline	0.32 mg/mL
2,6-Dimethylphenol	0.32 mg/mL
2-Ethylhexanoic acid	0.38 mg/mL
Nonanal	0.40 mg/mL
Octanol	0.36 mg/mL
Undecane	0.29 mg/mL
Decane	0.28 mg/mL

Sulfur Compounds

PS-710C-SET $ 240 / **15 amps.**
Neats at 1 mL each.

(01) *iso*-Propyl mercaptan
(02) *n*-Propyl mercaptan
(03) *iso*-Butyl mercaptan
(04) *n*-Butyl mercaptan
(05) *sec*-Butyl mercaptan
(06) *tert*-Butyl mercaptan
(07) *n*-Amyl mercaptan
(08) *tert*-Amyl mercaptan
(09) *n*-Hexyl mercaptan
(10) *n*-Heptyl mercaptan
(11) Ethyl sulfide
(12) Allyl sulfide
(13) Di-*n*-propyl sulfide
(14) Di-*n*-butyl sulfide
(15) Mercaptan Mixture PS-71C
Neat at the stated weight

Ethyl mercaptan	*13.4%*
n-Propyl mercaptan	*22.4%*
iso-Butyl mercaptan	*28.6%*
n-Butyl mercaptan	*35.6%*

Calibration Mixture

PS-71C $ 50 / **1 mL vial**
Neat at the stated weight % listed above.

Phthalate Esters

PS-840C-R1-SET $ 260 / **15 vials**
Neats at 1 mL each.

(01) Dimethyl phthalate
(02) Diethyl phthalate
(03) Di-*n*-propyl phthalate
(04) Di-*iso*-propyl phthalate
(05) Di-*n*-butyl phthalate
(06) Di-*iso*-butyl phthalate
(07) Dipentyl phthalate
(08) Dihexyl phthalate
(09) Diheptyl phthalate
(10) Dioctyl phthalate
(11) Dinonyl phthalate
(12) Didecyl phthalate
(13) Diundecyl phthalate
(14) Didodecyl phthalate
(15) Phthalate Mixture PS-84C
Neat at stated weight %

Dimethyl phthalate	*16.7%*
Diethyl phthalate	*16.7%*
Di-n-propyl phthalate	*33.3%*
Di-n-butyl phthalate	*33.3%*

Calibration Mixture

PS-84C-1ML $ 70 / **1 mL vial**
Neat at the stated weight % listed above.

PCBs

PS-590D-R1-SET $ 260 / **15 amps.**
At 100 µg/mL in MeOH, 1 mL each.

(01) Aroclor 1016
(02) Aroclor 1221
(03) Aroclor 1232
(04) Aroclor 1242
(05) Aroclor 1248
(06) Aroclor 1254
(07) Aroclor 1260
(08) p,p-DDT
(09) p,p'-DDE
(10) p,p'-TDE
(11) Heptachlor
(12) Heptachlor epoxide
(13) Aldrin
(14) Dieldrin
(15) Lindane

Custom Services

Custom Synthesis

The AccuStandard Synthesis Department employs PhD Organic Chemists with many years of academic and industrial experience. This experienced team has developed hundreds of pure chemical compounds for companies and governmental agencies around the world. AccuStandard specializes in synthesizing chemicals of high purity to be used as reference standards, for milligram to kilogram batches. AccuStandard is the only company to synthesize all 209 individual PCB congeners as well as over 180 individual PBDE congeners.

Synthesis Experience

- PCBs (all 209 congeners), PBBs, PCB Metabolites
- Explosives - TNT, RDX, HMX, TATP, HND, HMTD
- PBDEs (over 180 congeners)
- PBDE Metabolites
- FBDEs
- Halo-Dibenzodioxins
- Halo-Dibenzofurans
- PAHs, Nitro-PAHs
- Substituted Diphenylethers
- Pesticides and Metabolites
- Forensics
- Wear Metals
- Pharmaceuticals
  and
  Other Rare Chemicals

Lab Resources

- Milligram to Kilogram Scale Glassware
- Equipment to work under N_2/Ar
- Liquid Solid Phase Chrom. (mg to 2 kg)
- Flash Chrom. (mg to 2 kg) including Horizon High Performance Flash Chrom. System
- Microwave Synthesis System
- Preparative TLC
- Buchi Rotary Evaporators
- Vacuum Drying Oven
- Parr Pressure Reactor (high pressure reaction, hydrogenation)
- Distillation Equipment - High Vacuum Distillation, Molecular Distillation (Kugelrohr), and Spinning Band Columns

Analytical Resources

- ^{1}H-NMR spectrometer - 400 MHZ
- GC/MS, GC/FID, GC/ECD, GC/NPD
- HPLC
- ICP
- ICP/MS
- Low Sulfur Analyzers (Antek, X-Ray Optical)
- LC/MS/MS
- Hg Analyzer

Custom Formulations

With over 40,000 custom and catalog standards, there is a good chance that AccuStandard will have a catalog item to meet your needs. However, if your laboratory requires something specific, our Chemists will manufacture a Custom Standard to meet your unique requirements. Custom Standards are an economical and time saving way to have a Standard prepared for your individual needs.

Custom QC options

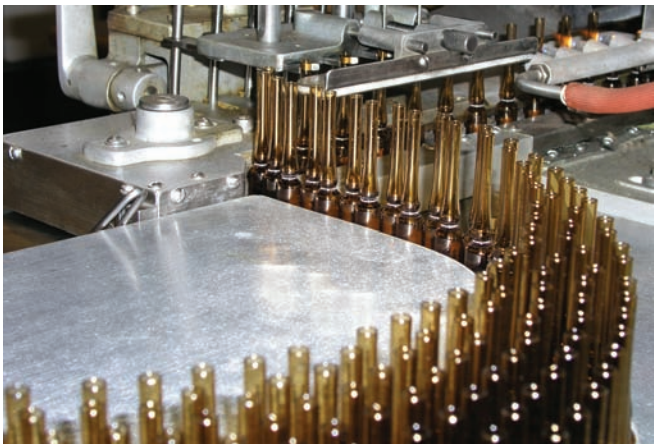
1. Gravimetric/Volumetric Certification: Each purity is measured gravimetrically and QC verified instrumentally (where available). Every component in the Standard is guaranteed to be within +/-0.5% of the requested value unless otherwise stated on the Certificate of Analysis. The solutions are diluted to volume using Class A glassware. A Certificate of Analysis accompanies each Standard and documents the gravimetric values used.
2. Full Quantitative Certification: This QA/QC method includes extended GC analysis using both internal calibration standards plus statistical analysis. A data package containing analytical and gravimetric data can be provided if requested during the quotation phase (Organic Customs only).

Custom Packaging & Bulk Quantity Requirements

AccuStandard has the resources and equipment to meet your custom packaging requirements.

- Automated ampule filling & sealing 0.2 mL up to 20 mL and ampule sizes from 1 mL to 20 mL
- Quantities from 500 to over 500,000 ampules
- Homogeneity testing
- Amber ampules for added product stability
- Private labeling and packaging (OEM)

We can reduce your costs using the Cozzoli Auto Filling/Sealing Machine to package just the right size product for your application. OEM Standards - Privately labeled standards manufactured and tested to your specifications. Cold and under-Nitrogen sealing available.



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* These Methods can be found in the SW-846 update II, Nov. 1992, rev. 2

Alphabetical List of Individual Standards for EPA Methods
AccuStandard has compiled an easy to use alphabetical list of all the popular single component solutions available for EPA methods, alphabetized by Chemical Name. Additionally, the CAS number index in the back of the catalog can easily be used to find a component with multiple synonyms.

The following have been excluded from this listing and are shown elsewhere in the catalog:

- PCB Congeners start on page 30 listed by Congener Number.
- PBDE Congeners start on page 53 listed by Congener Number equivalent.
- The complete Appendix IX list can be found pages 212-214.
- A comprehensive list of Pesticides can be found on pages 69-85.

If you would like a different solvent or concentration than is listed, please contact our Technical Service Department.

Solvent Key for Individual Solutions
M Methanol **D** Methylene chloride **H** Hexane **W** Water
A Acetone **CN** Acetonitrile **MT** *tert*-Butyl methyl ether

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Acenaphthene	100	M	APP-9-001	$ 15
83-32-9	1,000	M	APP-9-001-10X	25
Acenaphthene-d_{10}	500	M	M-548.1-IS	30
15067-26-2				
Acenaphthylene	100	M	APP-9-002	15
208-96-8	1,000	M	APP-9-002-10X	25
Acephate	100	A	P-200S-A	12
30560-19-1	1,000	A	P-200S-A-10X	24
Acetaldehyde	1,000	W	M-8315-01	20
75-07-0	1,000	M	M-554-01 ‡	20
Acetaldehyde-DNPH	100	CN	M-8315-R-DNPH-01	20
1019-57-4	1,000	M:CN	M-554-DNPH-01	20
Acetochlor	100	M	P-465S	32
34256-82-1				
Acetone	100	M	APP-9-003 ‡	12
67-64-1	10,000	W	M-8015B/5031-01	25
Acetone-DNPH	100	CN	M-8315-R2-DNPH-02	20
1567-89-1				
Acetonitrile	100	M	APP-9-005	12
75-05-8	1,000	M	APP-9-005-10X	12
Acetophenone	100	D	APP-9-004	12
98-86-2				
2-Acetylaminofluorene	100	D	APP-9-006	20
53-96-3				
Acifluorfen	100	M	P-245S	12
50594-66-6	1,000	M	P-245S-10X	24
Acifluorfen methyl ester	100	M	P-246S	12
50594-67-7	1,000	M	P-246S-10X	24
Acrolein	100	M:W	APP-9-007 ‡	12
107-02-8	1,000	M:W	APP-9-007-10X ‡	20
Acrolein-DNPH	100	CN	M-8315-R-DNPH-03	20
888-54-0	1,000	CN	M-8315-R-DNPH-03-10X	30
Acrylamide	1,000	M	M-8032	10
79-06-1				
Acrylonitrile	100	M	APP-9-008	12
107-13-1	1,000	M	APP-9-008-10X	20
Alachlor	100	M	P-102S	12
15972-60-8	1,000	M	P-102S-10X	24
Alanap	100	M	P-274S	12
132-66-1				
Aldicarb	100	CN	M-531-06	12
116-06-3				
Aldicarb sulfone	100	CN	M-531-02	20
1646-88-4				
Aldicarb sulfoxide	100	M	P-131S	22
1646-87-3	100	CN	M-531-01	20
Aldrin	100	M	P-002S	12
309-00-2	1,000	M	P-002S-10X	24
Allethrin	100	M	P-267S	32
584-79-2				
Allyl alcohol	10,000	W	M-8015B/5031-05	25
107-18-6				
Allyl chloride	100	M	APP-9-010	12
107-05-1				
Ametryn	100	M	P-003S	12
834-12-8	1,000	M	P-003S-10X	24
4-Aminobiphenyl	100	D	APP-9-011	20
92-67-1				
Aminocarb	100	CN	M-632-01	12
2032-59-9				
2-Amino-4,6-dinitrotoluene	100	M:CN	M-8330-13-0.1X	20
35572-78-2	1,000	M:CN	M-8330-13	20
4-Amino-2,6-dinitrotoluene	100	M:CN	M-8330-14-0.1X	20
19406-51-0	1,000	M:CN	M-8330-14	20
4-Aminopyridine	100	M	P-407S	12
504-24-5				
Anilazine	100	H	P-287S-H	12
101-05-3				

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Aniline	100	M	APP-9-012	$ 12
62-53-3	1,000	M	APP-9-012-10X	20
Aniline-d_5	200	D	M-625-01	20
4165-61-1	2,000	D	M-625-01-10X	20
Anthracene	100	M	APP-9-013	15
120-12-7	1,000	M	APP-9-013-10X	25
Anthracene-d_{10}	200	D	M-625-02	20
1719-06-8				
Aramite	100	M	P-132S	22
140-57-8				
Asulam	100	M	P-276S	12
3337-71-1				
Atrazine	100	M	P-005S	12
1912-24-9	1,000	M	P-005S-10X	24
Atrazine desethyl	100	M	P-343S	22
6190-65-4				
Atrazine-desisopropyl	100	M	P-345S	22
1007-28-9				
Azamethiphos	100	M	P-352S	12
35575-96-3				
Azinphos-ethyl	100	M	P-201S	32
2642-71-9	1,000	H	M-8141A-1-01	20
Azinphos-methyl	1,000	H	M-8140-01	20
86-50-0				
Azobenzene	2,000	D	Z-014B-1	20
103-33-3				
Barbamate (Barban)	100	M	P-202S	12
101-27-9	100	CN	M-632-02	12
Baycarb	100	M	P-347S	12
3766-81-2				
Baygon	100	M	P-009S	12
114-26-1	100	CN	M-531-07	12
Benazolin	100	M	P-397S	22
3813-05-6				
Bendiocarb	100	CN	M-639	20
22781-23-3				
Benfluralin	100	M	P-237S	12
1861-40-1				
Benfuracarb	100	M	P-454S	42
82560-54-1				
Benomyl	100	CN	P-104S-CN ‡	12
17804-35-2				
Bensulfuron-methyl	100	M	P-597S	32
83055-99-6				
Bensulide	100	CN	M-636	32
741-58-2				
Bentazon	100	CN	P-177S-CN	12
25057-89-0				
Bentazon methyl	100	M	P-241S	42
61592-45-8				
Benz(a)anthracene	100	M	APP-9-016	15
56-55-3	1,000	M	APP-9-016-10X	20
Benz(a)anthracene-d_{12}	200	D	M-625-03	20
1718-53-2	2,000	D	M-625-03-10X	20
Benzaldehyde-DNPH	100	CN	M-8315-R-DNPH-04	20
1157-84-2				
Benzene	200	M	M-502-01	10
71-43-2	2,000	M	M-502-01-10X	14
Benzene-d_6	200	M	M-624-SS-01	20
1076-43-3	2,000	M	M-624-SS-01-10X	25
Benzidine	50	D	M-625C-1	20
92-87-5				
Benzo[a]pyrene	100	M	APP-9-020	20
50-32-8	500	CN	M-8310-FL-05	25
Benzo[b]fluoranthene	100	M	APP-9-017	20
205-99-2	1,000	M	APP-9-017-10X	20
Benzo[g,h,i]perylene	100	D	APP-9-019	20
191-24-2	1,000	D	APP-9-019-10X	25

‡ A cold pack is required for this product.

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Benzo[k]fluoranthene	100	M	APP-9-018	$ 20
207-08-9	500	CN	M-8310-FL-08	30
Benzoic acid	2,000	D	Z-014D-1	20
65-85-0				
Benzyl alcohol	100	M	APP-9-021	12
100-51-6				
Benzyl benzoate	5,000	H	M-8061-IS	10
120-51-4				
Benzyl butyl phthalate	100	M	APP-9-034	20
85-68-7				
Benzyl chloride	200	M	M-8010-01	10
100-44-7				
α-BHC	100	M	P-010S	22
319-84-6	1,000	M	P-010S-10X	34
β-BHC	100	M	P-011S	22
319-85-7	1,000	M	P-011S-10X	34
δ-BHC	100	M	P-012S	32
319-86-8	1,000	M	P-012S-10X	52
BHC Tech	100	M	P-081S	12
608-73-1				
Bifenox	100	M	P-257S	12
42576-02-3				
Bifenthrin	100	M	P-445S	42
82657-04-3				
Bitertanol	100	M	P-351S	12
55179-31-2				
Bloc	100	M	P-086S	22
60168-88-9				
Bolstar	100	M	P-108S	12
35400-43-2	1,000	H	M-8140-02	30
Botran	100	M	P-013S	12
99-30-9				
Bromacil	100	M	P-181S	12
314-40-9				
Brominal	100	M	P-256S	12
1689-84-5				
Bromoacetic acid	1,000	MT	M-552A-1	15
79-08-3				
Bromoanisole ***NEW***	50	M	BAN-03	45
Bromobenzene	200	M	M-502-02	10
108-86-1	2,000	M	M-502-02-10X	14
2-Bromobiphenyl	1,000	A	M-8081-SS-X	10
2052-07-5				
Bromochloroacetic acid	40	MT	M-552.2A-01	15
5589-96-8	1,000	MT	M-552A-R-02	25
Bromochloroacetonitrile	5,000	A	M-551B-1	15
83463-62-1				
2-Bromochlorobenzene	200	M	M-624-SS-12	10
694-80-4				
4-Bromochlorobenzene	2,000	M	M-8020-SS-1	20
106-39-8				
Bromochlorodifluoromethane	200	M	M-REF-X-01	20
353-59-3				
Bromochloromethane	200	M	M-502-03	10
74-97-5	2,000	M	M-502-03-10X	14
2-Bromo-1-chloropropane	200	M	M-624-SS-04	10
3017-95-6				
Bromodichloroacetic acid	40	MT	M-552.2A-02	20
71133-14-7				
Bromodichloromethane	200	M	M-502-04	10
75-27-4	2,000	M	M-502-04-10X	14
4-Bromo-3,5-dimethylphenyl-N-methylcarbamate				
672-99-1	100	CN	M-531-IS	25
p-Bromofluorobenzene	100	A	M-551.1-IS	10
460-00-4	200	M	M-624-SS-03	10
Bromoform	200	M	M-502-05	10
75-25-2	2,000	M	M-502-05-10X	14
Bromomethane	200	M	M-502-06	10
74-83-9	2,000	M	M-502-06-10X	14
1-Bromo-2-nitrobenzene	1,000	A	M-8081-IS-DC	10
577-19-5				
4-Bromophenyl phenyl ether	100	M	APP-9-033	15
101-55-3				

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Bromophos-ethyl	100	M	P-372S	$ 22
4824-78-6	1,000	M	P-372S-10X	34
2-Bromopropanoic acid	1,000	MT	M-552.1-SS	10
598-72-1				
Bromotrifluoromethane	200	M	M-REF-01	8
(Freon #13b1)				
Bueno	100	M	P-279S	12
2163-80-6				
Butachlor	100	M	P-191S	12
23184-66-9	1,000	M	P-191S-10X	24
1,3-Butadiene	200	M	S-406A	10
106-99-0	2,000	M	S-406A-10X	20
Butanal	1,000	M	M-554-02 ‡	20
123-72-8				
Butanal-DNPH	100	CN	M-8315-R-DNPH-05	20
1527-98-6	1,000	M:CN	M-554-DNPH-02	20
1-Butanol	10,000	W	M-8015B/5031-06	25
71-36-3				
t-Butanol	2,000	M	S-410	10
75-65-0	10,000	W	M-8015B/5031-07	25
Butylate	100	M	P-088S	12
2008-41-5	1,000	M	P-088S-10X	24
n-Butylbenzene	200	M	M-502-07	10
104-51-8	2,000	M	M-502-07-10X	14
sec-Butylbenzene	200	M	M-502-08	10
135-98-8	2,000	M	M-502-08-10X	14
tert-Butylbenzene	200	M	M-502-09	10
98-06-6	2,000	M	M-502-09-10X	14
Captafol	100	M	P-254S	12
2425-06-1				
Captan	100	M	P-182S ‡	12
133-06-2				
Carbaryl	100	M	P-083S	12
63-25-2	1,000	M	P-083S-10X	24
Carbazole	1,000	M	M-634-IS	15
86-74-8				
Carbendazim	100	CN	M-631	20
10605-21-7				
Carbofuran	100	CN	M-531-08	12
1563-66-2				
Carbon disulfide	100	M	APP-9-035	12
75-15-0				
Carbon tetrachloride	200	M	M-502-10	10
56-23-5	2,000	M	M-502-10-10X	14
Carbophenothion	100	M	P-095S	12
786-19-6	1,000	H	M-8141A-1-02	20
Carbosulfan	100	M	P-446S	22
55285-14-8				
Carboxin	100	M	P-216S	12
5234-68-4				
Chloral hydrate	5,000	A	M-551B-2	15
302-17-0				
Chloramben	100	M	P-243S	12
133-90-4				
Chloramben methyl ester	100	M	P-272S	22
7286-84-2				
Chlorbenside	100	M	P-107S	22
103-17-3	1,000	M	P-107S-10X	44
α-Chlordane	100	M	P-134S	22
5103-71-9	100	H	P-134S-H	22
Chlordane	100	M	P-017S	12
57-74-9	1,000	M	P-017S-10X	15
γ-Chlordane	100	M	P-135S	22
5103-74-2	1,000	M	P-135S-10X	34
Chlordene	100	M	P-136S	22
3734-48-3				
Chlorfenvinphos	100	M	P-139S	22
470-90-6	1,000	H	M-8141A-1-03	20
Chlorflurecol-methyl ester	100	M	P-401S	52
2536-31-4				
Chlorimuron ethyl	100	CN	P-284S-CN	50
90982-32-4				

‡ A cold pack is required for this product.

Solvent Key for Individual Solutions
M Methanol **D** Methylene chloride **H** Hexane **W** Water
A Acetone **CN** Acetonitrile **MT** *tert*-Butyl methyl ether

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
bis(2-Chloro-1-methylethyl)ether 108-60-1	100	D	APP-9-028	$ 20
Chloroacetic acid 79-11-8	1,000	MT	M-552A-2	15
p-Chloroaniline 106-47-8	100	M	APP-9-038	12
Chlorobenzene 108-90-7	200	M	M-502-11	10
	2,000	M	M-502-11-10X	14
Chlorobenzilate 510-15-6	100	CN	P-133S-CN	12
	1,000	CN	P-133S-CN-10X	24
Chlorodibromoacetic acid 5278-95-5	100	MT	M-552.2A-03	20
1-Chloro-1,1-difluoroethane (Freon #142b)	200	M	M-REF-02	20
Chlorodifluoromethane (Freon #22)	200	M	M-REF-03	8
Chloroethane 75-00-3	200	M	M-502-12	10
	2,000	M	M-502-12-10X	14
Chloroethane (Freon #160)	200	M	M-REF-04	8
bis(2-Chloroethoxy)methane 111-91-1	100	D	APP-9-026	20
	1,000	M	APP-9-026-M-10X	20
bis(2-Chloroethyl)ether 111-44-4	100	M	APP-9-027	20
2-Chloroethylvinyl ether 110-75-8	200	M	M-601C	10
	2,000	M	M-601C-10X	10
1-Chloro-2-fluorobenzene 348-51-6	2,000	M	S-163	10
1-Chloro-4-fluorobenzene 352-33-0	200	M	M-624-SS-13	10
Chloroform 67-66-3	200	M	M-502-13	10
	2,000	M	M-502-13-10X	14
1-Chlorohexane 544-10-5	200	M	M-8010R-1-04	15
	2,000	M	M-8010R-1-04-10X	20
Chloromethane 74-87-3	200	M	M-502-14	10
	2,000	M	M-502-14-10X	14
bis-(Chloromethyl)ether 542-88-1	100	H	S-006	20
4-Chloro-3-methylphenol 59-50-7	100	M	APP-9-041	12
2-Chloronaphthalene 91-58-7	100	M	APP-9-045	12
4-Chloro-3-nitrobenzotrifluoride 121-17-5	1,000	A	M-8081-SS-DC	20
Chloropentafluoroethane 76-15-3	200	M	M-REF-06	20
2-Chlorophenol 95-57-8	100	M	APP-9-046	12
2-Chlorophenol-d_4 93951-73-6	200	D	M-625-20	20
4-Chlorophenyl phenyl ether 7005-72-3	100	M	APP-9-047	20
Chloropicrin 76-06-2	5,000	A	M-551B-3	15
Chloroprene 126-99-8	100	M	APP-9-048-R1	12
	1,000	M	APP-9-048-R1-10X	20
3-Chloro-1,2-propanediol 96-24-2	100	M	P-408S	12
Chloropropylate 5836-10-2	100	M	P-213S	12
2-Chloro-1,1,1,2-tetrafluoroethane (Freon #124)	200	M	M-REF-X-02	20
Chlorothalonil 1897-45-6	100	M	P-222S	12
	1,000	M	P-222S-10X	24
2-Chlorotoluene 95-49-8	200	M	M-502-15	10
	2,000	M	M-502-15-10X	14
4-Chlorotoluene 106-43-4	200	M	M-502-16	10
	2,000	M	M-502-16-10X	14
Chlorotrifluoromethane (Freon #13)	200	M	M-REF-07	8

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Chlorpropham 101-21-3	100	CN	M-632-05	$ 12
Chlorpyrifos 2921-88-2	1,000	H	M-8140-03	20
Chlorpyrifos-methyl 5598-13-0	100	M	P-223S	12
Chlorsulfuron 64902-72-3	100	CN	P-262S-CN	22
Chrysene 218-01-9	100	M	APP-9-049	15
	500	CN	M-8310-FL-09	25
Chrysene-d_{12} 1719-03-5	4,000	D	Z-014J-2	20
Clethodim 99129-21-2	100	CN	P-602S-CN	32
	1,000	CN	P-602S-CN-10X	44
Clopyralid methyl ester 1532-24-7	100	M	P-488S	32
Coumaphos 56-72-4	100	M	P-019S	12
	1,000	H	M-8140-04	20
4-CPA 122-88-3	100	M	P-373S	12
m-Cresol 108-39-4	100	D	APP-9-050	12
	1,000	D	APP-9-050-10X	15
p-Cresol 106-44-5	100	D	APP-9-052	12
Crotonaldehyde 123-73-9	1,000	M	M-554-03 ‡	20
Crotonaldehyde-DNPH 1527-96-4	100	CN	M-8315-R-DNPH-06	20
	1,000	M:CN	M-554-DNPH-03	20
Crufomate 299-86-5	100	M	P-292S	12
Cyanazine 21725-46-2	100	CN	M-629	20
Cycloate 1134-23-2	100	M	P-248S	12
Cyclohexanone 108-94-1	1,000	M	M-554-04 ‡	20
Cyclohexanone-DNPH 1589-62-4	100	CN	M-8315-R-DNPH-07	20
Cypermethrin 52315-07-8	100	M	P-225S	42
	1,000	M	P-225S-10X ‡	54
Cyprazine 22936-86-3	100	M	P-420S	22
Cyromazine 66215-27-8	100	M	P-296S	22
2,4-D 94-75-7	100	M	P-020S	12
	1,000	M	P-020S-10X	24
2,6-D acid 575-90-6	100	M	P-690S	22
	100	CN	P-690S-CN	22
2,4-D butoxyethyl ester 1929-73-3	100	H	P-438S-H	12
	1,000	H	P-438S-H-10X	24
2,4-D ethyl ester 533-23-3	100	M	P-636S	12
2,4-D ethylhexyl ester 1928-43-4	100	H	P-439S-H	12
2,4-D methyl ester 1928-38-7	100	M	P-021S	12
	200	H	M-8150-01	15
Dacthal 1861-32-1	100	M	P-196S	12
Dalapon acid 75-99-0	40	MT	M-552.2A-04	15
	100	CN	P-140S-CN	12
Dalapon methyl ester 17640-02-7	200	M	M-552.1-01	25
Danitol 39515-41-8	100	M	P-263S	42
	1,000	M	P-263S-10X	54
Dasanit 115-90-2	100	M	P-235S	22
Dazomet 533-74-4	25	A	M-1659-MS	10
2,4-D-PFB	100	MT	M-8150-02-PFB	30

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
2,4-DB acid	100	M	P-141S	$ 12
94-82-6	200	M	M-8150S-A-02	15
2,4-DB methyl ester	100	M	P-228S	22
18625-12-2	200	H	M-8150-02	15
DCPA diacid	100	M	P-320S	22
2136-79-0	100	CN	P-320S-CN	22
p,p'-DDA	100	M	P-444S	32
83-05-6				
o,p'-DDD	100	M	P-024S	12
53-19-0				
p,p'-DDD	100	M	P-025S	12
72-54-8				
o,p'-DDE	100	M	P-026S	22
3424-82-6				
p,p'-DDE	100	M	P-027S	12
72-55-9				
4,4'-DDMU	100	M	P-424S	22
1022-22-6				
o,p'-DDT	100	M	P-028S	22
789-02-6				
p,p'-DDT	100	M	P-029S	12
50-29-3	100	CN	P-346S-CN	12
DDT, Tech	100	M	P-346S	12
50-29-3				
Decachlorobiphenyl	35	TP	C-209S	12
2051-24-3	500	MT	M-508-SS-2	10
Decafluorobiphenyl	200	D	M-625-04	20
434-90-2	2,000	D	M-625-04-10X	22
Decafluorotriphenylphosphine	10	D	M-680-TS	10
5074-71-5	25	D	M-625C-3	20
Decanal	1,000	M	M-554-05	20
112-31-2				
Decanal-DNPH	100	CN	M-8315-R-DNPH-08	20
	1,000	M:CN	M-554-DNPH-05	20
Deet (Off®)	100	M	P-255S	12
DEF 6	100	M	P-150S	12
78-48-8				
Deltamethrin	100	M	P-355S	32
52918-63-5				
Demeton-S	100	M	P-271S	22
126-75-0				
Demeton-S-methyl	100	M	P-482S	42
919-86-8				
DFTPP	50	A	M-1653-TS	20
5074-71-5	100	D	M-525-TS	20
DFTPPO	100	CN	M-553-PC	15
Diallate	100	M	P-142S	12
2303-16-4				
2,6-Diamino-4-nitrotoluene	100	CN	M-8330-ADD-13	40
59229-75-3				
2,4-Diamino-6-nitrotoluene	100	CN	M-8330-ADD-12	40
6629-29-4				
Diazinon	100	M	P-033S	12
333-41-5	1,000	M	P-033S-10X	24
Dibenz[a,h]anthracene	100	M	APP-9-058	15
53-70-3	500	CN	M-8310-FL-10	20
Dibenzofuran	100	M	APP-9-059	12
132-64-9				
Dibromoacetic acid	20	MT	M-552.2A-05	15
631-64-1	1,000	MT	M-552A-5	15
Dibromoacetonitrile	5,000	A	M-551B-4	15
3252-43-5				
4,4'-Dibromobiphenyl	200	D	M-625-05	20
92-86-4	2,000	D	M-625-05-10X	20
Dibromochloromethane	200	M	M-502-17	10
124-48-1	2,000	M	M-502-17-10X	14
1,2-Dibromo-3-chloropropane	200	M	M-502-18	10
96-12-8	2,000	M	M-502-18-10X	14
1,2-Dibromoethane	200	M	M-502-19	10
106-93-4	2,000	M	M-502-19-10X	14
Dibromofluoromethane	200	M	M-8260-SS-2	20
1868-53-7	2,000	M	M-8260-SS-2-10X	25

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Dibromomethane	200	M	M-502-20	$ 10
74-95-3	2,000	M	M-502-20-10X	14
a,a-Dibromo-m-xylene	1,000	A	M-8081-IS-X	10
626-15-3				
4,4'-Dibromooctafluorobiphenyl	200	D	M-625-06	20
10386-84-2	2,000	D	M-625-06-10X	20
1,2-Dibromopropane	5,000	M	M-552-IS	15
78-75-1	10,000	H	M-556-IS	30
2,3-Dibromopropionic acid	1,000	MT	M-552.2-SS	10
600-05-5	20,000	MT	M-552-SS	15
1,2-Dibromotetrafluoroethane	200	M	M-REF-X-03	20
124-73-2				
Dibutylchlorendate	100	M	P-109S	12
1770-80-5				
Dicamba	100	M	P-008S	12
1918-00-9	1,000	M	P-008S-10X	24
Dicamba methyl ester	100	M	P-071S	22
6597-78-0	200	H	M-8150-06	15
Dicapthon	100	M	P-035S	12
2463-84-5	1,000	M	P-035S-10X	24
Dichlobenil	100	M	P-275S	12
1194-65-6				
Dichlofenthion	100	M	P-211S	12
97-17-6				
Dichlone	100	M	P-253S	12
117-80-6				
Dichlormid	100	M	P-675S	32
37764-25-3				
Dichloroacetic acid	60	MT	M-552.2A-06	15
79-43-6	1,000	MT	M-552A-3 ‡	15
Dichloroacetonitrile	5,000	A	M-551B-5	15
3018-12-0				
1,2-Dichlorobenzene	200	M	M-502-21	10
95-50-1	2,000	M	M-502-21-10X	14
1,3-Dichlorobenzene	200	M	M-502-22	10
541-73-1	2,000	M	M-502-22-10X	14
1,4-Dichlorobenzene	200	M	M-502-23	10
106-46-7	2,000	M	M-502-23-10X	14
m-Dichlorobenzene	100	M	APP-9-065	12
541-73-1				
p-Dichlorobenzene	100	M	APP-9-066	12
106-46-7				
1,2-Dichlorobenzene-d_4	200	M	M-624-SS-11	20
2199-69-1	2,000	M	M-624-SS-11-10X	20
1,4-Dichlorobenzene-d_4	2,000	M	Z-014J-3-M-0.5X	20
3855-82-1	4,000	D	Z-014J-3	20
3,3'-Dichlorobenzidine	100	M	APP-9-067	20
91-94-1	2,000	M	Z-014F-2	20
3,5-Dichlorobenzoic acid	100	M	P-242S	12
51-36-5	1,000	M	P-242S-10X	14
4,4'-Dichlorobenzophenone	100	M	P-295S	12
90-98-2	1,000	M	P-295S-10X	24
4,4'-Dichlorobiphenyl	500	MT	M-508-SS	10
2050-68-2				
1,4-Dichlorobutane	200	M	M-624-SS-05	10
110-56-5				
trans-1,4-Dichloro-2-butene	100	M	APP-9-068	12
110-57-6				
Dichlorodifluoromethane	200	M	M-502-24	10
75-71-8	2,000	M	M-502-24-10X	14
Dichlorodifluoromethane	200	M	M-REF-08	8
(Freon #12)				
1,1-Dichloroethane	200	M	M-502-25	10
75-34-3	2,000	M	M-502-25-10X	14
1,2-Dichloroethane	200	M	M-502-26	10
107-06-2	2,000	M	M-502-26-10X	14
cis-1,2-Dichloroethene	200	M	M-502-28	10
156-59-2	2,000	M	M-502-28-10X	14
1,2-Dichloroethane-d_4	200	M	M-624-SS-06	20
17060-07-0	2,000	M	M-624-SS-06-10X	20
1,1-Dichloroethene	200	M	M-502-27	10
75-35-4	2,000	M	M-502-27-10X	14
trans-1,2-Dichloroethene	200	M	M-502-29	10
156-60-5	2,000	M	M-502-29-10X	14

Solvent Key for Individual Solutions
M Methanol **D** Methylene chloride **H** Hexane **TP** Isooctane
A Acetone **CN** Acetonitrile **MT** *tert*-Butyl methyl ether

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
1,1-Dichloro-1-fluoroethane	200	M	M-REF-X-04	$ 20
(Freon #141B)				
Dichlorofluoromethane	200	M	M-502-61	10
75-43-4	2,000	M	M-502-61-10X	14
Dichlorofluoromethane	200	M	M-REF-09	8
(Freon #21)				
Dichloromethane	200	M	M-502-39	10
75-09-2	2,000	M	M-502-39-10X	10
Dichlorophen	100	M	P-232S	12
97-23-4				
2,4-Dichlorophenol	100	M	APP-9-075	12
120-83-2				
2,6-Dichlorophenol	100	D	APP-9-076	12
87-65-0				
2,3-Dichlorophenoxyacetic acid	100	M	P-470S	12
2976-74-1	100	CN	P-470S-CN	12
2,4-Dichlorophenylacetic acid	100	A	M-8150B-SS	10
19719-28-9	1,000	A	M-8150B-SS-10X	20
1,2-Dichloropropane	200	M	M-502-30	10
78-87-5	2,000	M	M-502-30-10X	14
1,3-Dichloropropane	200	M	M-502-31	10
142-28-9	2,000	M	M-502-31-10X	14
2,2-Dichloropropane	200	M	M-502-32	10
594-20-7	2,000	M	M-502-32-10X	14
1,1-Dichloro-2-propanone	5,000	A	M-551B-6	15
513-88-2				
1,1-Dichloropropene	200	M	M-502-33	10
563-58-6	2,000	M	M-502-33-10X	14
trans-1,3-Dichloropropene	100	M	APP-9-079	12
10061-02-6				
1,3-Dichloropropene (cis/trans)	400	M	M-502-34-R	10
542-75-6	4,000	M	M-502-34-R-10X	15
cis-1,3-Dichloropropene	100	M	APP-9-078	12
10061-01-5				
1,2-Dichloro-1,1,2,2-tetrafluoroethane	200	M	M-REF-10	20
(Freon #114)				
2,2-Dichloro-1,1,1-trifluoroethane	200	M	M-REF-X-05	20
(Freon #123)				
Dichlorprop	100	M	P-143S	12
120-36-5	200	M	M-8150S-A-07	15
Dichlorprop methyl ester	100	M	P-229S	12
57153-17-0	200	H	M-8150-07	15
Dichlorvos	100	M	P-036S	12
62-73-7	1,000	H	M-8140-07	20
Diclofop methyl	100	M	P-303S	12
51338-27-3				
Dicrotophos	100	M	P-178S	22
141-66-2				
Dieldrin	100	M	P-037S	22
60-57-1	1,000	M	P-037S-10X	34
Diethyl ether	10,000	W	M-8015B/5031-09	25
60-29-7				
Diethyl phosphate (mono- & di-)	100	M	P-443S	12
598-02-7				
Diethyl phthalate	100	M	APP-9-081	12
84-66-2	1,000	M	APP-9-081-10X	20
1,4-Difluorobenzene	200	M	M-624-SS-07	10
540-36-3	2,000	M	M-624-SS-07-10X	20
2,2'-Difluorobiphenyl	200	D	M-625-07	20
388-82-9	2,000	D	M-625-07-10X	20
4,4'-Difluorobiphenyl	100	CN	M-550-IS	20
398-23-2				
1,1-Difluoroethane	200	M	M-REF-11	20
(Freon 152a)				
Dimefox	100	M	P-299S	32
115-26-4				
Dimethoate	100	M	P-039S	22
60-51-5	1,000	M	P-039S-10X	34
Dimethyl phosphate	100	M	P-442S	12
813-78-5				

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Dimethyl phthalate	100	M	APP-9-088	$ 12
131-11-3	1,000	M	APP-9-088-10X	20
2,3-Dimethyl-2,3-dinitrobutane (DMNB)	100	CN	M-8330-ADD-21	30
3964-18-9				
1,3-Dimethyl-2-nitrobenzene	250	MT	M-507-SS	10
81-20-9	1,000	MT	M-507-SS-4X	20
4-Dimethylaminoazobenzene	100	D	APP-9-083	20
60-11-7				
7,12-Dimethylbenz[a]anthracene	100	D	APP-9-084	20
57-97-6				
2,5-Dimethylbenzaldehyde-DNPH	100	CN	M-8315-R-DNPH-09	20
152477-96-8				
3,3'-Dimethylbenzidine	100	D	APP-9-085	20
119-93-7				
a,a-Dimethylphenethylamine	100	D	APP-9-086	20
122-09-8				
2,4-Dimethylphenol	100	M	APP-9-087	12
105-67-9				
Di-n-butyl phthalate	100	M	APP-9-063	12
84-74-2	1,000	M	APP-9-063-10X	20
Dinex	100	M	P-427S	22
131-89-5	1,000	M	P-427S-10X	34
3,5-Dinitroaniline	100	CN:M	M-8330-ADD-4	20
618-87-1				
1,2-Dinitrobenzene	1,000	M	M-8330-SS	20
528-29-0				
1,3-Dinitrobenzene	100	M:CN	M-8330-01-0.1X	20
99-65-0	1,000	M:CN	M-8330-01	15
4,6-Dinitro-o-cresol	100	M	P-384S	12
534-52-1				
2,4-Dinitrophenol	100	M	APP-9-091	12
51-28-5				
2,4-Dinitrophenylhydrazine	1,000	CN	M-1667A-DERV-10ML	13
119-26-6			in 10 mL	
2,4-Dinitrotoluene	100	M:CN	M-8330-02-0.1X	20
121-14-2	1,000	M:CN	M-8330-02	15
2,5-Dinitrotoluene	100	CN	M-8095-SS-03	50
619-15-8				
2,6-Dinitrotoluene	100	M:CN	M-8330-03-0.1X	20
606-20-2	1,000	M:CN	M-8330-03	15
3,4-Dinitrotoluene	100	CN	M-8095-SS-01	15
610-39-9	1,000	M	M-8330-IS	15
Dinocap	100	M	P-288S	12
39300-45-3				
Di-n-octyl phthalate	100	M	APP-9-095	12
117-84-0				
Dinoseb	100	M	P-144S	12
88-85-7	1,000	M	P-144S-10X	24
Dinoseb methyl ether	100	M	P-230S	12
6099-79-2	200	H	M-8150-08	15
Dioxacarb	100	M	P-264S	22
6988-21-2				
p-Dioxane	100	M	APP-9-096	12
123-91-1	1,000	M	APP-9-096-10X	20
Dioxathion	100	M	P-219S	42
78-34-2	1,000	H	P-219S-H-10X	54
Diphenamid	100	M	P-173S	12
957-51-7				
Diphenylamine	100	D	APP-9-097	12
122-39-4	1,000	M	M-620	15
Diquat dibromide monohydrate	100	M	P-231S	12
(as Diquat)	1,000	M	P-231S-10X	24
Disulfoton	100	M	P-042S	12
298-04-4	1,000	M	P-042S-10X	24
Disulfoton sulfone	100	M	P-582S	52
2497-06-5				
2,4-DP ethyl hexyl	100	M	P-429S	22
79270-78-3				
Dursban	100	M	P-094S	12
2921-88-2	1,000	M	P-094S-10X	24

‡ A cold pack is required for this product.

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Dyfonate 944-22-9	100	M	P-087S	$ 12
EGDN 628-96-6	100	CN	M-8330-ADD-5	20
Endosulfan I 959-98-8	100	M	P-091S	22
	1,000	M	P-091S-10X	34
Endosulfan II 33213-65-9	100	M	P-092S	22
	1,000	M	P-092S-10X	34
Endosulfan sulfate 1031-07-8	100	M	P-145S	22
	1,000	M	P-145S-10X	34
Endothall 145-73-3	100	M	P-183S	24
	1,000	M	P-183S-10X	36
Endothall dimethyl ester	100	M	P-603S	22
Endothall pentafluorophenyl hydrazine derivative	100	MT	M-548-CAL	35
Endrin 72-20-8	100	M	P-045S	22
	1,000	M	P-045S-10X	34
Endrin aldehyde 7421-93-4	100	M	P-046S	22
	1,000	M	P-046S-10x	34
Endrin ketone 53494-70-5	100	M	P-146S	22
EPN 2104-64-5	100	A	P-220S-A	12
	1,000	H	M-8141-02	12
Ethalfluralin 55283-68-6	100	M	P-269S	12
Ethanol 64-17-5	10,000	W	M-8015B/5031-11	25
Ethephon 16672-87-0	100	M	P-239S	12
Ethion 563-12-2	100	M	P-048S	12
Ethoprop 13194-48-4	100	M	P-129S	22
	1,000	H	M-8140-09	30
Ethyl acetate 141-78-6	10,000	W	M-8015B/5031-12	25
Ethyl carbamate 51-79-6	100	M	P-419S	12
Ethyl methacrylate 97-63-2	100	M	APP-9-105	12
Ethyl methanesulfonate 62-50-0	100	D	APP-9-106	20
Ethylbenzene 100-41-4	200	M	M-502-35	10
	2,000	M	M-502-35-10X	14
Ethylbenzene-d_{10} 25837-05-2	200	M	M-624-SS-08	20
Ethylene glycol 107-21-1	10,000	W	M-8015B/5031-13	25
Ethylene oxide 75-21-8	5,000	W	M-8015B/5031-14-R1	20
bis(2-Ethylhexyl)adipate 103-23-1	100	M	P-233S	12
	1,000	M	P-233S-10X	24
bis(2-Ethylhexyl)phthalate 117-81-7	100	M	APP-9-029	12
	1,000	M	APP-9-029-10X	20
Famphur 52-85-7	100	M	P-147S	12
	1,000	H	M-8141A-1-06	20
Fenaminosulf 140-56-7	100	M	P-058S	12
	1,000	M	P-058S-10X	24
Fenamiphos 22224-92-6	100	M	P-114S	32
Fenitrothion 122-14-5	100	M	P-259S	12
Fenoxaprop-ethyl 66441-23-4	100	M	P-365S	22
Fenoxycarb 79127-80-3	100	M	P-686S	22
Fensulfothion 115-90-2	1,000	H	M-8140-10	20
Fenthion 55-38-9	100	M	P-148S	12
	1,000	M	P-148S-10X	24

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Fenuron 101-42-8	100	M	P-004S	$ 12
	100	CN	M-632-07	12
Fenuron TCA 4482-55-7	100	M	P-006S	12
	100	CN	M-632-08	12
Fenvalerate 51630-58-1	100	M	P-194S	12
Ferbam 14484-64-1	100	M	P-110S	12
Fipronil 120068-37-3	100	A	P-738S-A	42
Fipronil sulfide 120067-83-6	100	A	P-781S-A	75
Fipronil sulfone 120068-36-2	100	A	P-780S-A	50
Flamprop-methyl 52756-25-9	100	M	P-366S	12
Fluazifop butyl 69806-50-4	100	M	P-310S	22
Fluazifop-p-butyl 79241-46-6	100	M	P-601S	52
Fluchloralin 33245-39-5	100	M	P-270S	22
Fluometuron 2164-17-2	100	M	P-014S	12
	100	CN	M-632-09	12
Fluoranthene 206-44-0	100	M	APP-9-108	15
	500	CN	M-8310-FL-11	20
Fluorene 86-73-7	100	M	APP-9-109	15
	1,000	M	APP-9-109-10X	25
4-Fluoroaniline 371-40-4	200	D	M-625-08	20
	2,000	D	M-625-08-10X	20
Fluorobenzene 462-06-6	20	M	M-524-IS-2-10X	20
	2,000	M	M-524-IS-2	12
2-Fluorobiphenyl 321-60-8	200	D	M-625-09	20
	2,000	D	M-625-09-10X	20
1-Fluoronaphthalene 321-38-0	200	D	M-625-10	20
	2,000	D	M-625-10-10X	30
2-Fluoronaphthalene 323-09-1	200	D	M-625-11	20
2-Fluorophenol 367-12-4	200	D	M-625-16	20
	2,000	D	M-625-16-10X	25
Flurenol methyl ester 1216-44-0	100	M	P-412S	12
Fluridone 59756-60-4	100	M	P-193S	12
Tau-Fluvalinate 102851-06-9	100	CN	P-356S-CN	22
Folpet 133-07-3	100	M	P-258S	12
Formaldehyde 50-00-0	1,000	W	M-8315-02	20
	1,000	M	M-554-06 ‡	20
Formaldehyde-DNPH 1081-15-8	100	CN	M-8315-R-DNPH-10	20
	1,000	M:CN	M-554-DNPH-06	20
Formothion 2540-82-1	100	CN	P-149S-CN	42
Glyphosate 1071-83-6	100	W	P-015S-W	12
	1,000	W	P-015S-W-10X	22
Guanidine nitrate 506-93-7	100	M	M-8330-ADD-10	20
Haloxyfop 69806-34-4	100	M	P-496S	32
	100	CN	P-496S-CN	32
Haloxyfop-methyl 69806-40-2	100	M	P-497S	32
Heptachlor 76-44-8	100	M	P-053S	12
	1,000	M	P-053S-10X	24
Heptachlor epoxide (Isomer A) 28044-83-9	100	M	P-294S	32
Heptachlor epoxide (Isomer B) 1024-57-3	100	M	P-054S	22
	1,000	M	P-054S-10X	34
Heptanal 111-71-7	1,000	M	M-554-07	20
Heptanal-DNPH	100	CN	M-8315-R-DNPH-11	20
	1,000	M:CN	M-554-DNPH-07	20

Solvent Key for Individual Solutions
M Methanol **D** Methylene chloride **H** Hexane **W** Water
A Acetone **CN** Acetonitrile **MT** *tert*-Butyl methyl ether

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Hexachlorobenzene 118-74-1	100	M	APP-9-112	$ 12
Hexachlorobutadiene 87-68-3	200	M	M-502-36	10
	2,000	M	M-502-36-10X	14
Hexachlorocyclopentadiene 77-47-4	100	M	APP-9-114	12
	1,000	M	APP-9-114-10X	20
Hexachloroethane 67-72-1	100	M	APP-9-115	12
Hexachlorophene 70-30-4	100	M	APP-9-116	12
Hexachloropropene 1888-71-7	100	M	APP-9-117	12
Hexanal 66-25-1	1,000	M	M-554-08 ‡	20
Hexanal-DNPH 1527-97-5	100	CN	M-8315-R-DNPH-12	20
	1,000	M:CN	M-554-DNPH-08	20
2-Hexanone 591-78-6	100	M	APP-9-118 ‡	12
Hexazinone 51235-04-2	100	M	P-123S	12
	1,000	M	P-123S-10X	24
HMX 2691-41-0	100	M:CN	M-8330-04-0.1X	20
	1,000	M:CN	M-8330-04	30
Hydrazine 302-01-2	100	M	M-8330-ADD-8	20
2-Hydroxyatrazine 2163-68-0	100	M	P-326S	22
3-Hydroxycarbofuran 16655-82-6	100	CN	M-531-05	20
1-Hydroxychlordene 24009-05-0	100	M	P-151S	52
Imidan 732-11-6	100	M	P-055S	12
Indeno[1,2,3-cd]pyrene 193-39-5	100	M	APP-9-119	20
Iodofenphos 18181-70-9	100	M	P-379S	22
Ioxynil 1689-83-4	100	M	P-522S	22
Iprodione 36734-19-7	100	A	P-016S-A	12
	100	CN	P-016S-CN	12
Isobutyl alcohol 78-83-1	100	M	APP-9-120	12
	10,000	W	M-8015B/5031-15	25
Isodrin 465-73-6	1,000	M	APP-9-121-10X	30
Isofenphos 25311-71-1	100	M	P-018S	12
Isophorone 78-59-1	100	M	APP-9-122	12
	1,000	M	APP-9-122-10X	20
Isopropalin 33820-53-0	100	M	P-100S	12
Isopropanol 67-63-0	10,000	W	M-8015B/5031-16	25
Isopropylbenzene 98-82-8	200	M	M-502-37	10
	2,000	M	M-502-37-10X	14
p-Isopropyltoluene (p-Cymene) 99-87-6	200	M	M-502-38	10
	2,000	M	M-502-38-10X	14
Isosafrole 120-58-1	100	D	APP-9-123	20
Isovaleraldehyde-DNPH 2256-01-1	100	CN	M-8315-R-DNPH-13	20
Karmex 330-54-1	100	M	P-227S	12
	100	CN	M-632-06	12
Kelthane 115-32-2	100	M	P-057S	22
Kepone 143-50-0	100	M	P-152S	12
	1,000	M	P-152S-10X	24
3-Ketocarbofuran	100	A	P-298S-A	52
Leptophos 21609-90-5	100	M	P-206S	12
	1,000	H	P-206S-H-10X	20

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Lindane (γ-BHC) 58-89-9	100	M	P-059S	$ 12
	1,000	M	P-059S-10X	24
Linuron 330-55-2	100	M	P-022S	12
	100	CN	M-632-10	12
Lontrel 1702-17-6	100	M	P-224S	22
Malathion 121-75-5	1,000	H	M-8141-03	12
Marathon 138261-41-3	100	M	P-616S	52
MCPA acid 94-74-6	100	M	P-153S	12
	2,000	M	M-8150S-A-09	15
MCPA methyl ester 2436-73-9	100	M	P-038S	12
	2,000	H	M-8150-09	15
MCPB acid 94-81-5	100	M	P-370S	12
MCPB methyl ester 57153-18-1	100	M	P-371S	22
MCPP acid 7085-19-0	100	CN	P-154S-CN	12
MCPP methyl ester 2786-19-7	100	M	P-040S	12
MCPP methyl ester 2786-19-7	2,000	H	M-8150-10	15
Mecoprop, 2-Ethylhexyl ester	100	M	P-502S	22
Mercaptobenzothiazole 149-30-4	100	CN	M-640	20
Merphos 150-50-5	1,000	H	M-8140-12	20
Metalaxyl 57837-19-1	100	M	P-120S	32
Metaldehyde 9002-91-9	100	M	P-600S	12
Metamitron 41394-05-2	100	M	P-252S	12
Metazachlor 67129-08-2	100	M	P-249S	12
Methacrylonitrile 126-98-7	100	M	APP-9-125	20
Methanol 67-56-1	10,000	W	M-8015B/5031-17	20
Methapyrilene 91-80-5	100	D	APP-9-126	20
	1,000	D	APP-9-126-10X	30
Methidathion 950-37-8	100	M	P-195S	12
Methiocarb 2032-65-7	100	M	P-156S	12
	100	CN	M-531-11	12
Methomyl 16752-77-5	100	CN	M-531-04	12
	1,000	CN	M-531-04-10X	20
Methoprene 40596-69-8	100	M	P-157S	12
Methoxychlor 72-43-5	100	M	P-064S	12
	1,000	M	P-064S-10X	24
o,p'-Methoxychlor 30667-99-3	100	M	P-535S	52
p,p'-Methoxychlor-olefin 2132-70-9	100	M	P-466S	52
	1,000	M	P-466S-10X	79
Methyl-2,3-dibromopropionate 1729-67-5	1,000	MT	M-552.2-SS-ME	10
Methyl bromoacetate 96-32-2	200	M	M-552.1-02	25
Methyl bromochloroacetate 20428-74-4	200	M	M-552.1-03	25
	1,000	MT	M-552-R-03	30
Methyl bromodichloroacetate	40	MT	M-552.2-04	20
Methyl 2-bromopropionate 5445-17-0	1,000	MT	M-552.1-SS-ME	10
Methyl chlorodibromoacetate 20428-75-5	100	MT	M-552.2-06	20

‡ A cold pack is required for this product.

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
3-Methylcholanthrene 56-49-5	100	D	APP-9-128	$ 20
Methyl dibromoacetate 6482-26-4	20	MT	M-552.2-07	20
	100	M	M-552.1-05	25
Methyl dichloroacetate 116-54-1	60	MT	M-552.2-08	20
	300	M	M-552.1-06	25
Methyl-3,5-dichlorobenzoate 2905-67-1	100	M	P-247S	12
	1,000	M	P-247S-10X	14
Methyl-2,4-Dichlorophenylacetate 55954-23-9	100	M	P-214S	12
Methylene chloride-d_2 1665-00-5	2,000	M	M-502-IS-2-3	20
Methyl ethyl ketone 78-93-3	1,000	M	APP-9-129-10X ‡	10
	10,000	W	M-8015B/5031-18	25
Methyl iodide 74-88-4	100	M	APP-9-130	12
Methyl isobutyl ketone 108-10-1	10,000	W	M-8015B/5031-19	25
Methyl isothiocyanate 556-61-6	25	A	M-1659-RPS	10
Methyl methacrylate 80-62-6	100	M	APP-9-131	12
Methyl methanesulfonate 66-27-3	100	D	APP-9-132	20
1-Methylnaphthalene 90-12-0	500	CN	M-8310-FL-14	20
2-Methylnaphthalene 91-57-6	100	D	APP-9-133	12
	500	CN	M-8310-FL-15	20
2-Methyl-4-nitroaniline 99-52-5	100	CN	M-8095-SS-02	20
3-Methyl-4-nitrophenol 2581-34-2	100	M	P-509S	12
Methyl nonyl ketone 112-12-9	100	M	P-415S	12
	100	CN	P-415S-CN	12
Methyl paraoxon 298-00-0	100	M	P-311S	32
	100	M	P-065S	32
Methyl parathion 298-00-0	1,000	M	P-065S-10X	24
4-Methyl-2-pentanone 108-10-1	100	M	APP-9-135	12
Methyl tribromoacetate 3222-05-7	200	MT	M-552.2-09 ‡	20
Methyl trichloroacetate 598-99-2	100	M	M-552.1-07	25
	200	MT	M-552.2-10	20
Metolachlor 51218-45-2	100	M	P-158S	12
	1,000	M	P-158S-10X	24
Metribuzin 21087-64-9	100	M	P-089S	12
	1,000	M	P-089S-10X	24
Metsulfuron methyl 74223-64-6	100	M	P-463S	22
Mevinphos 7786-34-7	100	M	P-074S	12
	1,000	H	M-8140-14	20
Mexacarbate 315-18-4	100	M	P-030S	22
	100	CN	M-632-13	12
MGK 264 113-48-4	100	M	P-082S	12
MGK 326 136-45-8	100	M	P-342S	12
Mirex 2385-85-5	100	M	P-066S	12
Molinate 2212-67-1	100	M	P-176S	32
Monitor 10265-92-6	100	M	P-155S	42
Monobromoacetic acid 79-08-3	40	MT	M-552.2A-07	15
Monochloroacetic acid 79-11-8	60	MT	M-552.2A-08	15
Monocrotophos 6923-22-4	100	M	P-112S	32
Monuron 150-68-5	100	CN	M-632-14	12
Monuron TCA 140-41-0	100	M	P-034S	12
	100	CN	M-632-15	12
MtBE 1634-04-4	2,000	M	S-078-10X	12

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Myclobutanil 88671-89-0	100	M	P-330S	$ 22
	1,000	M	P-330S-10X	34
Nabam 142-59-6	100	M	P-383S	12
Naled 300-76-5	100	M	P-159S	12
	1,000	H	M-8140-15	20
Naphthalene 91-20-3	200	M	M-502-40	10
	2,000	M	M-502-40-10X	14
1-Naphthalene acetamide 86-86-2	100	M	P-512S	12
Naphthalene-d_8 1146-65-2	200	D	M-625-12	20
	4,000	D	Z-014J-4	20
1-Naphthol 90-15-3	100	CN	M-531-10	12
1,4-Naphthoquinone 130-15-4	100	D	APP-9-137	20
1-Naphthylamine 134-32-7	100	D	APP-9-138	20
2-Naphthylamine 91-59-8	100	D	APP-9-139	20
Napropamide 15299-99-7	100	M	P-179S	12
	100	CN	M-632.1-3	12
Neburon 555-37-3	100	M	P-041S	12
	100	CN	M-632-16	12
Niclosamide 50-65-7	100	M	P-160S	22
m-Nitroaniline 99-09-2	100	D	APP-9-141	12
o-Nitroaniline 88-74-4	100	D	APP-9-140	12
p-Nitroaniline 100-01-6	100	D	APP-9-142	12
4-Nitroanisole 100-17-4	100	M	P-273S	12
Nitrobenzene 98-95-3	100	M:CN	M-8330-06-0.1X	20
	1,000	M:CN	M-8330-06	15
Nitrobenzene-d_5 4165-60-0	200	D	M-625-13	20
	2000	D	M-625-13-10X	20
Nitroguanidine 556-88-7	100	M	M-8330-ADD-6	20
Nitromethane 75-52-5	100	M	M-8330-ADD-7	20
5-Nitro-o-toluidine 99-55-8	100	D	APP-9-156	20
o-Nitrophenol 88-75-5	100	M	APP-9-144	12
p-Nitrophenol 100-02-7	100	M	APP-9-145	12
4-Nitroquinoline-1-oxide 56-57-5	100	D	APP-9-146	20
N-Nitrosodiethylamine 55-18-5	100	D	APP-9-148	20
N-Nitrosodimethylamine 62-75-9	100	D	APP-9-149	20
	1,000	M	APP-9-149-M-10X	30
N-Nitrosodi-n-butylamine 924-16-3	100	D	APP-9-147	20
	500	W	M-8015B/5031-20	25
N-Nitrosodi-n-propylamine 621-64-7	100	D	APP-9-151	20
N-Nitrosodiphenylamine 86-30-6	100	D	APP-9-150	20
	1,000	M	APP-9-150-M-10X	30
N-Nitrosomethylethylamine 10595-95-6	100	D	APP-9-152	20
N-Nitrosomorpholine 59-89-2	100	D	APP-9-153	20
N-Nitrosopiperidine 100-75-4	100	D	APP-9-154	20
N-Nitrosopyrrolidine 930-55-2	100	D	APP-9-155	20
2-Nitrotoluene 88-72-2	100	M:CN	M-8330-07-0.1X	15
	1,000	M:CN	M-8330-07	15
3-Nitrotoluene 99-08-1	100	M:CN	M-8330-08-0.1X	15
	1,000	M:CN	M-8330-08	15
4-Nitrotoluene 99-99-0	100	M:CN	M-8330-09-0.1X	15
	1,000	M:CN	M-8330-09	15
cis-Nonachlor 5103-73-1	100	M	P-297S	52
	1,000	M	P-297S-10X	64

Solvent Key for Individual Solutions
M Methanol **D** Methylene chloride **H** Hexane **W** Water
A Acetone **CN** Acetonitrile **MT** *tert*-Butyl methyl ether

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
trans-Nonachlor 39765-80-5	100	M	P-184S	$ 22
Nonanal 124-19-6	1,000	M	M-554-09	20
Nonanal-DNPH	100	CN	M-8315-R-DNPH-14	20
	1,000	M:CN	M-554-DNPH-09	20
Octanal 124-13-0	1,000	M	M-554-10	20
Octanal-DNPH	100	CN	M-8315-R-DNPH-15	20
	1,000	M:CN	M-554-DNPH-10	20
Omethoate 1113-02-6	100	M	P-121S	22
	1,000	M	P-121S-10X	34
Oryzalin 19044-88-3	100	CN	M-638	20
Oxadiazon 19666-30-9	100	M	P-236S	12
	1,000	M	P-236S-10X	24
Oxamyl 23135-22-0	100	M	P-161S	12
	100	CN	M-531-03	12
Oxycarboxin 5259-88-1	100	M	P-391S	12
Oxychlordane 27304-13-8	100	M	P-331S	77
	100	H	P-331S-H	77
Oxydemeton-methyl 301-12-2	100	M	P-290S	22
Oxyfluorfen 42874-03-3	100	M	P-277S	42
Paraldehyde 123-63-7	10,000	W	M-8015B/5031-21	25
Paraoxon 311-45-5	100	M	P-453S	22
	1,000	M	P-453S-10X	34
Paraquat CL tetrahydrate 1910-42-5 **(as Paraquat)**	100	M	P-051S	12
Parathion 56-38-2	100	M	P-070S	12
	1,000	M	P-070S-10X	24
Pendimethalin 40487-42-1	100	M	P-097S	12
	1,000	M	P-097S-10X	24
Pentachloroanisole 1825-21-4	100	M	P-199S	12
Pentachlorobenzene 608-93-5	100	M	APP-9-173	12
Pentachloroethane 76-01-7	100	M	APP-9-174	12
Pentachloronitrobenzene 82-68-8	100	MT	M-508-IS	10
	1,000	MT	M-508-IS-10X	20
Pentachlorophenol 87-86-5	100	M	APP-9-176	12
	1,000	M	APP-9-176-10X	20
Pentafluorobenzene 363-72-4	200	M	M-624-SS-10	10
Pentafluoroethane (Freon #125)	200	M	M-REF-X-06	20
Pentafluorophenol 771-61-9	200	D	M-625-17	20
Pentanal 110-62-3	1,000	M	M-554-11	20
Pentanal-DNPH	100	CN	M-8315-R-DNPH-16	20
	1,000	M:CN	M-554-DNPH-11	20
2-Pentanone 107-87-9	10,000	W	M-8015B/5031-22	25
Permethrin 52645-53-1	100	M	P-128S	12
Perthane 72-56-0	100	M	P-162S	12
PETN 78-11-5	100	M	M-8330-ADD-2	20
Phenacetin 62-44-2	100	D	APP-9-177	20
	1,000	D	APP-9-177-10X	30
Phenanthrene 85-01-8	100	M	APP-9-178	15
	200	D	Z-013-15	15
Phenanthrene-d_{10} 1517-22-2	200	D	M-625-14	20

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Phenol 108-95-2	100	D	APP-9-179	$ 12
Phenol-d_5 4165-62-2	200	D	M-625-18	20
	2,000	D	M-625-18-10X	25
Phenthoate 2597-03-7	100	M	P-476S	32
p-Phenylenediamine 106-50-3	100	M	APP-9-180	20
o-Phenylphenol 90-43-7	100	M	P-460S	12
Phorate 298-02-2	100	M	P-170S	12
	1,000	M	P-170S-10X	24
Phorate sulfone 2588-04-7	100	H	P-655S-H	32
Phosalone 2310-17-0	100	M	P-163S	12
Phosfolan 947-02-4	100	M	P-234S	12
	1,000	M	P-234S-10X	24
Phosphamidon 13171-21-6	100	M	P-075S	22
	1,000	H	M-8141A-1-09	20
Picloram 1918-02-1	100	M	P-047S	12
	1,000	M	P-047S-10X	24
Picloram methyl ester 14143-55-6	100	M	P-198S	22
2-Picoline 109-06-8	100	M	APP-9-182	20
	10,000	W	M-8015B/5031-23	25
Picramic acid 831-52-7	100	M	M-8330-ADD-22	30
Picric acid 88-89-1	100	CN:M	M-8330-ADD-3	20
Pirimicarb 23103-98-2	100	M	P-304S	12
Pirimiphos-methyl 29232-93-7	100	M	P-305S	12
Prebane 886-50-0	100	M	P-119S	12
Profenofos 41198-08-7	100	M	P-260S	12
Profluoralin 26399-36-0	100	M	P-099S	12
	1,000	M	P-099S-10X	24
Promecarb 2631-37-0	100	M	P-265S	22
Prometon 1610-18-0	100	M	P-077S	12
Prometryne 7287-19-6	100	M	P-078S	12
Pronamide 23950-58-5	100	M	P-164S	12
Propachlor 1918-16-7	100	M	P-215S	12
	1,000	M	P-215S-10X	24
Propanal 123-38-6	1,000	M	M-554-12 ‡	20
Propanal-DNPH 725-00-8	100	CN	M-8315-R-DNPH-17	20
	1,000	M:CN	M-554-DNPH-12	20
Propanil 709-98-8	100	CN	M-632.1-2	12
1-Propanol 71-23-8	10,000	W	M-8015B/5031-24	25
Propargite 2312-35-8	100	M	P-251S	12
Propazine 139-40-2	100	M	P-079S	12
Propham 122-42-9	100	CN	M-632-18	12
Propionitrile 107-12-0	100	M	APP-9-184	12
n-Propylbenzene 103-65-1	200	M	M-502-41	10
	2,000	M	M-502-41-10X	14
Propyleneglycol dinitrate 6423-43-4	100	M	M-8330-ADD-35	35

‡ A cold pack is required for this product.

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Pyrazon	100	M	P-395S	$ 22
1698-60-8	1,000	M	P-395S-10X	34
Pyrazoxyfen	100	M	P-618S	22
71561-11-0				
Pyrene	100	M	APP-9-185	15
129-00-0	1,000	M	APP-9-185-10X	25
Pyrene-d_{10}	50	A	M-525-SS	30
1718-52-1				
Pyridine	100	D	APP-9-186	12
110-86-1	10,000	W	M-8015B/5031-26	25
Pyridine-d_5	200	D	M-625-15	20
7291-22-7	2000	D	M-625-15-10X	30
PYX	100	CN	M-8330-ADD-11	20
38082-89-2				
Quizalofop ethyl	100	M	P-293S	22
76578-14-8				
RDX	100	M:CN	M-8330-05-0.1X	20
121-82-4	1,000	M:CN	M-8330-05	30
Ronnel	100	M	P-080S	12
299-84-3	1,000	H	M-8140-17	20
Rotenone	100	M	P-056S ‡	12
83-79-4	100	CN	M-635	20
Safrole	100	M	APP-9-187	20
94-59-7				
Secbumeton	100	M	P-165S	22
26259-45-0				
Siduron	100	M	P-063S	12
1982-49-6	100	CN	M-632-20	12
Silvex	100	M	P-084S	12
93-72-1	1,000	M	P-084S-10X	24
Silvex methyl ester	100	M	P-115S	12
4841-20-7				
Simazine	100	M	P-085S	12
122-34-9	1,000	M	P-085S-10X	24
Simetryn	100	M	P-166S	22
1014-70-6				
Stirophos	1,000	H	M-8140-18	30
961-11-5				
Styrene	200	M	M-502-42	10
100-42-5	2,000	M	M-502-42-10X	14
Sulfometuron methyl ester	100	M	P-336S	22
74222-97-2				
Sulfotep	100	M	P-167S	22
3689-24-5	1,000	H	M-8141-06	50
Sulfoxide	100	M	P-396S	12
120-62-7				
Sumithrin	100	M	P-050S	32
26002-80-2				
Swep	100	M	P-061S	12
1918-18-9	100	CN	M-632-21	12
2,4,6-T	100	M	P-523S	12
575-89-3	100	CN	P-523S-CN	12
2,4,5-T acid	100	M	P-168S	12
93-76-5	1,000	M	P-168S-10X	24
2,4,5-T butoxyethyl ester	100	CN	P-441S-CN	12
2545-59-7				
2,4,5-T methyl ester	100	M	P-067S	12
1928-37-6	200	H	M-8150-03	15
2,4,5-T n-butyl ester	100	CN	P-440S-CN	12
93-79-8				
TAME	200	M	S-1019	10
994-05-8				
TCMX	100	H	M-8082-SS	20
877-09-8	1,000	H	M-8082-SS-10X	20
Tebuconazol	100	M	P-451S	22
107534-96-3				
Tebuthiuron	100	M	P-188S	12
34014-18-1				
Tefluthrin	100	M	P-568S ‡	52
79538-32-2				
TEPP	1,000	H	M-8141-07	12
107-49-3				
Terbacil	100	M	P-096S	12
5902-51-2				

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Terbufos	100	M	P-208S	$ 12
13071-79-9	1,000	H	P-208S-H-10X	54
Terbuthylazine	100	M	P-169S	32
5915-41-3				
p-Terphenyl-d_{14}	500	D	M-525-FS-2	20
1718-51-0				
Terrazole	100	M	P-190S	12
2593-15-9				
1,2,4,5-Tetrachlorobenzene	100	M	APP-9-191	12
95-94-3	1,000	M	APP-9-191-10X	20
1,1,1,2-Tetrachloroethane	200	M	M-502-43	10
630-20-6	2,000	M	M-502-43-10X	14
1,1,2,2-Tetrachloroethane	200	M	M-502-44	10
79-34-5	2,000	M	M-502-44-10X	14
Tetrachloroethene	200	M	M-502-45	10
127-18-4	2,000	M	M-502-45-10X	14
2,3,5,6-Tetrachloronitrobenzene	100	M	P-467S	12
117-18-0				
2,3,4,6-Tetrachlorophenol	100	M	APP-9-195	20
58-90-2				
Tetrachlorvinphos	100	M	P-125S	12
961-11-5	1,000	CN	AE-00047	20
Tetradifon	100	M	P-261S	12
116-29-0				
Tetrafluoroethane	200	M	M-REF-12	20
811-97-2				
1,1,2,2-Tetrafluoroethane	200	M	M-REF-X-07	20
(Freon #134)				
Tetrahydrofuran	1,000	W	M-1671A-IS	20
109-99-9				
Tetryl	100	M:CN	M-8330-10-0.1X	20
479-45-8	1,000	M:CN	M-8330-10	30
Thiabendazole	100	M	P-068S	12
148-79-8	100	CN	M-641	20
Thiobencarb	100	M	P-180S	12
28249-77-6	1,000	M	P-180S-10X	24
4,4'-Thiodiphenol	100	M	P-117S	12
2664-63-3	1,000	M	P-117S-10X	24
Thiofanox	100	M	P-266S	22
39196-18-4				
Thionazin	100	M	P-171S	12
297-97-2				
Thiophanate	100	M	P-321S	12
23564-06-9	100	CN	P-321S-CN	12
Thiram	100	M	P-118S	12
137-26-8	1,000	M	P-118S-10X	24
Tillam	100	M	P-105S	12
1114-71-2	1,000	M	P-105S-10X	24
Tilt	100	M	P-280S	42
60207-90-1				
TNT	100	M:CN	M-8330-11-0.1X	20
118-96-7	1,000	M:CN	M-8330-11	25
Tokuthion	100	M	P-126S	32
34643-46-4	1,000	H	M-8140-19	30
m-Tolualdehyde-DNPH	100	CN	M-8315-R-DNPH-18	20
2880-05-9				
o-Tolualdehyde-DNPH	100	CN	M-8315-R-DNPH-19	20
1773-44-0				
p-Tolualdehyde-DNPH	100	CN	M-8315-R-DNPH-20	20
2571-00-8				
Toluene	200	M	M-502-46	10
108-88-3	2,000	M	M-502-46-10X	14
o-Toluidine	100	M	APP-9-199	12
95-53-4	10,000	W	M-8015B/5031-27	25
Toxaphene	1,000	M	P-093S-10X	24
8001-35-2	2,500	A	M-525-5	20
2,4,5-TP	200	M	M-8150S-A-04	15
93-72-1				
2,4,5-TP methyl ester	200	H	M-8150-04	15
4841-20-7				
2,4,5-TP-PFB	100	MT	M-8150-04-PFB	30
Triadimefon	100	M	P-069S	12
43121-43-3				

Solvent Key for Individual Solutions
M Methanol **D** Methylene chloride **H** Hexane **W** Water
A Acetone **CN** Acetonitrile **MT** *tert*-Butyl methyl ether

Analytes in EPA Methods

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Triallate 2303-17-5	100	M	P-268S	$ 12
1,2,4-Triazole 288-88-0	100	M	P-627S	22
Triazophos 24017-47-8	100	M	P-334S	12
Tribromoacetic acid 75-96-7	200	MT	M-552.2A-09	15
1,3,5-Tribromobenzene 626-39-1	50	A	M-8121-IS	10
2,4,6-Tribromophenol 118-79-6	200	D	M-625-19	20
	200	M	M-604-SS	20
2,4,6-Tribromophenol-PFB	200	M	M-604-SS-PFB	20
Tributylphosphate 126-73-8	1,000	A	M-8141A-SS-01	20
Trichlorfon 52-68-6	100	M	P-044S	12
1,1,2-Trichloro-1,2,2-trifluoroethane	200	M	M-REF-14	10
76-13-1	2,000	M	M-REF-14-10X	20
1,1,1-Trichloro-2-propanone 918-00-3	5,000	A	M-551B-8	15
Trichloroacetic acid	20	MT	M-552.2A-10	15
76-03-9	1,000	MT	M-552A-4 ‡	15
Trichloroacetonitrile 545-06-2	5,000	A	M-551B-7	15
1,2,3-Trichlorobenzene	200	M	M-502-47	10
87-61-6	2,000	M	M-502-47-10X	14
1,2,4-Trichlorobenzene	200	M	M-502-48	10
120-82-1	2,000	M	M-502-48-10X	14
2,3,5-Trichlorobenzoic acid	100	M	P-508S	12
50-73-7	100	CN	P-508S-CN	12
1,1,1-Trichloroethane	200	M	M-502-49	10
71-55-6	2,000	M	M-502-49-10X	14
1,1,2-Trichloroethane	200	M	M-502-50	10
79-00-5	2,000	M	M-502-50-10X	14
Trichloroethene	200	M	M-502-51	10
79-01-6	2,000	M	M-502-51-10X	14
Trichlorofluoromethane (Freon #11)	200	M	M-502-52	10
75-69-4	2,000	M	M-502-52-10X	14
Trichloronate 327-98-0	100	M	P-127S	22
2,4,5-Trichlorophenol 95-95-4	100	M	APP-9-206	12
2,4,6-Trichlorophenol 88-06-2	100	M	APP-9-207	12
3,4,5-Trichlorophenol	1,000	M	M-1653-IS	35
609-19-8	1,000	A	M-1653-IS-R	35
1,1,2-Trichloropropane 598-77-6	200	M	S-1321B	30
1,2,3-Trichloropropane	200	M	M-502-53	10
96-18-4	2,000	M	M-502-53-10X	14
a,a,a-Trichlorotoluene 98-07-7	200	M	M-624-SS-14	10
Triclopyr	100	M	P-289S	12
55335-06-3	100	CN	P-289S-CN	12

Compound CAS No.	Conc. (µg/mL)	Solv.	Cat. No.	1 mL Price
Triclopyr methyl ester 60825-26-5	100	M	P-291S	$ 22
Tricresyl phosphate 1330-78-5	100	M	P-209S	12
Tricyclazole 41814-78-2	100	M	P-090S	22
Triethylphosphate 78-40-0	100	M	P-335S	12
o,o,o-Triethylphosphorothioate	100	M	P-172S	12
126-68-1	1,000	H	P-172S-H-10X	24
2',4',5'-Trifluoroacetophenone 129322-83-4	20	CN	M-556-SS	10
1,1,1-Trifluoroethane (Freon #143A)	200	M	M-REF-X-08	20
Trifluoromethane (Freon #23)	200	M	M-REF-15	8
a,a,a-Trifluorotoluene	200	M	M-602-SS	20
98-08-8	2,000	M	M-602-SS-10X	20
Trifluralin	100	M	P-197S	12
1582-09-8	1,000	M	P-197S-10X	24
2,3,5-Triiodobenzoic acid	100	M	P-507S	12
88-82-4	100	CN	P-507S-CN	12
2,3,5-Trimethacarb 2655-15-4	100	M	P-515S	52
3,4,5-Trimethacarb 2686-99-9	100	M	P-516S	52
Trimethyl phosphate 512-56-1	100	M	P-210S	12
1,2,4-Trimethylbenzene	200	M	M-502-54	10
95-63-6	2,000	M	M-502-54-10X	14
1,3,5-Trimethylbenzene	200	M	M-502-55	10
108-67-8	2,000	M	M-502-55-10X	14
1,3,5-Trinitrobenzene	100	M:CN	M-8330-12-0.1X	20
99-35-4	1,000	M:CN	M-8330-12	20
Triphenylphosphate	500	MT	M-507-IS	10
115-86-6	5,000	MT	M-507-IS-10X	20
Vacor	100	M	P-240S	12
53558-25-1	100	CN	M-632.1-1	12
Vernolate 1929-77-7	100	M	P-111S	12
Vinclozolin	100	M	P-122S	12
50471-44-8	1,000	M	P-122S-10X	24
Vinyl acetate 108-05-4	100	M	APP-9-211 ‡	12
Vinyl chloride	200	M	M-502-56	10
75-01-4	2,000	M	M-502-56-10X	14
o-Xylene	200	M	M-502-57	10
95-47-6	2,000	M	M-502-57-10X	14
m-Xylene	200	M	M-502-58	10
108-38-3	2,000	M	M-502-58-10X	14
p-Xylene	200	M	M-502-59	10
106-42-3	2,000	M	M-502-59-10X	14
Xylene (total) 1330-20-7	100	M	APP-9-213	12
Ziram 137-30-4	100	CN	M-630-1-0.1X	15

Over 40,000 Standards, just a click away

(Over 10,000 Listed and over 30,000 formulated custom standards)

AccuStandard.com

‡ A cold pack is required for this product.

Contract Laboratory Program (CLP)

Each CLP Standard is furnished with:

- Quantitative analysis of the product by comparison to a separately prepared Standard.
- Target concentration analytically determined to be within a 95% confidence interval.
- A chromatogram of the product lot with analytes listed by order of elution and instrumental parameters shown.
- Certificate showing actual gravimetric/volumetric weights, purities and analyte CAS No.'s.

Certificate of Analysis

125 Market Street
New Haven, CT 06513
USA

AccuStandard, Inc.

Tel (203)786-5290
Fax (203)786-5287
Web AccuStandard.com

PRODUCT: CLP-024R
EXPIRATION: Nov 6, 2011
DESCRIPTION: Individual Pesticide Standard
LOT #: B8110036
SOLVENT: Isooctane

The maximum uncertainty in the preparation of this standard is ±5%.

Component	CAS #	Purity % (GC/FID)	Gravimetric Concentration[1] ng/mL		Analyte Concentration[2] ng/mL	±95% C.I.
Aldrin	309-00-2	97.6	52.2	*	50.9	±
β-BHC	319-85-7	100	51.2		51.2	±
δ-BHC	319-86-8	95.4	53.5	*	51.0	±
α-Chlordane	5103-71-9	100	51.0		51.0	±
γ-Chlordane	5103-74-2	99.8	51.2		51.1	±
p,p'-DDE	72-55-9	100	102.2		102.2	±
Decachlorobiphenyl	2051-24-3	100	102.1		102.1	±
Endosulfan II	33213-65-9	100	102.1		102.1	±
Endosulfan sulfate	1031-07-8	99.3	102.0		101.3	±
Endrin aldehyde	7421-93-4	100	102.3		102.3	±
Endrin ketone	53494-70-5	100	102.2		102.2	±
Heptachlor epoxide (isomer B)	1024-57-3	100	51.1		51.1	±
Tetrachloro-m-xylene	877-09-8	96.0	53.2	*	51.1	±

13 Components

1. All weights are traceable through National Institute of Standards & Technology, Test No. 822/254480

2. Analyte Concentration = Purity x Gravimetric Concentration

* Weight compensated to 100% purity

Certified by: R. Cooper

NOTE: The Lot Number on the actual product may include a suggice not shown on this certificate (ex: -1A, -2B, etc.) This is a modifier indicating the lot expiration date has been extended.

OR-ORG-INO-001
Rev. 9/08

AccuStandard is accredited to ISO/IEC 17025:2005 and certified to ISO 9001:2000

Front and Back

T-Test

C.I. Lot # B5110014 3

Component	Run #1	Run #2	Run #3	Mean	Std Dev.	% RSD	t.025 test	C.I. Lot # B8110036
1 Tetrachloro-m-xylene	20132	20858	20264	20418	37.28	1.8%	4.0	1.4
2 Aldrin	22287	22472	22472	22410	14.45	0.6%	8.8	1.4
3 β-BHC	13598	14051	13973	13874	26.55	1.9%	3.3	1.3
4 δ-BHC	38508	40851	39273	39211	171.80	0.7%	7.8	1.3
5 α-Chlordane	42318	42501	42327	42382	104.92	0.2%	2.8	2.0
6 Endrin	30801	32433	32461	31900	77.56	2.4%	2.8	2.0
7 Heptachlor epoxide (isomer B)	32328	33461	34499	34413	60.07	1.8%	4.5	2.4
8 γ-Chlordane	29446	30831	30987	30939	65.55	2.2%	2.6	2.4
9 p,p'-DDE	31659	33141	33298	33260	64.91	2.0%	4.8	2.4
10 Dieldrin	30173	31567	31661	31717	70.48	2.3%	4.1	1.5
11 Endosulfan II	33772	34530	34698	34396	28.58	0.8%	7.3	1.5
12 Endrin aldehyde	32335	33779	33869	33268	65.65	2.0%	4.4	2.2
13 Endosulfan sulfate	31678	33574	33633	33017	148.62	0.8%	8.3	3.5
14 Endrin ketone	42358	43127	43548	43350	168.03	3.9%	2.5	4.9
15 Dibenzo(a,h)anthracene	55668	58485	58193	57778	78.91	1.4%	5.1	3.5
16 Endrin ketone	59214	61470	61530	60724	107.98	1.8%	5.5	4.9
17 Decachlorobiphenyl	38843	39933	39591	39220	141.64	1.1%	5.6	3.0

Contract Laboratory Program (CLP)

In 1980, the US Congress addressed the problem of cleaning up abandoned and inactive dump sites by enacting the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA). These acts mandated the clean-up of the worst abandoned or inactive waste sites in the nation as well as leaking underground storage tanks.

These standards are routinely used for other testing protocols. An outgrowth of this legislation was the Contract Laboratory Program (CLP) which was established to perform Superfund analyses.

CLP methods are designed for both volatile and semi-volatile compounds. The most recent EPA Target Compounds are listed in the OLM 04.1 and OLM 04.2 Statement of Work.

CLP Contents

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All the Analytical Documentation required in CLP Analysis

Data Table

Inside

Chromatogram

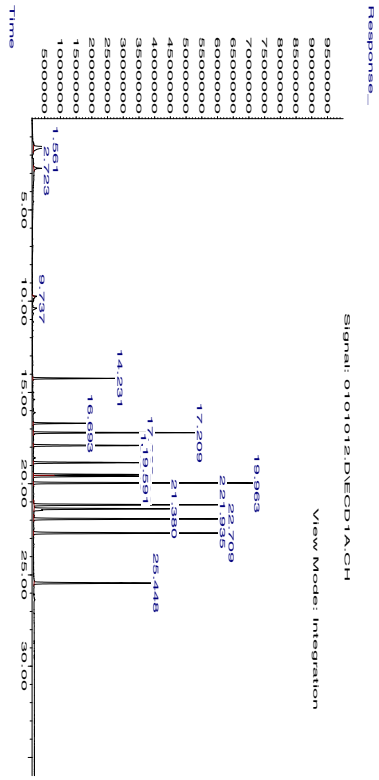
Area Percent Report

```
Data Path : E:\
Data File : 0101012.D
Signal(s) : ECD1A.CH
Acq On    : 05 Nov 2008  20:06
Sample    : CLP-024R (E8110036)
Misc      :
ALS Vial  : 1   Sample Multiplier: 1

Instrument: HP-6980N-7, Det=FID, Inj. Vol. 1.0 uL
            Temp. Prog.: 35 C (1 min) to 150 C @ 40 C/min (0 min), then 320 C (1
min) @ 30 C/min
Column: DB-5MS, 15 m X 0.25 mm, 0.25 um Film Thickness
 Integration File: autoint1.e

Method    : C:\medchem\1\METHODS\DEFAULT.M
Title     :

Signal    : ECD1A.CH
```

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.561	1.455	1.865	BB	575776	39971166	18.82%	2.248%
2	2.723	2.572	2.865	BB	279001	9530066	4.49%	0.536%
3	9.737	9.648	9.782	BB	126886	2780316	1.31%	0.156%
4	14.231	14.145	14.345	BB	2642859	71347209	33.59%	4.012%
5	16.693	16.615	16.828	BB	1679140	45214143	21.29%	2.543%
6	17.209	17.088	17.365	BB	5158913	137523514	64.75%	7.733%
7	17.908	17.785	17.988	BB	3591216	108616811	51.14%	6.108%
8	18.849	18.755	18.972	BB	3374323	103925001	48.93%	5.844%
9	19.502	19.415	19.547	BV	3502705	107439142	50.58%	6.042%
10	19.591	19.547	19.708	VB	3423999	105905282	49.86%	5.955%
11	19.963	19.875	20.105	BB	6975406	212397696	100.00%	11.944%
12	21.159	20.885	21.258	BB	5884191	183805498	86.54%	10.336%
13	21.380	21.292	21.525	BB	4311125	146009347	68.74%	8.211%
14	21.935	21.672	22.065	BB	5886781	185134852	87.16%	10.411%
15	22.709	22.585	22.855	BB	6154379	194466437	91.56%	10.936%
16	25.448	25.342	25.585	BB	3754512	124232261	58.49%	6.986%

Sum of corrected areas: 1778298740

DEFAULT.M Fri Nov 07 10:12:32 2008



Complete and Concise Data... at no extra Cost!

VOC Selected Target Compound Solutions

Volatile Target Compounds List (TCL)

CLP-022-SET ‡ — $ 60 / **set of 2 x 1 mL**
(includes **CLP-022-PART-A** and **CLP-022-PART-B**)

Part A

CLP-022-PART-A — $ 55 / **1 x 1 mL**
0.5 mg/mL each in MeOH — 29 comps.

Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
Dibromochloromethane
1,1-Dichloroethane
Dichloromethane
1,2-Dichloroethane
1,1-Dichloroethylene
cis-1,2-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropene *
trans-1,3-Dichloropropene **
Ethylbenzene
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Vinyl chloride
m-Xylene
p-Xylene

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Part B

CLP-022-PART-B ‡ — $ 25 / **1 x 1 mL**
0.5 mg/mL each in MeOH — 8 comps.

Acetone
2-Butanone
Carbondisulfide
2-Hexanone
4-Methyl-2-pentanone
Styrene
Vinyl acetate
o-Xylene

Volatile Target Compounds List (TCL)

Gases

CLP-022G	0.2 mg/mL each in MeOH		$ 20 / **1 x 1 mL**
CLP-022G-PAK	0.2 mg/mL each in MeOH	*SAVE 20%*	$ 80 / **5 x 1 mL**
CLP-022G-10X	2.0 mg/mL each in MeOH		$ 20 / **1 x 1 mL**
CLP-022G-10X-PAK	2.0 mg/mL each in MeOH	*SAVE 20%*	$ 80 / **5 x 1 mL**

4 comps.

Bromomethane
Chloroethane
Chloromethane
Vinyl chloride

Ketones

CLP-022K ‡	0.2 mg/mL each in MeOH	$ 20 / **1 x 1 mL**
CLP-022K-10X ‡	2.0 mg/mL each in MeOH	$ 25 / **1 x 1 mL**
CLP-022K-25X ‡	5.0 mg/mL each in MeOH	$ 25 / **1 x 1 mL**

4 comps.

Acetone
2-Butanone
2-Hexanone
4-Methyl-2-pentanone

Volatile Target Compounds List (TCL)

CLP-022 ‡ — $ 60 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 37 comps.

Acetone
Benzene
Bromodichloromethane
Bromoform
Bromomethane
2-Butanone
Carbondisulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
Dibromochloromethane
1,1-Dichloroethane
Dichloromethane
1,2-Dichloroethane
1,1-Dichloroethylene
cis-1,2-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropene *
trans-1,3-Dichloropropene **
Ethylbenzene
2-Hexanone
4-Methyl-2-pentanone
Styrene
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Vinyl acetate
Vinyl chloride
m-Xylene
o-Xylene
p-Xylene

* cis (1.06 x conc.)
** trans (0.94 x conc.)

CLP-022-R2 ‡ — $ 60 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 36 comps.

Acetone
Benzene
Bromodichloromethane
Bromoform
Bromomethane
2-Butanone
Carbondisulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
Dibromochloromethane
1,1-Dichloroethane
Dichloromethane
1,2-Dichloroethane
1,1-Dichloroethylene
cis-1,2-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropene *
trans-1,3-Dichloropropene **
Ethylbenzene
2-Hexanone
4-Methyl-2-pentanone
Styrene
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Vinyl chloride
m-Xylene
o-Xylene
p-Xylene

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Technical Note

AccuStandard provides CLP Volatile Target Compound List in a single solution in two versions. CLP-022-R2 (Vinyl acetate was removed from the TCL PLM03.1), for CLP laboratories following SOW OLM01.8 (August 1994). CLP-022-SET will continue to be available as an alternate source of reference material.

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Volatiles

Volatile Calibration Check Compounds (CCC)

CLP-020	0.2 mg/mL each in MeOH		$ 30 / **1 x 1 mL**
CLP-020-PAK	0.2 mg/mL each in MeOH	*SAVE 20%*	$ 120 / **5 x 1 mL**
CLP-020-10X	2.0 mg/mL each in MeOH		$ 30 / **1 x 1 mL**
CLP-020-10X-PAK	2.0 mg/mL each in MeOH	*SAVE 20%*	$ 120 / **5 x 1 mL**
			6 comps.

Chloroform
1,1-Dichloroethene
1,2-Dichloropropane
Ethylbenzene
Toluene
Vinyl chloride

Volatile System Performance Check Compounds (SPCC)

CLP-021	0.2 mg/mL each in MeOH		$ 30 / **1 x 1 mL**
CLP-021-PAK	0.2 mg/mL each in MeOH	*SAVE 20%*	$ 120 / **5 x 1 mL**
CLP-021-10X	2.0 mg/mL each in MeOH		$ 30 / **1 x 1 mL**
CLP-021-10X-PAK	2.0 mg/mL each in MeOH	*SAVE 20%*	$ 120 / **5 x 1 mL**
			5 comps.

Bromoform
Chlorobenzene
Chloromethane
1,1-Dichloroethane
1,1,2,2-Tetrachloroethane

Hexadecane Extraction Volatiles

CLP-BTEX	0.2 mg/mL each in MeOH		$ 30 / **1 x 1 mL**
CLP-BTEX-PAK	0.2 mg/mL each in MeOH	*SAVE 20%*	$ 120 / **5 x 1 mL**
CLP-BTEX-10X	2.0 mg/mL each in MeOH		$ 30 / **1 x 1 mL**
CLP-BTEX-10X-PAK	2.0 mg/mL each in MeOH	*SAVE 20%*	$ 120 / **5 x 1 mL**
			6 comps.

Benzene
Ethylbenzene
Toluene
m-Xylene
o-Xylene
p-Xylene

CLP-001B $ 15 / **1 x 1 mL**
1.0 mg/mL each in MeOH 2 comps.

n-Decane
n-Nonane

Instrument Performance Check Solution

CLP-004	25 µg/mL in MeOH		$ 10 / **1 x 1 mL**
CLP-004-PAK	25 µg/mL in MeOH	*SAVE 20%*	$ 40 / **5 x 1 mL**
CLP-004-10X	250 µg/mL in MeOH		$ 10 / **1 x 1 mL**
CLP-004-10X-PAK	250 µg/mL in MeOH	*SAVE 20%*	$ 40 / **5 x 1 mL**
CLP-004-80X	1200 µg/mL in MeOH		$ 10 / **1 x 1 mL**
CLP-004-80X-PAK	1200 µg/mL in MeOH	*SAVE 20%*	$ 40 / **5 x 1 mL**
CLP-004-100X	2500 µg/mL in MeOH		$ 10 / **1 x 1 mL**
CLP-004-100X-PAK	2500 µg/mL in MeOH	*SAVE 20%*	$ 40 / **5 x 1 mL**

p-Bromofluorobenzene

Purgeable Surrogate Standard

CLP-PS	0.25 mg/mL each in MeOH		$ 25 / **1 x 1 mL**
CLP-PS-PAK	0.25 mg/mL each in MeOH	*SAVE 20%*	$ 100 / **5 x 1 mL**
CLP-PS-4X	1.0 mg/mL each in MeOH		$ 25 / **1 x 1 mL**
CLP-PS-4X-PAK	1.0 mg/mL each in MeOH	*SAVE 20%*	$ 100 / **5 x 1 mL**
CLP-PS-10X	2.5 mg/mL each in MeOH		$ 25 / **1 x 1 mL**
CLP-PS-10X-PAK	2.5 mg/mL each in MeOH	*SAVE 20%*	$ 100 / **5 x 1 mL**
			3 comps.

p-Bromofluorobenzene
1,2-Dichloroethane-d_4
Toluene-d_8

Purgeable Internal Standard

CLP-PI-0.25X	0.25 mg/mL each in MeOH		$ 25 / **1 x 1 mL**
CLP-PI-0.25X-PAK	0.25 mg/mL each in MeOH	*SAVE 20%*	$ 100 / **5 x 1 mL**
CLP-PI	1.0 mg/mL each in MeOH		$ 25 / **1 x 1 mL**
CLP-PI-PAK	1.0 mg/mL each in MeOH	*SAVE 20%*	$ 100 / **5 x 1 mL**
CLP-PI-2.5X	2.5 mg/mL each in MeOH		$ 25 / **1 x 1 mL**
CLP-PI-2.5X-PAK	2.5 mg/mL each in MeOH	*SAVE 20%*	$ 100 / **5 x 1 mL**
			3 comps.

Bromochloromethane
Chlorobenzene-d_5
1,4-Difluorobenzene

Purgeable Internal/Surrogate Standard

CLP-PIPS $ 40 / **1 x 1 mL**
CLP-PIPS-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2.5 mg/mL each in MeOH 6 comps.

Bromochloromethane
p-Bromofluorobenzene
Chlorobenzene-d_5
1,2-Dichloroethane-d_4
1,4-Difluorobenzene
Toluene-d_8

Purgeable Organic Matrix Spiking Solution

CLP-003-R	0.25 mg/mL each in MeOH		$ 20 / **1 x 1 mL**
CLP-003-R-PAK	0.25 mg/mL each in MeOH	*SAVE 20%*	$ 80 / **5 x 1 mL**
CLP-003-R-10X	2.5 mg/mL each in MeOH		$ 20 / **1 x 1 mL**
CLP-003-R-10X-PAK	2.5 mg/mL each in MeOH	*SAVE 20%*	$ 80 / **5 x 1 mL**
			5 comps.

Benzene
Chlorobenzene
1,1-Dichloroethene
Toluene
Trichloroethene

Many Higher Concentrations are the Same Price

Aldehydes and Ketones in Alcohol Solvents

Standards containing aldehydes and ketones in methanol are given shorter expiration periods because of their ability to form acetals and ketals. AccuStandard adds stabilizers to inhibit this reaction. To enhance stability, freezer storage is required.

Buy AccuPaks™
Save 20-40% 5 x 1 mL

CLP OLM 04.1 & 04.2 - Volatiles

The set of volatile standards along with a complete semi-volatile series meets OLM 04.1, and also can be used for OLM 04.2.

CLP OLM 04.1 & 04.2 - Volatile Target Compound List

CLP-022-R3 $ 40 / **1x 1 mL**
CLP-022-R3-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
200 µg/mL in MeOH 40 comps.

Benzene
Bromodichloromethane
Bromoform
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroform
1,2-Dibromo-3-chloropropane
Cyclohexane
Dibromochloromethane
1,2-Dibromoethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-dichloroethene
Dichloromethane
1,2-Dichloropropane
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Ethylbenzene
Isopropylbenzene
Methyl acetate
Methylcyclohexane
MtBE
Styrene
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
1,1,2-Trichloro-1,2,2-trifluoroethane
m-Xylene
p-Xylene
o-Xylene

Gases

M-601B $ 25 / **1 x 1 mL**
M-601B-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH 6 comps.

Bromomethane
Chloromethane
Chloroethane
Dichlorodifluoromethane
Trichlorofluoromethane
Vinyl chloride

Ketones

CLP-022K $ 20 / **1 x 1 mL**
0.2 mg/mL each in MeOH
CLP-022K-10X $ 25 / **1 x 1 mL**
2.0 mg/mL each in MeOH 4 comps.

Acetone
2-Butanone
2-Hexanone
4-Methyl-2-pentanone

CLP 04.1 & 04.2 Screening Mix

CLP-BTEX $ 30 / **1 x 1 mL**
CLP-BTEX-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH 6 comps.
CLP-BTEX-10X $ 30 / **1 x 1 mL**
CLP-BTEX-10X-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH 6 comps.

Benzene
Ethylbenzene
Toluene
m-Xylene
o-Xylene
p-Xylene

CLP OLM 04.1 & 04.2 - Volatiles Set

CLP-VOC-SET $ 200 / **9 x 1 mL**
Set includes: CLP-022-R3, M-601B, CLP-022K-10X, CLP-BTEX, CLP-PS-10X, CLP-PI-2.5X, CLP-PIPS, CLP-003R-10X, CLP-004-10X

Purgeable Surrogate Standard

CLP-PS-10X $ 25 / **1 x 1 mL**
CLP-PS-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2.5 mg/mL each in MeOH 3 comps.

p-Bromofluorobenzene
1,2-Dichloroethane-d_4
Toluene-d_8

Purgeable Internal Standard

CLP-PI-2.5X $ 25 / **1 x 1 mL**
CLP-PI-2.5X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2.5 mg/mL each in MeOH 3 comps.

Bromochloromethane
Chlorobenzene-d_5
1,4-Difluorobenzene

Purgeable Internal/Surrogate Standard

CLP-PIPS $ 40 / **1 x 1 mL**
CLP-PIPS-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2.5 mg/mL each in MeOH 6 comps.

Bromochloromethane
p-Bromofluorobenzene
Chlorobenzene-d_5
1,2-Dichloroethane-d_4
1,4-Difluorobenzene
Toluene-d_8

Purgeable Organic Matrix Spiking Solution

CLP-003-R-10X $ 20 / **1 x 1 mL**
CLP-003-R-10X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2.5 mg/mL each in MeOH 5 comps.

Benzene
Chlorobenzene
1,1-Dichloroethene
Tol*uene*
Trichloroethene

Instrument Performance Check Solution

CLP-004-10X $ 10 / **1 x 1 mL**
CLP-004-10X-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
250 µg/mL in MeOH
CLP-004-100X $ 10 / **1 x 1 mL**
CLP-004-100X-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
2500 µg/mL in MeOH

p-Bromofluorobenzene

Low Concentration SOW (10/92) Organic Analysis of Water

Volatile Target Compounds Mix

CLP-022-LC — $ 70 / **1 x 1 mL**
0.2 mg/mL each in MeOH (except indictated) — 42 comps.

Acetone (1.0 mg/mL)	1,2-Dichloroethane
Benzene	1,1-Dichloroethylene
Bromochloromethane	*cis*-1,2-Dichloroethylene
Bromodichloromethane	*trans*-1,2-Dichloroethylene
Bromoform	1,2-Dichloropropane
Bromomethane	*cis*-1,3-Dichloropropene *
2-Butanone (1.0 mg/mL)	*trans*-1,3-Dichloropropene **
Carbon disulfide	Ethylbenzene
Carbon tetrachloride	2-Hexanone (1.0 mg/mL)
Chlorobenzene	4-Methyl-2-pentanone (1.0 mg/mL)
Chloroethane	Styrene
Chloroform	1,1,2,2-Tetrachloroethane
Chloromethane	Tetrachloroethene
Dibromochloromethane	Toluene
1,2-Dibromo-3-chloropropane	1,1,1-Trichloroethane
1,2-Dibromoethane	1,1,2-Trichloroethane
1,2-Dichlorobenzene	Trichloroethene
1,3-Dichlorobenzene	Vinyl chloride
1,4-Dichlorobenzene	*o*-Xylene
1,1-Dichloroethane	*m*-Xylene
Dichloromethane	*p*-Xylene

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Internal Standard Mix

CLP-LC-IS	25 µg/mL each in MeOH		$ 25 / **1 x 1 mL**
CLP-LC-IS-PAK	25 µg/mL each in MeOH	*SAVE 20%*	$ 100 / **5 x 1 mL**
CLP-LC-IS-10X	0.25 mg/mL each in MeOH		$ 25 / **1 x 1 mL**
CLP-LC-IS-10X-PAK	0.25 mg/mL each in MeOH	*SAVE 20%*	$ 100 / **5 x 1 mL**
CLP-LC-IS-100X	2.5 mg/mL each in MeOH		$ 25 / **1 x 1 mL**
CLP-LC-IS-100X-PAK	2.5 mg/mL each in MeOH	*SAVE 20%*	$ 100 / **5 x 1 mL**

3 comps.

Chlorobenzene-d_5	1,4-Difluorobenzene
1,4-Dichlorobenzene-d_4	

Tuning Solution / Surrogate Standard Mix

CLP-004	25 µg/mL in MeOH		$ 10 / **1 x 1 mL**
CLP-004-PAK	25 µg/mL in MeOH	*SAVE 20%*	$ 40 / **5 x 1 mL**
CLP-004-10X	0.25 mg/mL in MeOH		$ 10 / **1 x 1 mL**
CLP-004-10X-PAK	0.25 mg/mL in MeOH	*SAVE 20%*	$ 40 / **5 x 1 mL**
CLP-004-100X	2.5 mg/mL in MeOH		$ 10 / **1 x 1 mL**
CLP-004-100X-PAK	2.5 mg/mL in MeOH	*SAVE 20%*	$ 40 / **5 x 1 mL**

p-Bromofluorobenzene

Laboratory Control Sample Spiking Solution

CLP-LCS-V — $ 25 / **1 x 1 mL**
CLP-LCS-V-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 12 comps.

Benzene	1,2-Dichloropropane
Bromoform	*cis*-1,3-Dichloropropene *
Carbon tetrachloride	Tetrachloroethene
1,2-Dibromoethane	1,1,2-Trichloroethane
1,4-Dichlorobenzene	Trichloroethene
1,2-Dichloroethane	Vinyl chloride

* may contain trace amounts of *trans* isomer

Storage Conditions

All products come with storage conditions listed on the label of the ampule or bottle. Some chemical formulations require refrigeration or freezer storage to inhibit adverse reactions among the components. Other standards require sonication prior to use because they are near their saturation for the particular formulation. It is imperative that these conditions are followed to insure the chemical reference standard will be at the stated concentration.

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Priority Pollutant Standards

Priority Pollutants - Standards for Calibration of Capillary GC/MS

The EPA procedures call for fused silica capillary column analysis of priority pollutants. AccuStandard has assembled the following mixtures to be used in calibrating this analytical system. These mixtures are highly concentrated to aid in the establishment of response factors.

Base/Neutrals - Mix #1

Z-014A $ 50 / **1 x 1 mL**
Z-014A-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 14 comps.

4-Bromophenylphenyl ether
Butyl benzyl phthalate
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloro-1-methylethyl)ether
4-Chlorophenylphenyl ether
Diethyl phthalate
Dimethyl phthalate
Di-*n*-butyl phthalate
Di-*n*-octyl phthalate
bis(2-Ethylhexyl)phthalate
N-Nitrosodimethylamine
N-Nitrosodi-*n*-propylamine
N-Nitrosodiphenylamine

Base/Neutrals - Mix #2

Z-014B $ 50 / **1 x 1 mL**
Z-014B-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 14 comps.

Azobenzene
2-Chloronaphthalene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Isophorone
Nitrobenzene
1,2,4-Trichlorobenzene

Benzidine Mix

Z-014F $ 30 / **1 x 1 mL**
Z-014F-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH 2 comps.

Benzidine
3,3'-Dichlorobenzidine

Phenols Mix

Z-014H $ 30 / **1 x 1 mL**
Z-014H-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 11 comps.

4-Chloro-3-methylphenol
2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2-Methyl-4,6-dinitrophenol
2-Nitrophenol
4-Nitrophenol
Pentachlorophenol
Phenol
2,4,6-Trichlorophenol

Toxic Substances - Mix #1

Z-014D $ 25 / **1 x 1 mL**
Z-014D-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 4 comps.

Benzoic acid
2-Methylphenol
4-Methylphenol
2,4,5-Trichlorophenol

Toxic Substances - Mix #2

Z-014E $ 30 / **1 x 1 mL**
Z-014E-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 8 comps.

Aniline
Benzyl alcohol
4-Chloroaniline
Dibenzofuran
2-Methylnaphthalene
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline

Internal Standards Mixture

Z-014J $ 80 / **1 x 1 mL**
Z-014J-PAK *SAVE 37%* $ 250 / **5 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 6 comps.

Acenaphthene-d_{10}
Chrysene-d_{12}
1,4-Dichlorobenzene-d_4
Naphthalene-d_8
Perylene-d_{12}
Phenanthrene-d_{10}

PAH Mix

Z-014G $ 65 / **1 x 1 mL**
Z-014G-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2: Benzene (1:1) 16 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
Naphthalene
Phenanthrene
Pyrene

PAH Mix

Z-014G-R $ 65 / **1 x 1 mL**
Z-014G-R-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2: Benzene (1:1) 17 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Carbazole
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
Naphthalene
Phenanthrene
Pyrene

Expanded PAH Mix

Z-014G-FL $ 85 / **1 x 1 mL**
2.0 mg/mL each in Dichloromethane:Benzene(1:1) 18 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
Naphthalene
Phenanthrene
Pyrene
1-Methylnaphthalene
2-Methylnaphthalene

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Priority Pollutants - Standards for Calibration of Capillary GC/MS - Complete Sets (Continued)

Z-014R-SET $ 350 / **9 x 1 mL**
Set includes:

Z-014A	Base/Neutrals - Mix #1
Z-014B	Base/Neutrals - Mix #2
Z-014C	Pesticides - Mix #1
Z-014D	Toxic Substances - Mix #1
Z-014E	Toxic Substances - Mix #2
Z-014F	Benzidine Mix
Z-014G-R	PAH Mix
Z-014H	Phenols Mix
Z-014J	Internal Standard Mix

Z-014R-1-SET $ 350 / **9 x 1 mL**
Set includes:

Z-014A	Base/Neutrals - Mix #1
Z-014B	Base/Neutrals - Mix #2
Z-014C-R	Pesticides - Mix #2
Z-014D	Toxic Substances - Mix #1
Z-014E	Toxic Substances - Mix #2
Z-014F	Benzidine Mix
Z-014G-R	PAH Mix
Z-014H	Phenols Mix
Z-014J	Internal Standard Mix

Z-014R-2-SET $ 230 / **7 x 1 mL**
Set includes:

Z-014A	Base/Neutrals - Mix #1
Z-014B	Base/Neutrals - Mix #2
Z-014D	Toxic Substances - Mix #1
Z-014E	Toxic Substances - Mix #2
Z-014F	Benzidine Mix
Z-014G	PAH Mix
Z-014H	Phenols Mix

Z-014R-3-SET $ 230 / **7 x 1 mL**
Set includes:

Z-014A	Base/Neutrals - Mix #1
Z-014B	Base/Neutrals - Mix #2
Z-014D	Toxic Substances - Mix #1
Z-014E	Toxic Substances - Mix #2
Z-014F	Benzidine Mix
Z-014G-R	PAH Mix
Z-014H	Phenols Mix

Order a complete Set and Save

Pesticides - Mix #1

Z-014C $ 75 / **1 x 1 mL**
Z-014C-PAK *SAVE 20%* $ 300 / **5 x 1 mL**
2.0 mg/mL each in Toluene : Hexane (1:1)
16 comps.

Aldrin	Dieldrin
α-BHC	Endosulfan I
β-BHC	Endosulfan II
γ-BHC	Endosulfan sulfate
δ-BHC	Endrin
4,4'-DDD	Endrin aldehyde
4,4'-DDE	Heptachlor
4,4'-DDT	Heptachlor epoxide

Pesticides - Mix #2

Z-014C-R $ 95 / **1 x 1 mL**
Z-014C-R-PAK *SAVE 20%* $ 380 / **5 x 1 mL**
2.0 mg/mL each in Toluene : Hexane (1:1)
20 comps.

Aldrin	Dieldrin
α-BHC	Endosulfan I
β-BHC	Endosulfan II
γ-BHC	Endosulfan sulfate
δ-BHC	Endrin
α-Chlordane	Endrin aldehyde
γ-Chlordane	Endrin ketone
4,4'-DDD	Heptachlor
4,4'-DDE	Heptachlor epoxide
4,4'-DDT	Methoxychlor

Pesticides - Mix #3

Z-014C-R2 $ 85 / **1 x 1 mL**
Z-014C-R2-PAK *SAVE 20%* $ 340 / **5 x 1 mL**
2.0 mg/mL each in Toluene : Hexane (1:1)
18 comps.

Aldrin	Endosulfan I
α-BHC	Endosulfan II
β-BHC	Endosulfan sulfate
γ-BHC	Endrin
δ-BHC	Endrin aldehyde
4,4'-DDD	Endrin ketone
4,4'-DDE	Heptachlor
4,4'-DDT	Heptachlor epoxide
Dieldrin	Methoxychlor

Tuning Standards for EPA Methods

M-625-TS $ 40 / **1 x 1 mL**
M-625-TS-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
50 µg/mL each in CH_2Cl_2 4 comps.

Benzidine	DFTPP
p,p'-DDT	Pentachlorophenol

CLP-TS $ 20 / **1 x 1 mL**
CLP-TS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
50 µg/mL in CH_2Cl_2

Perfluorokerosene

EPA Method 625 GC/MS Calibration Standards

M-625C-SET $ 80 / **set of 5 x 1 mL**

Individual Solutions M-625C-# $ 20 / **each**
At stated conc. in CH_2Cl_2

(1) Benzidine (50 µg/mL)
(2) Pentachlorophenol (25 µg/mL)
(3) Decafluorotriphenylphosphine (25 µg/mL)
(4) Benzidine (50 µg/mL) + DFTPP (25 µg/mL)
(5) Pentachlorophenol (25 µg/mL) + DFTPP (25 µg/mL)

Base/Neutral & Acid Composite Mixtures

For CLP Semi-Volatiles Analysis

CLP Target List

The following composite mixes were formulated to allow flexibility of preparing a final semi-volatile mix to meet your laboratory's specific needs. CLP-HC-BN-SET contains 46 of the Base-Neutral analytes on the CLP semi-volatile Target List . These Base-Neutral analytes are now available in a two ampule set to extend the useful life of your stock calibration standards. CLP-HC-A contains the acidic compounds found in the CLP Target List. An additional composite mix can then be selected to complement your exact requirements for semi-volatile analysis.

Base-Neutral

CLP-HC-BN-R 44 comps.
2.0 mg/mL each in Benzene : CH_2Cl_2 : AcCN (2:2:1)

- Acenaphthene
- Acenaphthylene
- Anthracene
- Azobenzene
- Benz[a]anthracene
- Benzo[b]fluoranthene
- Benzo[k]fluoranthene
- Benzo[g,h,i]perylene
- Benzo[a]pyrene
- 4-Bromophenyl phenyl ether
- Butyl benzyl phthalate
- bis(2-Chloroethoxy)methane
- bis(2-Chloroethyl)ether
- bis(2-Chloro-1-methylethyl)ether
- 2-Chloronaphthalene
- 4-Chlorophenyl phenyl ether
- Chrysene
- Dibenz[a,h]anthracene
- Di-*n*-butyl phthalate
- 1,2-Dichlorobenzene
- 1,3-Dichlorobenzene
- 1,4-Dichlorobenzene
- Diethyl phthalate
- Dimethyl phthalate
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- Di-*n*-octyl phthalate
- bis(2-Ethylhexyl)phthalate
- Fluoranthene
- Fluorene
- Hexachlorobenzene
- Hexachlorobutadiene
- Hexachlorocyclopentadiene
- Hexachloroethane
- Indeno[1,2,3-cd]pyrene
- Isophorone
- Naphthalene
- Nitrobenzene
- N-Nitrosodimethylamine
- N-Nitrosodiphenylamine
- N-Nitrosodi-*n*-propylamine
- Phenanthrene
- Pyrene
- 1,2,4-Trichlorobenzene

Technical Note

Azobenzene was substituted for 1,2-Diphenylhydrazine since the 1,2-Diphenylhydrazine oxidizes to azobenzene under GC operating conditions.

Benzidine

Z-014F 2 comps.
2.0 mg/mL each in MeOH

- Benzidine
- 3,3'-Dichlorobenzidine

CLP-HC-BN-R		$ 160 / **1 x 1 mL**
CLP-HC-BN-R-PAK	*SAVE 20%*	$ 640 / **5 x 1 mL**
Z-014F		$ 30 / **1 x 1 mL**

CLP Target List Set

CLP-HC-BN-SET		$ 190 / **2 x 1 mL (CLP-HC-BN-R, Z-014F)**
CLP-HC-BN-SET-PAK	*SAVE 20%*	$ 760 / **5 x (2 x 1 mL)**

Acid Composite Mix

CLP-HC-A-R		$ 55 / **1 x 1 mL**
CLP-HC-A-R-PAK	*SAVE 20%*	$ 220 / **5 x 1 mL**

2.0 mg/mL each in CH_2Cl_2 19 comps.

- Benzoic acid
- 4-Chloro-3-methylphenol
- 2-Chlorophenol
- *o*-Cresol
- *p*-Cresol
- 2,4-Dichlorophenol
- 2,6-Dichlorophenol
- 2,4-Dimethylphenol
- 4,6-Dinitro-2-methylphenol
- 2,4-Dinitrophenol
- Ethyl methanesulfonate
- Methyl methanesulfonate
- 2-Nitrophenol
- 4-Nitrophenol
- Pentachlorophenol
- Phenol
- 2,3,4,6-Tetrachlorophenol
- 2,4,5-Trichlorophenol
- 2,4,6-Trichlorophenol

Additional Composite Mixtures

Composite #1

Z-014E $ 30 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 8 comps.

- Aniline
- Benzyl alcohol
- 4-Chloroaniline
- Dibenzofuran
- 2-Methylnaphthalene
- 2-Nitroaniline
- 3-Nitroaniline
- 4-Nitroaniline

Composite #2

Z-014E-R $ 32 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 9 comps.

- Aniline
- Benzyl alcohol
- 4-Chloroaniline
- Dibenzofuran
- 2-Methylnaphthalene
- 2-Nitroaniline
- 3-Nitroaniline
- 4-Nitroaniline
- Pyridine

Composite #3

Z-014E-R3 $ 30 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 10 comps.

- Aniline
- Benzyl alcohol
- Carbazole
- 4-Chloroaniline
- Dibenzofuran
- 2-Methylnaphthalene
- 2-Nitroaniline
- 3-Nitroaniline
- 4-Nitroaniline
- Pyridine

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

GC/MS Analysis of Semi-Volatiles

Method Analytes Mixture

CLP-TCLSV — $ 30 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 3 comps.

Benzoic acid
Benzyl alcohol
N-Nitrosodimethylamine

Calibration Check Compounds (CCC)

CLP-011-SET — $ 35 / **2 x 1 mL (CLP-011A, CLP-011B)**

Base/Neutrals

CLP-011A — **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 7 comps.

Acenaphthene
Benzo[a]pyrene
1,4-Dichlorobenzene
Di-*n*-octylphthalate
Hexachlorobutadiene
Fluoranthene
N-Nitroso-diphenylamine

Acids

CLP-011B — $ 20 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 6 comps.

4-Chloro-3-methylphenol
2,4-Dichlorophenol
2-Nitrophenol
Pentachlorophenol
Phenol
2,4,6-Trichlorophenol

Base/Neutrals & Acids Matrix Standard Spiking Sets

CLP-007-R-SET — $ 35 / **2 x 1 mL (CLP-007A, CLP-007-2)**
CLP-007-R-SET-PAK — $ 140 / **5 x (2 x 1 mL) (CLP-007A, CLP-007-2)**
CLP-007-SET — $ 35 / **2 x 1 mL (CLP-007A, CLP-007B)**

Base/Neutrals

CLP-007A — $ 20 / **1 x 1 mL**
1.0 mg/mL each in MeOH — 6 comps.

Acenaphthene
1,4-Dichlorobenzene
2,4-Dinitrotoluene
N-Nitroso-di-*n*-propylamine
Pyrene
1,2,4-Trichlorobenzene

Acids

CLP-007-2 — $ 20 / **1 x 1 mL**
1.5 mg/mL each in MeOH — 5 comps.
CLP-007B — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 5 comps.

2-Chlorophenol
4-Chloro-3-methylphenol
4-Nitrophenol
Pentachlorophenol
Phenol

Surrogate Standard

CLP-BNS-3-2X — $ 10 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2

4-Terphenyl-d_{14}

Internal Standards Mixture

Z-014J — $ 80 / **1 x 1 mL**
Z-014J-PAK — *SAVE 37%* $ 250 / **5 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 — 6 comps.

Acenaphthene-d_{10}
Chrysene-d_{12}
1,4-Dichlorobenzene-d_4
Naphthalene-d_8
Perylene-d_{12}
Phenanthrene-d_{10}

System Performance Check Compounds (SPCC)

CLP-010 — $ 25 / **1 x 1 mL**
0.2 mg/mL each in CH_2Cl_2
CLP-010-10X — $ 25 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 4 comps.

2,4-Dinitrophenol
Hexachlorocyclopentadiene
4-Nitrophenol
N-nitroso-di-*n*-propylamine

Semi-Volatile Organic Extract Calibration (Screening Mix)

CLP-009 — $ 20 / **1 x 1 mL**
0.1 mg/mL each in CH_2Cl_2
CLP-009-10X — $ 20 / **1 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 — 3 comps.

Di-*n*-octylphthalate
Phenanthrene
Phenol

Initial Calibration Target Compounds List

CLP-012 — $ 25 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 9 comps.

Benzoic acid
2,4-Dinitrophenol
4,6-Dinitro-2-methylphenol
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline
4-Nitrophenol
Pentachlorophenol
2,4,5-Trichlorophenol

Acid Surrogate Standard

CLP-AS — $ 25 / **1 x 1 mL**
CLP-AS-PAK — *SAVE 36%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH
CLP-AS-10X — $ 50 / **1 x 1 mL**
CLP-AS-10X-PAK — *SAVE 20%* $ 200 / **5 x 1 mL**
20 mg/mL each in MeOH — 3 comps.

2-Fluorophenol
Phenol-d_5
2,4,6-Tribromophenol

Base/Neutrals Surrogate Standard

CLP-BNS — $ 25 / **1 x 1 mL**
CLP-BNS-PAK — *SAVE 36%* $ 80 / **5 x 1 mL**
1.0 mg/mL each in CH_2Cl_2
CLP-BNS-10X — $ 50 / **1 x 1 mL**
CLP-BNS-10X-PAK — *SAVE 20%* $ 200 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 3 comps.

2-Fluorobiphenyl
Nitrobenzene-d_5
p-Terphenyl-d_{14}

Base/Neutral & Acid Composite Mixtures

For CLP Semi-Volatiles Analysis

August 1994 Statement of Work

Acid Surrogate Standards

CLP-029 — $ 35 / **1 x 1 mL**
CLP-029-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH

CLP-029-0.75X — $ 35 / **1 x 1 mL**
CLP-029-0.75X-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
1.5 mg/mL each in MeOH — 4 comps.

2-Chlorophenol-d_4	Phenol-d_5
2-Fluorophenol	2,4,6-Tribromophenol

Semi-Volatile Surrogate Mixture

CLP-031-R — $ 75 / **1 x 1 mL**
CLP-031-R-PAK — *SAVE 20%* $ 300 / **5 x 1 mL**
At stated conc. in MeOH : CH_2Cl_2 (1:1) — 8 comps.

2-Chlorophenol-d_4	(1.5 mg/mL)	Nitrobenzene-d_5	(1.0 mg/mL)
1,2-Dichlorobenzene-d_4	(1.0 mg/mL)	Phenol-d_5	(1.5 mg/mL)
2-Fluorobiphenyl	(1.0 mg/mL)	*p*-Terphenyl-d_{14}	(1.0 mg/mL)
2-Fluorophenol	(1.5 mg/mL)	2,4,6-Tribromophenol	(1.5 mg/mL)

Semi-Volatile Surrogate Mixture

CLP-031-R2 — $ 75 / **1 x 1 mL**
CLP-031-R2-PAK — *SAVE 20%* $ 300 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 — 8 comps.

2-Chlorophenol-d_4	Nitrobenzene-d_5
1,2-Dichlorobenzene-d_4	Phenol-d_5
2-Fluorobiphenyl	*p*-Terphenyl-d_{14}
2-Fluorophenol	2,4,6-Tribromophenol

Base/Neutral Surrogate Standard

CLP-030 — $ 35 / **1 x 1 mL**
CLP-030-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 — 4 comps.

1,2-Dichlorobenzene-d_4	Nitrobenzene-d_5
2-Fluorobiphenyl	*p*-Terphenyl-d_{14}

Instrument Performance Check Solution

CLP-033 — $ 20 / **1 x 1 mL**
CLP-033-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
0.25 mg/mL in CH_2Cl_2

Decafluorotriphenylphosphine (DFTPP)

GC/MS Tuning Solution

CLP-TS — $ 20 / **1 x 1 mL**
CLP-TS-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
50 µg/mL in CH_2Cl_2

Perfluorokerosene

GPC Solutions for Sample Clean-up

Semi-Volatiles (Gel Permeation)

GPC Calibration Standard Solution

CLP-027 — $ 25 / **1 x 1 mL**
CLP-027-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in CH_2Cl_2 — 5 comps.

Corn Oil	(250 mg/mL)	Perylene	(0.2 mg/mL)
bis(2-Ethylhexyl)phthalate	(10 mg/mL)	Sulfur	(0.8 mg/mL)
Methoxychlor	(2 mg/mL)		

8/94 SOW OLM03.1

CLP-027-R2 — $ 25 / **1 x 1 mL**
CLP-027-R2-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in CH_2Cl_2 — 5 comps.

Corn Oil	(250 mg/mL)	Perylene	(0.2 mg/mL)
bis(2-Ethylhexyl)phthalate	(5 mg/mL)	Sulfur	(0.8 mg/mL)
Methoxychlor	(1 mg/mL)		

Method 3640 - GPC Calibration Solutions and Set

Solution A

CLP-008A — $ 20 / **1 x 1 mL**
200 mg/mL in CH_2Cl_2

Corn Oil

Solution B

CLP-008B-R — $ 20 / **1 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 — 2 comps.

bis(2-Ethylhexyl)phthalate	Pentachlorophenol

CLP-008-R-SET — $ 30 / **2 x 1 mL**
(CLP-008A, CLP-008B-R)

Contract Laboratory Program (CLP)

Low Concentration SOW (10/92) for Organic Analysis of Water

Low Concentration SOW Semi-Volatiles

Base/Neutrals - Mix #1

Z-014A-LC $ 50 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 13 comps.

4-Bromophenylphenyl ether
Butyl benzyl phthalate
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloro-1-methylethyl)ether
4-Chlorophenylphenyl ether
Diethyl phthalate
Dimethyl phthalate
Di-*n*-butyl phthalate
Di-*n*-octyl phthalate
bis(2-Ethylhexyl)phthalate
N-Nitrosodiphenylamine
N-Nitrosodi-n-propylamine

Base/Neutrals - Mix #2

Z-014B-LC $ 50 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 14 comps.

4-Chloroaniline
2-Chloronaphthalene
Dibenzofuran
3,3'-Dichlorobenzidine
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Isophorone
2-Methylnaphthalene
Nitrobenzene
1,2,4-Trichlorobenzene

Base/Neutrals - Mix #3

Z-014K-LC $ 40 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 8 comps.

2,4-Dinitrophenol
2-Methyl-4,6-dinitrophenol
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline
4-Nitrophenol
Pentachlorophenol
2,4,5-Trichlorophenol

Technical Note

60 Target Compounds in these five mixtures are designed to conveniently prepare initial and continuing calibration solutions.

Polynuclear Aromatic Hydrocarbon Mix

Z-014G $ 65 / **1 x 1 mL**
Z-014G-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2: Benzene (1:1) 16 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i,]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
Naphthalene
Phenanthrene
Pyrene

Phenols Mixture

Z-014H-LC $ 30 / **1 x 1 mL**
Z-014H-LC-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 9 comps.

4-Chloro-3-methylphenol
2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2-Methylphenol
4-Methylphenol
2-Nitrophenol
Phenol
2,4,6-Trichlorophenol

Laboratory Control Sample Spiking Solution

CLP-LCS-SV-SET $ 50 / **2 x 1 mL**

CLP-LCS-SV-R1 **1 x 1 mL**
At stated conc. in Acetone:MeOH (9:1) 14 comps.

Benzo[a]pyrene	(20 µg/mL)
2-Chlorophenol	(40 µg/mL)
bis(2-Chloroethyl)ether	(20 µg/mL)
Diethylphthalate	(20 µg/mL)
2,4-Dinitrotoluene	(20 µg/mL)
Hexachlorobenzene	(20 µg/mL)
Hexachloroethane	(20 µg/mL)
Isophorone	(20 µg/mL)
Naphthalene	(20 µg/mL)
N-Nitrosos-di-*n*-propylamine	(20 µg/mL)
N-Nitrosodiphenylamine	(20 µg/mL)
Phenol	(40 µg/mL)
1,2,4-Trichlorobenzene	(20 µg/mL)
2,4,6-Trichlorophenol	(40 µg/mL)

CLP-LCS-SV-ADD **1 x 1 mL**
40 µg/mL in Acetone:MeOH (9:1)

4-Chloroaniline

Tuning Solution

M-625C-3-2X $ 20 / **1 x 1 mL**
50 µg/mL in CH_2Cl_2

Decafluorotriphenylphosphine

Internal Standard

Z-014J-0.5X $ 50 / **1 x 1 mL**
Z-014J-0.5X-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 6 comps.

Acenaphthene-d_{10}
Chrysene-d_{12}
1,4-Dichlorobenzene-d_4
Naphthalene-d_8
Perylene-d_{12}
Phenanthrene-d_{10}

Surrogate Standards

CLP-LC-SS-1 $ 40 / **1 x 1 mL**
CLP-LC-SS-1-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2.0 mg/mL each in MeOH:CH_2Cl_2 (1:4) 5 comps.

2-Fluorobiphenyl
2-Fluorophenol
Nitrobenzene-d_5
Phenol-d_5
p-Terphenyl-d_{14}

CLP-LC-SS-2 $ 10 / **1 x 1 mL**
CLP-LC-SS-2-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
6.0 mg/mL in MeOH

2,4,6-Tribromophenol

Buy AccuPaks™
Save 20-40% 5 x 1 mL

CLP OLM 04.1 & 04.2 - Semi-Volatiles

CLP OLM 04.1 & 04.2 - Base Neutrals

CLP-HC-SVR-SET $ 120 / **3 x 1 mL**
(CLP-HC-SV-MIX1, CLP-HC-SV-MIX2, CLP-HC-SV-MIX4)

Base Neutrals Mix #1

CLP-HC-SV-MIX1 $ 50 / **1 x 1 mL**
2000 µg/mL each in CH_2Cl_2 13 comps.

- Benzyl butyl phthalate
- 4-Bromophenyl phenyl ether
- bis(2-Chloroethoxy)methane
- bis(2-Chloroethyl)ether
- bis(2-Chloro-1-methylethyl)ether
- 4-Chlorophenyl phenyl ether
- Dibutyl phthalate
- Diethyl phthalate
- Dimethyl phthalate
- Di-*n*-octyl phthalate
- bis(2-Ethylhexyl)phthalate
- N-Nitrosodiphenylamine
- N-Nitrosodi-*n*-propylamine

CLP Base Neutral & PAH Mix #2

CLP-HC-SV-MIX2 $ 95 / **1 x 1 mL**
2000 µg/mL each in CH_2Cl_2 31 comps.

- Acenaphthene
- Acenaphthylene
- Acetophenone
- Anthracene
- Atrazine
- Benzaldehyde
- Benz[a]anthracene
- Benzo[b]fluoranthene
- Benzo[k]fluoranthene
- Benzo[g,h,i]perylene
- Benzo[a]pyrene
- Biphenyl
- e-Caprolactam
- Carbazole
- 2-Chloronaphthalene
- Chrysene
- Dibenz[a,h]anthracene
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- Fluoranthene
- Fluorene
- Hexachlorobenzene
- Hexachlorobutadiene
- Hexachlorocyclopentadiene
- Hexachloroethane
- Indeno[1,2,3-cd]pyrene
- Isophorone
- Naphthalene
- Nitrobenzene
- Phenanthrene
- Pyrene

CLP Toxic Substance Mix #4

CLP-HC-SV-MIX4 $ 35 / **1 x 1 mL**
2000 µg/mL each in CH_2Cl_2 7 comps.

- 4-Chloroaniline
- Dibenzofuran
- 3,3'-Dichlorobenzidine
- 2-Methylnaphthalene
- 2-Nitroaniline
- 3-Nitroaniline
- 4-Nitroaniline

Phenols

CLP-HC-A-R5 $ 45 / **1 x 1 mL**
CLP-HC-A-R5-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 14 comps.

- 4-Chloro-3-methylphenol
- 2,4-Dichlorophenol
- 2,4-Dimethylphenol
- 2,4-Dinitrophenol
- 2-Chlorophenol
- 2-Methyl-4,6-dinitrophenol
- *o*-Cresol
- *p*-Cresol
- 2-Nitrophenol
- 4-Nitrophenol
- Pentachlorophenol
- Phenol
- 2,4,5-Trichlorophenol
- 2,4,6-Trichlorophenol

Base/Neutral Matrix Spike Solution

CLP-BN-MS $ 30 / **1 x 1 mL**
CLP-BN-MS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
1000 µg/mL each in MeOH 4 comps.

- Acenaphthene
- 2,4-Dinitrotoluene
- N-Nitrosodi-*n*-propylamine
- Pyrene

Semi-Volatile Organic Extract Calibration (Screening Mix)

CLP-009-10X $ 20 / **1 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 3 comps.

- Di-*n*-octylphthalate
- Phenanthrene
- Phenol

Instrument Performance Check Solution

CLP-033 $ 20 / **1 x 1 mL**
CLP-033-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.25 mg/mL in CH_2Cl_2

- Decafluorotriphenylphosphine (DFTPP)

Acids

CLP-007-2 $ 20 / **1 x 1 mL**
1.5 mg/mL each in MeOH 5 comps.

- 2-Chlorophenol
- 4-Chloro-3-methylphenol
- 4-Nitrophenol
- Pentachlorophenol
- Phenol

Semi-Volatile Surrogate Mixture

CLP-031-R $ 75 / **1 x 1 mL**
CLP-031-R-PAK *SAVE 20%* $ 300 / **5 x 1 mL**
At stated conc. in MeOH : CH_2Cl_2 (1:1) 8 comps.

2-Chlorophenol-d_4	(1.5 mg/mL)	Nitrobenzene-d_5	(1.0 mg/mL)
1,2-Dichlorobenzene-d_4	(1.0 mg/mL)	Phenol-d_5	(1.5 mg/mL)
2-Fluorobiphenyl	(1.0 mg/mL)	*p*-Terphenyl-d_{14}	(1.0 mg/mL)
2-Fluorophenol	(1.5 mg/mL)	2,4,6-Tribromophenol	(1.5 mg/mL)

Internal Standards Mixture

Z-014J $ 80 / **1 x 1 mL**
Z-014J-PAK *SAVE 37%* $ 250 / **5 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 6 comps.

- Acenaphthene-d_{10}
- Chrysene-d_{12}
- 1,4-Dichlorobenzene-d_4
- Naphthalene-d_8
- Perylene-d_{12}
- Phenanthrene-d_{10}

Pesticides Mixture

Z-014C-R $ 95 / **1 x 1 mL**
Z-014C-R-PAK *SAVE 20%* $ 380 / **5 x 1 mL**
2.0 mg/mL each in Toluene : Hexane (1:1) 20 comps.

- Aldrin
- α-BHC
- β-BHC
- γ-BHC
- δ-BHC
- α-Chlordane
- γ-Chlordane
- 4,4'-DDD
- 4,4'-DDE
- 4,4'-DDT
- Dieldrin
- Endosulfan I
- Endosulfan II
- Endosulfan sulfate
- Endrin
- Endrin aldehyde
- Endrin ketone
- Heptachlor
- Heptachlor epoxide
- Methoxychlor

Poor Recoveries on Endrin and DDT

Poor recoveries for endrin and DDT can result from an injector port problem. Try cleaning the port or replacing the liner. Most times this will correct the problem. Removing the first few inches of a capillary column can also help. Since elevated temperatures contribute to the breakdown problem, using cool on-column injection methods may avoid this issue.

CLP OLM 04.1 & 04.2 - Semi-Volatiles Set

CLP-SVC-KIT3 $ 425 / **11 x 1 mL**
Set includes: CLP-HC-SV-MIX1 ,CLP-HC-SV-MIX2 ,CLP-HC-SV-MIX4, CLP-HC-A-R5, CLP-BN-MS,CLP-009-10X, CLP-033, CLP-007-2, CLP-031-R, Z-014J, Z-014C-R

CLP - Pesticide Mixtures

CLP-018-10X $ 55 / **1 x 1 mL**
CLP-018-10X-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
At stated conc. in Isooctane 11 comps.

Aldrin	(1.0 µg/mL)	Endosulfan II	(2.0 µg/mL)
γ-BHC	(0.5 µg/mL)	Endrin aldehyde	(2.5 µg/mL)
p,p'-DDT	(2.0 µg/mL)	Heptachlor	(1.0 µg/mL)
Dibutylchlorendate	(5.0 µg/mL)	Heptachlor epoxide	(1.0 µg/mL)
Dieldrin	(1.0 µg/mL)	Methoxychlor	(10 µg/mL)
Endosulfan I	(1.0 µg/mL)		

CLP-019-10X $ 60 / **1 x 1 mL**
CLP-019-10X-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
At stated conc. in Isooctane 12 comps.

Aldrin	(1.0 µg/mL)	p,p'-DDD	(2.0 µg/mL)
α-BHC	(0.5 µg/mL)	p,p'-DDE	(1.0 µg/mL)
β-BHC	(1.0 µg/mL)	Dibutylchlorendate	(5.0 µg/mL)
δ-BHC	(1.0 µg/mL)	Endosulfan sulfate	(2.0 µg/mL)
α-Chlordane	(1.0 µg/mL)	Endrin	(1.0 µg/mL)
γ-Chlordane	(1.0 µg/mL)	Endrin ketone	(2.0 µg/mL)

Pesticide Set

CLP-018/019-10X-SET $ 100 / **2 x 1 mL (CLP-018-10X, CLP-019-10X)**

CLP - Pesticide Surrogates

CLP-032-R $ 15 / **1 x 1 mL**
CLP-032-R-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
200 µg/mL each in Acetone 2 comps.

Decachlorobiphenyl Tetrachloro-*m*-xylene

CLP-034 $ 15 / **1 x 1 mL**
CLP-034-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
200 µg/mL each in Acetone 2 comps.

Dibutylchlorendate Tetrachloro-*m*-xylene

CLP-PES-A $ 20 / **1 x 1 mL**
CLP-PES-A-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
200 µg/mL in Acetone
CLP-PES-A-20X $ 20 / **1 x 1 mL**
4000 µg/mL in Acetone

Dibutylchlorendate

Pesticide Calibration Mixtures - Statement of Work 2/88 to 8/94

Working Level Pesticide Standard

At stated conc. (ng/mL) in Isooctane 11 comps.

Compound	Level 1 CLP-023R	2 (-4X)	3 (-10X)	4 (-30X)	5 (-160X)
α-BHC	50	200	500	1,500	8,000
γ-BHC	50	200	500	1,500	8,000
p,p'-DDD	100	400	1,000	3,000	16,000
p,p'-DDT	100	400	1,000	3,000	16,000
Decachlorobiphenyl	100	400	1,000	3,000	16,000
Dieldrin	100	400	1,000	3,000	16,000
Endosulfan I	50	200	500	1,500	8,000
Endrin	100	400	1,000	3,000	16,000
Heptachlor	50	200	500	1,500	8,000
Methoxychlor	500	2,000	5,000	15,000	80,000
Tetrachloro-*m*-xylene	50	200	500	1,500	8,000

CLP-023R-CAL-SET $ 100 / **3 x 1 mL (Level 1, Level 2, Level 5)**

Level 1	**CLP-023R**	$ 40 / **1 mL**
Level 2	**CLP-023R-4X**	40 / **1 mL**
Level 3	**CLP-023R-10X**	40 / **1 mL**
Level 4	**CLP-023R-30X**	40 / **1 mL**
Level 5	**CLP-023R-160X**	40 / **1 mL**

Level 2 Daily QC (for mid level curves)

CLP-023R-WL-4X-10ML $ 50 / **1 x 10 mL**
CLP-023R-WL-4X-25ML $ 75 / **1 x 25 mL**
CLP-023R-WL-4X-100ML $ 100 / **1 x 100 mL**
At stated conc. in Isooctane 11 comps.

α-BHC	(20 ng/mL)	Endosulfan I	(20 ng/mL)
γ-BHC	(20 ng/mL)	Endrin	(40 ng/mL)
p,p'-DDD	(40 ng/mL)	Heptachlor	(20 ng/mL)
p,p'-DDT	(40 ng/mL)	Methoxychlor	(200 ng/mL)
Decachlorobiphenyl	(40 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)
Dieldrin	(40 ng/mL)		

Working Level Pesticide Standard

At stated conc. (ng/mL) in Isooctane 13 comps.

Compound	Level 1 CLP-024R	2 (-4X)	3 (-10X)	4 (-30X)	5 (-160X)
Aldrin	50	200	500	1,500	8,000
β-BHC	50	200	500	1,500	8,000
δ-BHC	50	200	500	1,500	8,000
α-Chlordane	50	200	500	1,500	8,000
γ-Chlordane	50	200	500	1,500	8,000
p,p'-DDE	100	400	1,000	3,000	16,000
Decachlorobiphenyl	100	400	1,000	3,000	16,000
Endosulfan II	100	400	1,000	3,000	16,000
Endosulfan sulfate	100	400	1,000	3,000	16,000
Endrin aldehyde	100	400	1,000	3,000	16,000
Endrin ketone	100	400	1,000	3,000	16,000
Heptachlor epoxide	50	200	500	1,500	8,000
Tetrachloro-*m*-xylene	50	200	500	1,500	8,000

CLP-024R-CAL-SET $ 100 / **3 x 1 mL (Level 1, Level 2, Level 5)**

Level 1	**CLP-024R**	$ 40 / **1 mL**
Level 2	**CLP-024R-4X**	40 / **1 mL**
Level 3	**CLP-024R-10X**	40 / **1 mL**
Level 4	**CLP-024R-30X**	40 / **1 mL**
Level 5	**CLP-024R-160X**	40 / **1 mL**

Level 2 Daily QC (for mid level curves)

CLP-024R-WL-4X-10ML $ 50 / **1 x 10 mL**
CLP-024R-WL-4X-25ML $ 75 / **1 x 25 mL**
CLP-024R-WL-4X-100ML $ 100 / **1 x 100 mL**
At stated conc. in Isooctane 13 comps.

Aldrin	(20 ng/mL)	Endosulfan II	(40 ng/mL)
β-BHC	(20 ng/mL)	Endosulfan sulfate	(40 ng/mL)
δ-BHC	(20 ng/mL)	Endrin aldehyde	(40 ng/mL)
α-Chlordane	(20 ng/mL)	Endrin ketone	(40 ng/mL)
γ-Chlordane	(20 ng/mL)	Heptachlor epoxide	(20 ng/mL)
p,p'-DDE	(40 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)
Decachlorobiphenyl	(40 ng/mL)		

Pesticide Calibration Sets

CLP-023R/024R-SET $ 75 / **2 x 1 mL (CLP-023R, CLP-024R)**
CLP-023R/024R-4X-SET $ 75 / **2 x 1 mL (CLP-023R-4X, CLP-024R-4X)**
CLP-023R/024R-40X-SET $ 75 / **2 x 1 mL (CLP-023R-40X, CLP-024R-40X)**
CLP-023R/024R-160X-SET $ 75 / **2 x 1 mL (CLP-023R-160X, CLP-024R-160X)**

CLP - Pesticides

Evaluation Standard Mixture

CLP-017 $ 25 / **1 x 1 mL**
CLP-017-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in Isooctane 4 comps.

Aldrin	(1 µg/mL)	Dibutylchlorendate	(1 µg/mL)
4,4'-DDT	(2 µg/mL)	Endrin	(2 µg/mL)

Florisil Cartridge Check Solution

CLP-FC $ 10 / **1 x 1 mL**
CLP-FC-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
100 µg/mL in Acetone

2,4,5-Trichlorophenol

Pesticide Matrix Spiking Solutions

CLP-026-R2 $ 25 / **1 x 1 mL**
CLP-026-R2-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in Acetone 6 comps.

Aldrin	(5 µg/mL)	Dieldrin	(10 µg/mL)
γ-BHC	(5 µg/mL)	Endrin	(10 µg/mL)
4,4'-DDT	(10 µg/mL)	Heptachlor	(5 µg/mL)

CLP-026-R2-10X $ 25 / **1 x 1 mL**
CLP-026-R2-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in Acetone 6 comps.

Aldrin	(50 µg/mL)	Dieldrin	(100 µg/mL)
γ-BHC	(50 µg/mL)	Endrin	(100 µg/mL)
4,4'-DDT	(100 µg/mL)	Heptachlor	(50 µg/mL)

Pesticide Matrix Spiking Solution

CLP-026-R2-WL $ 10 / **1 x 1 mL**
CLP-026-R2-WL-25ML $ 50 / **1 x 25 mL**
CLP-026-R2-WL-50ML $ 75 / **1 x 50 mL**
At stated conc. in Acetone 6 comps.

Aldrin	(0.5 µg/mL)	Dieldrin	(1.0 µg/mL)
γ-BHC	(0.5 µg/mL)	Endrin	(1.0 µg/mL)
4,4'-DDT	(1.0 µg/mL)	Heptachlor	(0.5 µg/mL)

Resolution Check Solution

CLP-028-WL $ 20 / **1 x 1 mL**
CLP-028-WL-10ML $ 45 / **1 x 10 mL**
At stated conc. in Isooctane 9 comps.

γ-Chlordane	(10 ng/mL)	Endosulfan sulfate	(20 ng/mL)
Endosulfan I	(10 ng/mL)	Endrin ketone	(20 ng/mL)
p,p'-DDE	(20 ng/mL)	Methoxychlor	(100 ng/mL)
Decachlorobiphenyl	(20 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)
Dieldrin	(20 ng/mL)		

High Conc. Pesticide Matrix Spiking Solutions

For Water

CLP-014-1000X $ 25 / **1 x 1 mL**
CLP-014-1000X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in MeOH 6 comps.

Aldrin	(200 µg/mL)	Endrin	(500 µg/mL)
4,4'-DDT	(500 µg/mL)	Heptachlor	(200 µg/mL)
Dieldrin	(500 µg/mL)	Lindane	(200 µg/mL)

For Soil/Sediment

CLP-016-1000X $ 25 / **1 x 1 mL**
CLP-016-1000X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in MeOH 6 comps.

Aldrin	(2,000 µg/mL)	Endrin	(5,000 µg/mL)
4,4'-DDT	(5,000 µg/mL)	Heptachlor	(2,000 µg/mL)
Dieldrin	(5,000 µg/mL)	Lindane	(2,000 µg/mL)

Laboratory Control Sample Spiking Solution

CLP-LCS-P-1000X $ 35 / **1 x 1 mL**
CLP-LCS-P-1000X-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
At stated conc. in Acetone 7 comps.

γ-BHC	(100 µg/mL)	Endosulfan sulfate	(200 µg/mL)
γ-Chlordane	(100 µg/mL)	Endrin	(200 µg/mL)
Dieldrin	(200 µg/mL)	Heptachlor epoxide	(100 µg/mL)
4,4'-DDE	(200 µg/mL)		

Performance Evaluation Solution

CLP-025-WL $ 20 / **1 x 1 mL**
CLP-025-WL-10ML $ 45 / **1 x 10 mL**
At stated conc. in Isooctane 8 comps.

α-BHC	(10 ng/mL)	Decachlorobiphenyl	(20 ng/mL)
β-BHC	(10 ng/mL)	Endrin	(50 ng/mL)
γ-BHC	(10 ng/mL)	Methoxychlor	(250 ng/mL)
4,4'-DDT	(100 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)

PREP NOTES

The addition of 1 mL of Surrogate / Spiking solution is sufficient to check the extraction efficiency and to verify spike recoveries for the analytical batch.

Pesticide Surrogate Mixtures

CLP-032R-WL-0.2X-10ML $ 20 / **1 x 10 mL**
CLP-032R-WL-0.2X-50ML $ 40 / **1 x 50 mL**
CLP-032R-WL-0.2X-100ML $ 60 / **1 x 100 mL**
0.2 µg/mL each in Acetone 2 comps.

Decachlorobiphenyl Tetrachloro-*m*-xylene

Pesticide and PCBs

Performance Evaluation Solution

CLP-025 $ 45 / **1 x 1 mL**
CLP-025-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
At stated conc. in Isooctane 8 comps.

α-BHC	(100 ng/mL)	Decachlorobiphenyl	(200 ng/mL)
β-BHC	(100 ng/mL)	Endrin	(500 ng/mL)
γ-BHC	(100 ng/mL)	Methoxychlor	(2500 ng/mL)
4,4'-DDT	(1000 ng/mL)	Tetrachloro-*m*-xylene	(200 ng/mL)

Resolution Mixture

CLP-028 $ 50 / **1 x 1 mL**
CLP-028-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
At stated conc. in Isooctane 9 comps.

γ-Chlordane	(100 ng/mL)	Endosulfan sulfate	(200 ng/mL)
Endosulfan I	(100 ng/mL)	Endrin ketone	(200 ng/mL)
p,p'-DDE	(200 ng/mL)	Methoxychlor	(1000 ng/mL)
Decachlorobiphenyl	(200 ng/mL)	Tetrachloro-*m*-xylene	(200 ng/mL)
Dieldrin	(200 ng/mL)		

Polychlorinated Biphenyls, Chlordane & Toxaphene

Each at 1,000 µg/mL in Hexane *SAVE 20%*

Aroclors #	Cat. No.	1 mL	Cat. No. (5 x 1 mL)	PAK
Aroclor 1016	C-216S-H-10X	$ 20	C-216S-H-10X-PAK	$ 80
Aroclor 1221	C-221S-H-10X	20	C-221S-H-10X-PAK	80
Aroclor 1232	C-232S-H-10X	20	C-232S-H-10X-PAK	80
Aroclor 1242	C-242S-H-10X	20	C-242S-H-10X-PAK	80
Aroclor 1248	C-248S-H-10X	20	C-248S-H-10X-PAK	80
Aroclor 1254	C-254S-H-10X	20	C-254S-H-10X-PAK	80
Aroclor 1260	C-260S-H-10X	20	C-260S-H-10X-PAK	80
Aroclor 1262	C-262S-H-10X	20	C-262S-H-10X-PAK	80
Aroclor 1268	C-268S-H-10X	20	C-268S-H-10X-PAK	80
Pesticides				
Chlordane	P-017S-H-10X	$ 15	P-017S-H-10X-PAK	$ 60
Toxaphene	P-093S-H-10X	15	P-093S-H-10X-PAK	60

Aroclors

Working Levels

Aroclors at Working Levels

Aroclors 1016/1260 with Surrogates

CLP-216/260-WL — $ 10 / **1 x 1 mL**
CLP-216/260-WL-5ML — $ 15 / **1 x 5 mL**
CLP-216/260-WL-10ML — $ 20 / **1 x 10 mL**
At stated conc. in Isooctane — 4 comps.

Aroclor 1016	(100 ng/mL)	Decachlorobiphenyl	(20 ng/mL)
Aroclor 1260	(100 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)

Aroclor 1221 with Surrogates

CLP-221-WL — $ 10 / **1 x 1 mL**
CLP-221-WL-5ML — $ 15 / **1 x 5 mL**
CLP-221-WL-10ML — $ 20 / **1 x 10 mL**
At stated conc. in Isooctane — 3 comps.

Aroclor 1221	(200 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)
Decachlorobiphenyl	(20 ng/mL)		

Aroclor 1232 with Surrogates

CLP-232-WL — $ 10 / **1 x1 mL**
CLP-232-WL-5ML — $ 15 / **1 x 5 mL**
CLP-232-WL-10ML — $ 20 / **1 x 10 mL**
At stated conc. in Isooctane — 3 comps.

Aroclor 1232	(100 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)
Decachlorobiphenyl	(20 ng/mL)		

Aroclor 1242 with Surrogates

CLP-242-WL — $ 10 / **1 x 1 mL**
CLP-242-WL-5ML — $ 15 / **1 x 5 mL**
CLP-242-WL-10ML — $ 20 / **1 x 10 mL**
At stated conc. in Isooctane — 3 comps.

Aroclor 1242	(100 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)
Decachlorobiphenyl	(20 ng/mL)		

Technical Note

The profiles of some Aroclor products may not always look the same, but the percent chlorine by weight will be.

Aroclor 1248 with Surrogates

CLP-248-WL — $ 10 / **1 x 1 mL**
CLP-248-WL-5ML — $ 15 / **1 x 5 mL**
CLP-248-WL-10ML — $ 20 / **1 x 10 mL**
At stated conc. in Isooctane — 3 comps.

Aroclor 1248	(100 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)
Decachlorobiphenyl	(20 ng/mL)		

Aroclor 1254 with Surrogates

CLP-254-WL — $ 10 / **1 x 1 mL**
CLP-254-WL-5ML — $ 15 / **1 x 5 mL**
CLP-254-WL-10ML — $ 20 / **1 x 10 mL**
At stated conc. in Isooctane — 3 comps.

Aroclor 1254	(100 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)
Decachlorobiphenyl	(20 ng/mL)		

Toxaphene with Surrogates

P-093-WL-10X — $ 12 / **1 x 1 mL**
P-093-WL-10X-5ML — $ 15 / **1 x 5 mL**
P-093-WL-10X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane — 3 comps.

Toxaphene	(500 ng/mL)	Tetrachloro-*m*-xylene	(20 ng/mL)
Decachlorobiphenyl	(20 ng/mL)		

Sample Clean-up Solutions at Working Levels

GPC Calibration Solution

CLP-027-WL-10ML — $ 30 / **1 x 10 mL**
At stated conc. in CH_2Cl_2 — 5 comps.

Corn Oil	(25 mg/mL)	Perylene	(0.02 mg/mL)
bis(2-Ethylhexyl)phthalate	(1.0 mg/mL)	Sulfur	(0.08 mg/mL)
Methoxychlor	(0.2 mg/mL)		

GPC Calibration Solution for 8/94 SOW OLM03.1

CLP-027-R2-WL-10ML — $ 25 / **1 x 10 mL**
At stated conc. in CH_2Cl_2 — 5 comps.

Corn Oil	(25 mg/mL)	Perylene	(0.02 mg/mL)
bis(2-Ethylhexyl)phthalate	(0.5 mg/mL)	Sulfur	(0.08 mg/mL)
Methoxychlor	(0.1 mg/mL)		

AccuStandard provides the solutions to meet sample clean-up parameters!

Florisil Cartridge Check Solution

CLP-FC-WL-10ML — $ 20 / **1 x 10 mL**
0.1 µg/mL in Acetone

2,4,5-Trichlorophenol

GPC Calibration Check Solutions

GPC-CC-A-WL-10ML — $ 20 / **1 x 10 mL**
At stated conc. in CH_2Cl_2 — 6 comps.

Aldrin	(0.1 µg/mL)	Dieldrin	(0.2 µg/mL)
γ-BHC *(Lindane)*	(0.1 µg/mL)	Endrin	(0.2 µg/mL)
4,4'-DDT	(0.2 µg/mL)	Heptachlor	(0.1 µg/mL)

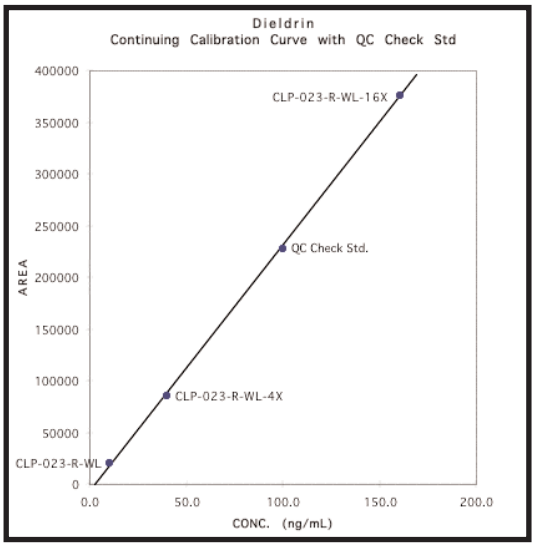
GPC-CC-B-WL-10ML — $ 20 / **1 x 10 mL**
0.2 µg/mL each in CH_2Cl_2 — 2 comps.

Aroclor 1016 Aroclor 1260

AccuStandard's QC protocol provides assurance & confidence in Working Level Standards:

Each Calibration Set is prepared using raw materials which have been tested for chemical purity and identity by GC/MS. After checking the identity and purity of each analyte, its concentration in the Calibration Solution is confirmed by rigorous analysis.

All individual component responses in the Calibration Set are then plotted using least squares linear regression. The resultant line drawn through the data points must have a coefficient of correlation no less than 0.99. An independently prepared QC check standard, having a concentration at the midpoint is analyzed to verify the accuracy of the calibration curve.

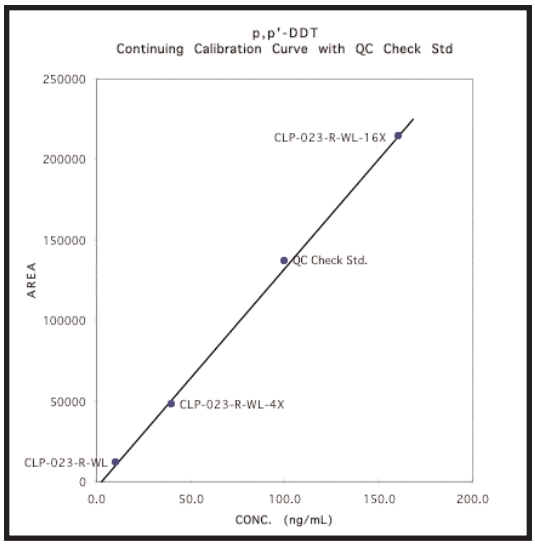


CLP-023R-CAL-SET Analyte: **Dieldrin**

Cat. No.	Lot No.	Conc.	Area
CLP-023-R-WL	025-279	10 ng/mL	20523
CLP-023-R-WL-4X	025-278	40 ng/mL	85767
CLP-023-R-WL-16X	025-277	160 ng/mL	375897

M-8080-WL-25X **Lot No. 025-340**

TARGET VALUE	**100**	**ANALYTICAL VALUE**	**98.1**
ANALYTICAL AREA	**227622**	**% DIFF. FROM TARGET**	**-1.9%**



CLP-023R-CAL-SET Analyte: **p,p'-DDT**

Cat. No.	Lot No.	Conc.	Area
CLP-023-R-WL	025-279	10 ng/mL	12334
CLP-023-R-WL-4X	025-278	40 ng/mL	48513
CLP-023-R-WL-16X	025-277	160 ng/mL	214379

M-8080-WL-25X **Lot No. 025-340**

TARGET VALUE	**100**	**ANALYTICAL VALUE**	**103.4**
ANALYTICAL AREA	**137012**	**% DIFF. FROM TARGET**	**3.4%**

AccuStandard's QC protocol thus provides the end user with assurance when calibrating with Working Level Standards. This extra level of confidence will allow your laboratory to concentrate on analyzing samples, rather than preparing calibration solutions.

Documentation of our analysis are available upon request with order.

Validated for You !!

Working Level Standards & Continuing Calibration Check (CCC)

The AccuStandard CCC Product Line Improves Efficiency:

Load the calibration curve Standards at the end of the day with your samples and working level check, and review a verified curve with your sample results the next day.

Standard Mixtures for EPA 500 Series

For Drinking Water

Background Information

In 1974, the Safe Drinking Water Act was passed by the US Congress. Under the Act, the USEPA established national standards for drinking water from both surface and ground water sources. The EPA 500 Series Methods have evolved from the passage of the Clean Water Act, and from several amendments to the original Act.

The 500 Series product line contains standards used in proposed and promulgated methods for the identification and quantification of organic compounds in drinking water. The organic compounds listed in the various methods include volatile organic compounds (VOCs), pesticides, synthetic organic compounds (SOCs), and trihalomethane disinfection by-products.

Analytical techniques used in the identification and quantification include gas chromatography with selective detectors (PID, ELCD, ECD, FID, NPD, FPD), gas chromatography/mass spectrometry (GC/MS) and high performance liquid chromatography (HPLC).

Complete analysis of the target compounds with these 500 Series Methods can be accomplished by using the series of standards formulated by AccuStandard for each method along with the required internal and surrogate standards.

For your convenience we offer either large mixes containing all the target analytes, or smaller sub-mixes at higher concentrations to allow for flexibility in your analysis.

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EPA Hazardous Substances List (Volatiles)

HSL Volatiles Standard Mixture

M-HSL ‡ — $ 25 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 8 comps.

Acetone	4-Methyl-2-pentanone
2-Butanone	Styrene
Carbon disulfide	Vinyl acetate
2-Hexanone	*o*-Xylene

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Method 501 Trihalomethane Analysis by P & T - GC/ECD or PID

Trihalomethanes

M-501 — $ 17 / **1 x 1 mL**
M-501-PAK — *SAVE 20%* $ 68 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 4 comps.
M-501-SET — $ 50 / **set of 5 x 1 mL**
Set contain Each component at 0.2 mg/mL in MeOH + **M-501** Mix
M-501-10X — $ 20 / **1 x 1 mL**
M-501-10X-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 4 comps.

Bromoform	Dibromochloromethane
Chloroform	Dichlorobromomethane

Method 502.2 Volatile Organic Compounds by PID/ELCD

The following solutions represent a breakdown of Method 502 components into groups containing liquid and gaseous components:

54 Liquid Components

Benzene (01)
Bromobenzene (02)
Bromochloromethane (03)
Bromodichloromethane (04)
Bromoform (05)
n-Butylbenzene (07)
sec-Butylbenzene (08)
tert-Butylbenzene (09)
Carbon tetrachloride (10)
Chlorobenzene (11)
Chloroform (13)
2-Chlorotoluene (15)
4-Chlorotoluene (16)
Dibromochloromethane (17)
1,2-Dibromo-3-chloropropane (18)
1,2-Dibromoethane (19)
Dibromomethane (20)
1,2-Dichlorobenzene (21)
1,3-Dichlorobenzene (22)
1,4-Dichlorobenzene (23)
1,1-Dichloroethane (25)
1,2-Dichloroethane (26)
1,1-Dichloroethene (27)
cis-1,2-Dichloroethene (28)
trans-1,2-Dichloroethene (29)
1,2-Dichloropropane (30)
1,3-Dichloropropane (31)
2,2-Dichloropropane (32)
1,1-Dichloropropene (33)
cis-1,3-Dichloropropene (34A) *
trans-1,3-Dichloropropene (34B) **
Ethylbenzene (35)
Hexachlorobutadiene (36)
Isopropylbenzene *(Cumene)* (37)
p-Isopropyltoluene *(p-Cymene)* (38)
Methylene chloride (39)
Naphthalene (40)
n-Propylbenzene (41)
Styrene (42)
1,1,1,2-Tetrachloroethane (43)
1,1,2,2-Tetrachloroethane (44)
Tetrachloroethene (45)
Toluene (46)
1,2,3-Trichlorobenzene (47)
1,2,4-Trichlorobenzene (48)
1,1,1-Trichloroethane (49)
1,1,2-Trichloroethane (50)
Trichloroethene (51)
1,2,3-Trichloropropane (53)
1,2,4-Trimethylbenzene (54)
1,3,5-Trimethylbenzene (55)
o-Xylene (57)
m-Xylene (58)
p-Xylene (59)

*cis (1.06 x conc.) (34A)
**trans (0.94 x conc.) (34B)

6 Gas Components

Bromomethane (06)
Chloroethane (12)
Chloromethane (14)
Dichlorodifluoromethane (24)
Trichlorofluoromethane (52)
Vinyl chloride (56)

Technical Note

Solutions containing volatile components (such as gases) should be chilled before opening to ensure gases are in the solution and not the headspace.

54 Liquid Components

M-502A-R	0.2 mg/mL each in MeOH		$ 60 / **1 x 1 mL**
M-502A-R-PAK	0.2 mg/mL each in MeOH	***SAVE 20%***	$ 240 / **5 x 1 mL**
M-502A-R-10X	2.0 mg/mL each in MeOH		$ 80 / **1 x 1 mL**
M-502A-R-10X-PAK	2.0 mg/mL each in MeOH	***SAVE 20%***	$ 320 / **5 x 1 mL**

6 Gas Components

M-502B	0.2 mg/mL each in MeOH		$ 25 / **1 x 1 mL**
M-502B-PAK	0.2 mg/mL each in MeOH	***SAVE 20%***	$ 100 / **5 x 1 mL**
M-502B-10X	2.0 mg/mL each in MeOH		$ 35 / **1 x 1 mL**
M-502B-10X-PAK	2.0 mg/mL each in MeOH	***SAVE 20%***	$ 140 / **5 x 1 mL**

54 Liquid and 6 Gas Component Sets

M-502A-R/B-SET — $ 80 / **2 x 1 mL**
0.2 mg/mL each in MeOH — **(M-502A-R, M-502B)**
M-502A-R/B-10X-SET — $ 105 / **2 x 1 mL**
2.0 mg/mL each in MeOH — **(M-502A-R-10X, M-502B-10X)**

Internal & Surrogate Standard

M-502-IS/SS — $ 20 / **1 x 1 mL**
M-502-IS/SS-PAK — ***SAVE 20%*** $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 4 comps.

1-Chloro-3-fluorobenzene
2-Chloropropane
Fluorobenzene
α,α,α-Trifluorotoluene

Technical Note

M-502-IS/SS is useful for DB-624/VRX analysis by GC/ELCD/PID. 2-Chloropropane has been included in the standard to be used as an early eluting Internal Standard. The use of this Internal Standard aids in quantitating the gaseous components in purgeable volatiles.

Internal/Surrogate Standard

M-502-IS-ASL — $ 20 / **1 x 1 mL**
M-502-IS-ASL-PAK — Alternate Source — ***SAVE 20%*** $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

2-Bromo-1-chloropropane
1-Chloro-2-fluorobenzene

o,m,p-Xylenes Mix

M-502-60	0.2 mg/mL in MeOH	$ 10 / **1 x 1 mL**
M-502-60-10X	2.0 mg/mL in MeOH	$ 14 / **1 x 1 mL**
		3 comps.

o-Xylene (57)
m-Xylene (58)
p-Xylene (59)

All 60 liquid & gas components in One Solution

Liquids (54 comps.) and Gases (6 comps.)

M-502 — $ 75 / **1 x 1 mL**
M-502-PAK — ***SAVE 20%*** $ 300 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 60 comps.
M-502-10X — $ 100 / **1 x 1 mL**
M-502-10X-PAK — ***SAVE 20%*** $ 400 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 60 comps.

Liquids (54 comps.) & Gases (6 comps.) plus p-Isoproyltoluene

M-502-R1 ***NEW*** — $ 75 / **1 x 1 mL** (liquid and gases)
M-502-R1-PAK ***NEW*** — ***SAVE 20%*** $ 300 / **5 x 1 mL** (liquid and gases)
0.2 mg/mL each in MeOH — 61 comps.

Liquids (54 comps.) plus MtBE

M-502A-R3 ***NEW*** — $ 60 / **1 x 1 mL**
0.2 mg/mL each in MeOH
M-502A-R3-10X ***NEW*** — $ 80 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 55 comps.

59 Component Set

As a complete set of each component in individual ampules.

M-502-SET	0.2 mg/mL in MeOH	$ 300 / **59 x 1 mL**
M-502-10X-SET	2.0 mg/mL in MeOH	$ 350 / **59 x 1 mL**

Individual Component Solutions

To order, specify identity (#) and conc. (0.2 or 2.0 mg/mL)

M-502-#	0.2 mg/mL in MeOH	$ 10 / **1 x 1 mL**
M-502-#-10X	2.0 mg/mL in MeOH	$ 14 / **1 x 1 mL**

M-502-34A & M-502-34B only available as mixture: M-502-34R

M-502-34-R — $ 10 / **1 x 1 mL**
0.4 mg/mL each in MeOH
M-502-34-R-10X — $ 15 / **1 x 1 mL**
4.0 mg/mL each in MeOH — 2 comps.

cis-1,3-Dichloropropene
trans-1,3-Dichloropropene

Individual Component Neats

To order, specify identity

M-502-#N — $ 20 / **1 x 1 gram**
except,

$ 40 / **1 x 1 gram**

M-502-04N
M-502-08N
M-502-17N
M-502-18N
M-502-28N
M-502-29N
M-502-31N
M-502-32N
M-502-34N
M-502-43N
M-502-44N

$ 60 / **1 x 1 gram**

M-502-49N

Method 502.2 (Continued) VOCs by PID/ELCD

The following solutions represent an alternate source formulation of Method 502/524 components based on similar volatility groups.

M-502-K1-SET — $ 150 / **6 x 1 mL**
(M-502B-10X, M-502C-02, M-502C-03, M-502C-04, M-502C-05, M-502C-06)

M-502B-10X — $ 35 / **1 x 1 mL**
M-502B-10X-PAK — Alternate Source — *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 6 comps.

Bromomethane
Chloroethane
Chloromethane
Dichlorodifluoromethane
Trichlorofluoromethane
Vinyl chloride

M-502C-02 — $ 35 / **1 x 1 mL**
M-502C-02-PAK — Alternate Source — *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 6 comps.

Bromodichloromethane
Dibromochloromethane
1,1,-Dichloroethylene
cis-1,2-Dichloroethylene
trans-1,2-Dichloroethylene
Methylene chloride

M-502C-03 — $ 35 / **1 x 1 mL**
M-502C-03-PAK — Alternate Source — *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 9 comps.

Bromochloromethane
Bromoform
Carbon tetrachloride
Chloroform
Dibromomethane
1,1-Dichloroethane
2,2-Dichloropropane
Tetrachloroethylene
1,1,1-Trichloroethane

M-502C-04 — $ 35 / **1 x 1 mL**
M-502C-04-PAK — Alternate Source — *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 14 comps.

1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
1,2-Dichloroethane
1,2-Dichloropropane
1,3-Dichloropropane
1,1-Dichloropropylene
cis-1,3-Dichloropropene *
trans-1,3-Dichloropropene **
Hexachlorobutadiene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
Trichloroethylene
1,2,3-Trichloropropane

* cis (1.06 x conc.)
** trans (0.94 x conc.)

M-502C-05 — $ 35 / **1 x 1 mL**
M-502C-05-PAK — Alternate Source — *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 13 comps.

Benzene
Bromobenzene
n-Butylbenzene
Ethylbenzene
p-Isopropyltoluene
Naphthalene
Styrene
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
m-Xylene

M-502C-06 — $ 35 / **1 x 1 mL**
M-502C-06-PAK — Alternate Source — *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 12 comps.

sec-Butylbenzene
tert-Butylbenzene
Chlorobenzene
2-Chlorotoluene
4-Chlorotoluene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Isopropylbenzene
n-Propylbenzene
o-Xylene
p-Xylene

Method 502.2 Volatile Organic Mixtures

Custom Unregulated VOC's

M-502C-09 — $ 60 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 39 comps.

Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromoform
Bromomethane
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Chloroethane
Chloroform
Chloromethane
2-Chlorotoluene
4-Chlorotoluene
Dibromochloromethane
Dibromomethane
1,3-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dichloropropane
1,1-Dichloropropene
cis-1,3-Dichloropropene *
trans-1,3-Dichloropropene **
Hexachlorobutadiene
Isopropylbenzene *(Cumene)*
p-Isopropyltoluene *(p-Cymene)*
Dichloromethane *(Methylene chloride)*
Naphthalene
n-Propylbenzene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,2-Trichloroethane
Trichlorofluoromethane
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene *(Mesitylene)*

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Wisconsin DNR VOC Mixture

S-989 — $ 100 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 52 comps.

Benzene
Bromobenzene
Bromodichloromethene
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Carbon tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Chloromethane
2-Chlorotoluene
4-Chlorotoluene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dichloropropane
Diisopropyl ether
Ethylbenzene
Hexachlorobutadiane
Isopropylbenzene
p-Isopropyltoluene
Methylene chloride
Methyl tert-butyl ether
Naphthalene
n-Propylbenzene
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Vinyl chloride
o-Xylene
m-Xylene
p-Xylene

Technical Note

Each ampule contains at least 120% of the stated volume of a solution, allowing easy transfer. Transfer the required amount using a clean calibration syringe. Excess solution can be stored in a tightly capped vial, but this is not recommended. AccuStandard cannot guarantee the integrity of the solution once the ampule has been opened. See the EPA method protocol for storage instructions.

Alternate Source

Alternate Source = Matches Competitive Product
AccuStandard enhances your laboratory's analytical results while streamlining your purchasing efforts through the Alternate Source Line (ASL) of Analytical Standards. Use ASL's for Independent lots to other Standard suppliers' formulations.

We compiled a list of most requested CLP, and EPA 500, 600, 8000 series analytical Standard formulations currently offered in the marketplace. See our complete list of ASL products in QC section of this catalog.

Method 502.2 (continued) Volatile Organic Compounds

The solutions below have been designed in cooperation with laboratories in the Contract Laboratory Program and have proven useful in this particular configuration for the separation and quantitation of all of the 60 components on a single column.

M-502D/E/F-SET — $ 120 / **set of 3 x 1 mL**
(set includes **M-502D**, **M-502E & M-502F**)

Mix D

M-502D — $ 45 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 26 comps.

Benzene
Bromobenzene
Bromochloromethane
Bromoform
sec-Butyl benzene
Carbon tetrachloride
Chloroethane
4-Chlorotoluene
Dibromomethane
1,2-Dichlorobenzene
1,4-Dichlorobenzene
1,1-Dichloroethene
trans-1,2-Dichloroethene
Dichlorodifluoromethane
2,2-Dichloropropane
Ethyl benzene
Ethylene dibromide
Isopropylbenzene
Tetrachloroethene
1,1,1,2-Tetrachloroethane
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
Trichloroethene
Vinyl chloride
o-Xylene

Mix E

M-502E — $ 45 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 21 comps.

Bromomethane
Chlorobenzene
Chloromethane
2-Chlorotoluene
Dibromochloromethane
1,3-Dichlorobenzene
1,1-Dichloroethane
1,2-Dichloroethane
cis-1,2-Dichloroethene
1,2-Dichloropropane
cis-1,3-Dichloropropene*
trans-1,3-Dichloropropene**
Hexachlorobutadiene
Methylene chloride
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichlorofluoromethane
Styrene
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
m-Xylene

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Mix F

M-502F — $ 45 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 13 comps.

Bromodichloromethane
n-Butyl benzene
tert-Butyl benzene
Chloroform
1,2-Dibromo-3-chloropropane
1,3-Dichloropropane
1,1-Dichloropropene
p-Isopropyl toluene
Naphthalene
n-Propyl benzene
1,1,2,2-Tetrachloroethane
1,3,5-Trimethyl benzene
p-Xylene

Mixtures of Internal, Surrogate Standards & Fortification Solutions

Internal Standard

M-502-IS — $ 20 / **1 x 1 mL**
M-502-IS-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

1-Chloro-2-bromopropane
Fluorobenzene

Internal Standard 2

M-502-IS-2 — $ 30 / **1 x 1 mL**
M-502-IS-2-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 3 comps.

1-Chloro-2-bromopropane
Fluorobenzene
Methylene chloride-d_2

Internal Standard 3

NEW

M-502-IS-2-3 — $ 20 / **1 x 1 mL**
2.0 mg/mL in MeOH

Methylene chloride-d_2

Internal Standard

M-524-IS — $ 20 / **1 x 1 mL**
M-524-IS-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

1,2-Dichlorobenzene-d_4
Fluorobenzene

Internal Standard 2

M-524-IS-2 — $ 12 / **1 x 1 mL**
M-524-IS-2-PAK — *SAVE 20%* $ 48 / **5 x 1 mL**
2.0 mg/mL in MeOH

Fluorobenzene

Fortification Solution

M-524-FS — $ 25 / **1 x 1 mL**
M-524-FS-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 3 comps.

4-Bromofluorobenzene
1,2-Dichlorobenzene-d_4
Fluorobenzene

Surrogate Standard

M-524-SS — $ 20 / **1 x 1 mL**
M-524-SS-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

4-Bromofluorobenzene
1,2-Dichlorobenzene-d_4

Over 40,000 Standards,just a click away

(Over 10,000 Listed and over 30,000 formulated custom standards)

AccuStandard.com

Method 502.2 Internal and Surrogate Standards

With more proposed and promulgated methods available, analytical chemists are trying to combine analyte lists and shorten run-time while still demonstrating method equivalence. AccuStandard has formulated a core evaluation deuterated solution, and a second conventional internal/surrogate evaluation solution. Use of these formulations allows the analyst to quickly evaluate new ISTD/SS combinations for PID, Hall, FID or GC/MS applications.

Popular Internal Standards

M-502-IS — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.
1-Chloro-2-bromopropane
Fluorobenzene

M-524-IS-2 — $ 12 / **1 x 1 mL**
2.0 mg/mL in MeOH
Fluorobenzene

M-524-IS — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.
1,2-Dichlorobenzene-d_4
Fluorobenzene

M-502-IS-2 — $ 30 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 3 comps.
1-Chloro-2-bromopropane
Fluorobenzene
Methylene chloride-d_2

M-001R — $ 15 / **1 x 1 mL**
20 mg/mL each in MeOH — 3 comps.
Bromochloromethane
1,4-Dichlorobutane
2-Bromo-1-chloropropane

M-8020-IS — $ 25 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 2 comps.
4-Bromofluorobenzene
α,α,α-Trifluorotoluene

M-8240/60-IS — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 5 comps.
Bromochloromethane
Chlorobenzene-d_5
1,4-Dichlorobenzene-d_4
1,4-Difluorobenzene
Pentafluorobenzene

M-8260-IS-R — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 4 comps.
2-Bromo-1-chloropropane
1,4-Difluorobenzene
1,4-Dichlorobenzene-d_4
Pentafluorobenzene

M-8260-IS — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 4 comps.
Chlorobenzene-d_5
1,4-Difluorobenzene
1,4-Dichlorobenzene-d_4
Pentafluorobenzene

M-8260A/B-IS — $ 20 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 3 comps.
Chlorobenzene-d_5
1,4-Dichlorobenzene-d_4
Fluorobenzene

ISTD/SS Evaluation Mixtures

Conventional ISTD/SS Evaluation MIxture

M-CONV-IS/SS — $ 60 / **1 x 1 mL**
200 µg/mL each in MeOH — 15 comps.
2-Bromochlorobenzene
4-Bromochlorobenzene
Bromochloromethane
p-Bromofluorobenzene
2-Bromo-1-chloropropane
1-Chloro-2-fluorobenzene
1-Chloro-3-fluorobenzene
1-Chloro-4-fluorobenzene
2-Chloropropane
Dibromofluoromethane
1,4-Dichlorobutane
1,4-Difluorobenzene
Fluorobenzene
Pentafluorobenzene
α,α,α-Trifluorotoluene

Deuterated ISTD/SS Evaluation Mixture

M-DEUT-IS/SS — $ 60 / **1 x 1 mL**
200 µg/mL each in MeOH — 8 comps.
Benzene-d_6
Chlorobenzene-d_5
1,2-Dichlorobenzene-d_4
1,4-Dichlorobenzene-d_4
1,2-Dichloroethane-d_4
Ethylbenzene-d_{10}
Methylene chloride-d_2
Toluene-d_8

Popular Surrogate Standards

M-502-IS-ASL — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.
2-Bromo-1-chloropropane
1-Chloro-2-fluorobenzene

M-524-SS — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.
4-Bromofluorobenzene
1,2-Dichlorobenzene-d_4

M-624-SS-M — $ 25 / **1 x 1 mL**
20 mg/mL each in MeOH — 3 comps.
4-Bromofluorobenzene
Fluorobenzene
Pentafluorobenzene

M-8020-SS — $ 30 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 3 comps.
4-Bromochlorobenzene
1,4-Difluorobenzene
Fluorobenzene

M-8021-SS — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.
4-Bromochlorobenzene
1,4-Dichlorobutane

M-8021-SS-M — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.
Bromochloromethane
1,4-Dichlorobutane

M-8021A-SS — $ 20 / **1 x 1 mL**
20 mg/mL each in MeOH — 4 comps.
4-Bromochlorobenzene
Bromochloromethane
1,4-Dichlorobutane
2-Bromo-1-chloropropane

M-8240/60-SS — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 4 comps.
p-Bromofluorobenzene
Dibromofluoromethane
1,2-Dichloroethane-d_4
Toluene-d_8

Popular ISTD/SS Standards

M-502-IS/SS — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 4 comps.
1-Chloro-3-fluorobenzene
2-Chloropropane
Fluorobenzene
α,α,α-Trifluorotoluene

M-502-IS-QC — $ 20 / **1 x 1 mL**
1.0 mg/mL each in MeOH — 3 comps.
1-Chloro-2-bromopropane
1-Chloro-2-fluorobenzene
Fluorobenzene

M-524-FS — $ 25 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 3 comps.
4-Bromofluorobenzene
1,2-Dichlorobenzene-d_4
Fluorobenzene

M-8010-IS/SS — $ 25 / **1 x 1 mL**
150 µg/mL each in MeOH — 3 comps.
4-Bromochlorobenzene
Bromochloromethane
4-Bromofluorobenzene

M-8020-IS/SS-ASL — $ 35 / **1 x 1 mL**
1.5 mg/mL each in MeOH — 5 comps.
4-Bromochlorobenzene
p-Bromofluorobenzene
1,4-Difluorobenzene
Fluorobenzene
α,α,α-Trifluorotoluene

M-8240/60-IS/SS — $ 45 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 9 comps.
Bromochloromethane
p-Bromofluorobenzene
Chlorobenzene-d_5
Dibromofluoromethane
1,4-Dichlorobenzene-d_4
1,2-Dichloroethane-d_4
1,4-Difluorobenzene
Pentafluorobenzene
Toluene-d_8

M-8260A/B-IS/SS — $ 40 / **1 x 1 mL**
200 µg/mL each in MeOH — 7 comps.
p-Bromofluorobenzene
Chlorobenzene-d_5
Dibromofluoromethane
1,4-Dichlorobenzene-d_4
1,2-Dichloroethane-d_4
Fluorobenzene
Toluene-d_8

Method 503.1 Purgeable Aromatics & Alkenes

Purgeable Aromatics & Alkenes

M-503 $ 40 / **1 x 1 mL**
M-503-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
0.2 mg/mL each in MeOH 28 comps.

Benzene
Bromobenzene
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Chlorobenzene
2-Chlorotoluene
4-Chlorotoluene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Ethylbenzene
Hexachlorobutadiene
Isopropylbenzene
4-Isopropyltoluene
Naphthalene
n-Propylbenzene
Styrene
Tetrachloroethene
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
Trichloroethene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
o-Xylene
m-Xylene
p-Xylene

Internal Standard

M-602-SS $ 20 / **1 x 1 mL**
M-602-SS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.2 mg/mL in MeOH

α,α,α-Trifluorotoluene

Method 504 EDB & DBCP by ECD

EDB & DBCP

M-504 $ 15 / **1 x 1 mL**
M-504-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-504-10X $ 15 / **1 x 1 mL**
M-504-10X-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
2.0 mg/mL each in MeOH 2 comps.

1,2-Dibromoethane *(EDB)*
1,2-Dibromo-3-chloropropane *(DBCP)*

Method 504.1 EDB, DBCP & TCP by ECD

Calibration Stock Solution

M-504.1-CSS $ 15 / **1 x 1 mL**
M-504.1-CSS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
0.2 mg/mL each in MeOH 3 comps.

1,2-Dibromoethane *(EDB)*
1,2-Dibromo-3-chloropropane *(DBCP)*
1,2,3-Trichloropropane

Laboratory Fortified Blank Sample Concentrate

M-504.1-LFB $ 15 / **1 x 1 mL**
M-504.1-LFB-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
0.25 µg/mL each in MeOH 3 comps.

1,2-Dibromoethane *(EDB)*
1,2-Dibromo-3-chloropropane *(DBCP)*
1,2,3-Trichloropropane

MDL Check Sample Concentrate

M-504.1-MDL $ 15 / **1 x 1 mL**
M-504.1-MDL-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
0.02 µg/mL each in MeOH 3 comps.

1,2-Dibromoethane *(EDB)*
1,2-Dibromo-3-chloropropane *(DBCP)*
1,2,3-Trichloropropane

Method 504 Set

M-504.1-SET $ 30 / **3 x 1 mL**
(M-504.1-CSS, M-504.1-LFB, M-504.1-MDL)

Method 505 Organohalide Pesticides by Microextraction & GC/ECD

M-505R-2 $ 45 / **1 x 1 mL**
M-505R-2-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
At stated conc. in MeOH 16 comps.

Alachlor	(10 µg/mL)	Heptachlor epoxide	(1 µg/mL)
Aldrin	(1 µg/mL)	Hexachlorobenzene	(1 µg/mL)
Atrazine	(250 µg/mL)	Hexachlorocyclopentadiene	(1 µg/mL)
α-Chlordane	(1 µg/mL)	Lindane	(1 µg/mL)
γ-Chlordane	(1 µg/mL)	Methoxychlor	(5 µg/mL)
Dieldrin	(1 µg/mL)	*cis*-Nonachlor	(1 µg/mL)
Endrin	(1 µg/mL)	*trans* -Nonachlor	(1 µg/mL)
Heptachlor	(1 µg/mL)	Simazine	(250 µg/mL)

Multi-Component Analytes (Polychlorinated Biphenyls, Chlordane & Toxaphene)

Each at 1,000 µg/mL in Hexane

Aroclors #	Cat. No.	1 mL	AccuPAK™ *(5 x 1 mL)* SAVE 20% Cat. No.	PAK
Aroclor 1016	C-216S-H-10X	$ 20	C-216S-H-10X-PAK	$ 80
Aroclor 1221	C-221S-H-10X	20	C-221S-H-10X-PAK	80
Aroclor 1232	C-232S-H-10X	20	C-232S-H-10X-PAK	80
Aroclor 1242	C-242S-H-10X	20	C-242S-H-10X-PAK	80
Aroclor 1248	C-248S-H-10X	20	C-248S-H-10X-PAK	80
Aroclor 1254	C-254S-H-10X	20	C-254S-H-10X-PAK	80
Aroclor 1260	C-260S-H-10X	20	C-260S-H-10X-PAK	80
Aroclor 1262	C-262S-H-10X	20	C-262S-H-10X-PAK	80
Aroclor 1268	C-268S-H-10X	20	C-268S-H-10X-PAK	80
Pesticides				
Chlordane	P-017S-H-10X	$ 15	P-017S-H-10X-PAK	$ 60
Toxaphene	P-093S-H-10X	15	P-093S-H-10X-PAK	60

Degradation Standard

P-045S $ 22 / **1 x 1 mL**
100 µg/mL in MeOH

Endrin

Method 506 Phthalate Esters by PID

Phthalate Esters

M-506 $ 25 / **1 x 1 mL**
M-506-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
1.0 mg/mL each in Isooctane 7 comps.

Benzyl butyl phthalate
Dimethyl phthalate
Diethyl phthalate
Di-*n*-butyl phthalate
bis(2-Ethylhexyl)adipate
bis(2-Ethylhexyl)phthalate
Di-*n*-octyl phthalate

M-506-QC $ 25 / **1 x 1 mL**
M-506-QC-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in MeOH 7 comps.

Benzyl butyl phthalate	(0.25 mg/mL)	bis(2-Ethyl hexyl)adipate	(1.2 mg/mL)
Dimethyl phthalate	(0.1 mg/mL)	bis(2-Ethylhexyl)phthalate	(0.25 mg/mL)
Diethyl phthalate	(0.1 mg/mL)	Di-*n*-octyl phthalate	(0.65 mg/mL)
Di-*n*-butyl phthalate	(0.1 mg/mL)		

Method 507 Nitrogen & Phosphorus Containing Pesticides by GC/NPD

Mix A

M-507A $ 30 / **1 x 1 mL**
M-507A-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
1.0 mg/mL each in MtBE 6 comps.

Ametryn
Cycloate
Disulfoton
Fenamiphos
Merphos
Prometon

Mix B

M-507B $ 45 / **1 x 1 mL**
M-507B-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
1.0 mg/mL each in MtBE 9 comps.

Atrazine
Diphenamid
EPTC
Ethoprop
Mevinphos
Prometryne
Propazine
Terbutryn
Triadimefon

Mix C

M-507C $ 75 / **1 x 1 mL**
M-507C-PAK *SAVE 20%* $ 300 / **5 x 1 mL**
1.0 mg/mL each in MtBE 9 comps.

Butachlor
Carboxin
Diazinon
Metolachlor
Metribuzin
MGK-264
Norflurazon
Terbufos
Vernolate

Mix D

M-507D $ 80 / **1 x 1 mL**
M-507D-PAK *SAVE 20%* $ 320 / **5 x 1 mL**
1.0 mg/mL each in MtBE 10 comps.

Alachlor
Atraton
Bromacil
Butylate
Chlorpropham
Hexazinone
Molinate
Pronamide
Stirofos
Tricyclazole

Mix E

M-507E $ 60 / **1 x 1 mL**
M-507E-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
1.0 mg/mL each in MtBE 8 comps.

Dichlorvos
Fenarimol
Fluridone
Napropamide
Pebulate *(Tillam)*
Simetryn
Tebuthiuron
Terbacil

Mix F

M-507F-R2 $ 25 / **1 x 1 mL**
M-507F-R2-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
1.0 mg/mL each in Acetone 2 comps.

Methyl paraoxon
Simazine

Mix G

M-507G $ 60 / **1 x 1 mL**
M-507G-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
1.0 mg/mL each in MtBE 8 comps.

Benefin
Isopropalin
Pendimethalin
Oxadiazon
Oxyfluorfen
Propachlor
Profluralin
Trifluralin

Mix H

M-507H $ 15 / **1 x 1 mL**
M-507H-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL each in MtBE

DEF (for Merphos quantitation)

Method 507 Set

M-507-R-SET $ 325 / **8 x 1 mL (M-507A,M-507B,M-507C,M-507D, M-507E,M-507F-R2,M-507G,M-507H)**

Performance Check Solution

M-507-QC $ 30 / **1 x 1 mL**
M-507-QC-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. in MtBE 6 comps.

Atrazine	(150 ng/mL)	Prometon	(300 ng/mL)
DNB	(2500 ng/mL)	TPP	(2500 ng/mL)
Bromacil	(5000 ng/mL)	Vernolate	(50 ng/mL)

Internal Standard

M-507-IS $ 10 / **1 x 1 mL**
M-507-IS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
0.5 mg/mL in MtBE
M-507-IS-10X $ 20 / **1 x 1 mL**
5.0 mg/mL in MtBE

Triphenyl phosphate

Surrogate Standard

M-507-SS $ 10 / **1 x 1 mL**
M-507-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
0.25 mg/mL in MtBE
M-507-SS-4X *NEW* $ 20 / **1 x 1 mL**
1.0 mg/mL in MtBE

1,3-Dimethyl-2-nitrobenzene

Mix H

M-507H $ 15 / **1 x 1 mL**
M-507H-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL each in MtBE

DEF (for Merphos quantitation)

Method 508 Chlorinated Pesticides by GC/ECD

Chlorinated Pesticides Mix A

M-508P-A $ 55 / **1 x 1 mL**
M-508P-A-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
1.0 mg/mL each in MtBE 17 comps.

Aldrin	4,4'-DDE	Endrin
α-BHC	4,4'-DDT	Endrin aldehyde
β-BHC	Dieldrin	Heptachlor
δ-BHC	Endosulfan I	Heptachlor epoxide
γ-BHC	Endosulfan II	Methoxychlor
4,4'-DDD	Endosulfan sulfate	

Technical Note

Endrin & DDT can break down in the injection port at elevated temperatures. Breakdown can be monitored by running the Pesticide Degradation Standard (M-8081-DS). The problem can be alleviated by replacing the dirty injection port liner, or by using cool, on-column injection.

Internal Standard

M-508-IS $ 10 / **1 x 1 mL**
M-508-IS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 mg/mL in MtBE
M-508-IS-10X *NEW* $ 20 / **1 x 1 mL**
1.0 mg/mL in MtBE

Pentachloronitrobenzene

Surrogate Standards

M-508-SS $ 10 / **1 x 1 mL**
M-508-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
0.5 mg/mL in MtBE

4,4'-Dichlorobiphenyl

M-508-SS-2 $ 10 / **1 x 1 mL**
M-508-SS-2-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
0.5 mg/mL in MtBE

Decachlorobiphenyl

Decomposition Solution

M-508-DS-100X $ 15 / **1 x 1 mL**
M-508-DS-100X-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
At stated conc. in MtBE 2 comps.

p,p'-DDT (200 µg/mL) Endrin (100 µg/mL)

Performance Check Solution

M-508-QC $ 25 / **1 x 1 mL**
M-508-QC-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in MtBE 4 comps.

δ-BHC	(40 ng/mL)	Chlorpyrifos	(2 ng/mL)
Chlorothalonil	(50 ng/mL)	Dacthal	(50 ng/mL)

Chlorinated Pesticides Mix B

M-508P-B-R $ 45 / **1 x 1 mL**
M-508P-B-R-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
1.0 mg/mL each in MtBE 13 comps.

α-Chlordane	Chlorpyrifos	*cis*-Permethrin (0.5 mg/mL)
γ-Chlordane	DCPA	*trans*-Permethrin (1.5 mg/mL)
Chlorobenzilate	Etridiazole	Propachlor
Chloroneb	Hexachlorobenzene	Trifluralin
Chlorothalonil		

Certificate will reflect actual cis/trans permethrin ratio

M-508P-B-R2 $ 45 / **1 x 1 mL**
M-508P-B-R2-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
1.0 mg/mL each in MtBE 15 comps.

α-Chlordane	Chlorpyrifos	*cis*-Permethrin (0.5 mg/mL)
γ-Chlordane	DCPA	*trans*-Permethrin (1.5 mg/mL)
Chlorobenzilate	Etridiazole	Propachlor
Chloroneb	Hexachlorobenzene	Trifluralin
Chlorothalonil	Cyanazine	trans-Nonachlor

Certificate will reflect actual cis/trans permethrin ratio

Method 508A PCBs by Perchlorination / GC

Aroclor® Stock Solution

M-508A-1 $ 15 / **1 x 1 mL**
M-508A-1-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
5.0 mg/mL in MeOH

Aroclor 1260

DCB Stock Solution

M-508A-2 $ 15 / **1 x 1 mL**
M-508A-2-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in Toluene

Decachlorobiphenyl

Perchlorinated Aromatics

Neats	Cat. No.	Price / Unit
Decachlorobiphenyl	C-209N	$ 12 / 10 mg
Hexachlorobenzene	A-012	12 / 100 mg
Octachlorodibenzofuran	F-801N	30 / 50 mg
Octachlorodibenzo-*p*-dioxin	D-801N	80 / 50 mg

Solutions	35 µg/mL in Toluene	1 mL
Octachlorostyrene	PC-001S	$ 25
Perchlorinated p,p'-DDE	PC-002S	25
Tetradecachloro-*o*-terphenyl	T-004S	25
Tetradecachloro-*m*-terphenyl	T-005S	25
Tetradecachloro-*p*-terphenyl	T-006S	25
Aroclor 5442	T-442S	25

Method 508.1 Chlorinated Pesticides, Herbicides & Organo-Halides by Liquid - Solid Extraction & ECD

Chlorinated Pesticide Mix #1

M-508.1-X1 $ 70 / **1 x 1 mL**
M-508.1-X1-PAK *SAVE 20%* $ 280 / **5 x 1 mL**
500 µg/mL each in Ethyl acetate 19 comps.

Aldrin	Dieldrin
α-BHC	Endosulfan I
β-BHC	Endosulfan II
δ-BHC	Endosulfan sulfate
γ-BHC	Endrin
α-Chlordane	Endrin aldehyde
γ-Chlordane	Heptachlor
4,4'-DDD	Heptachlor epoxide (B)
4,4'-DDE	Methoxychlor
4,4'-DDT	

Chlorinated Pesticide Mix #2

M-508.1-X2 $ 70 / **1 x 1 mL**
M-508.1-X2-PAK *SAVE 20%* $ 280 / **5 x 1 mL**
500 µg/mL each in Ethyl acetate 17 comps.

Alachlor	Hexachlorocyclopentadiene
Atrazine	Metrolachlor
Chlorobenzilate	Metribuzin
Chloroneb	*cis*-Permethrin
Chlorothalonil	*trans*-Permethrin
Cyanazine	Propachlor
DCPA	Simazine
Etridiazole	Trifluralin
Hexachlorobenzene	

Certificate will reflect actual cis/trans permethrin ratio

Decomposition Solution

M-508.1-DS-100X $ 15 / **1 x 1 mL**
M-508.1-DS-100X-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
100 µg/mL each in Ethyl acetate 2 comps.

4,4'-DDT	Endrin

Internal Standard Solution

M-508.1-IS $ 15 / **1 x 1 mL**
M-508.1-IS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
100 µg/mL each in Ethyl acetate

Pentachloronitrobenzene

Surrogate Standard Solution

M-508.1-SS $ 15 / **1 x 1 mL**
M-508.1-SS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
100 µg/mL each in Ethyl acetate

4,4'-Dibromobiphenyl

Performance Check Solution

M-508.1-QC $ 25 / **1 x 1 mL**
M-508.1-QC-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in MtBE 4 comps.

δ-BHC	(400 ng/mL)	Chlorpyrifos	(20 ng/mL)
Chlorothalonil	(500 ng/mL)	DCPA	(500 ng/mL)

Method 509 Ethylene Thiourea by GC/NPD

Performance Check Solution

M-509-PC $ 50 / **1 x 1 mL**
At stated conc. in Ethyl acetate containing 0.1% w/v DTT (scavenger) 3 comps.

Ethylene thiourea	(10 ng/mL)
4-Methylimidazolidine-2-thione	(100 ng/mL)
3,4,5,6-Tetrahydro-2-pyrimidinethiol	(1000 ng/mL)

Ethylene Thiourea Standard

M-509 $ 15 / **1 x 1 mL**
0.1 mg/mL in Ethyl acetate containing 0.1% w/v DTT (scavenger)

Ethylene thiourea

Internal Standard

M-509-IS $ 15 / **1 x 1 mL**
0.1 mg/mL in Ethyl acetate containing 0.1% w/v DTT (scavenger)

3,4,5,6-Tetrahydro-2-pyrimidinethiol *(THP)*

Surrogate Standard

M-509-SS $ 35 / **1 x 1 mL**
0.1 mg/mL in Ethyl acetate containing 0.1% w/v DTT (scavenger)

4-Methylimidazolidine-2-thione

Radical Scavenger Solution

M-509-RS-10ML $ 25 / **1 x 10 mL**
1.0 mg/mL in Ethyl acetate

Dithiothreitol *(DTT)*

e-Standards™
Just a click away

There is an easier way to get
Chemical Reference Standards
AccuStandard.com

Method 515.1 Chlorinated Acids in Water by GC/ECD

Methyl Derivatives

M-515-R $ 115 / **1 x 1 mL**
M-515-R-PAK *SAVE 20%* $ 460 / **5 x 1 mL**
1.0 mg/mL each in MtBE as methyl derivatives 16 comps.

Acifluorfen, ME	3,5-Dichlorobenzoic acid, ME
Bentazon, ME	Dichlorprop, ME
Chloramben, ME	Dinoseb, ME
2,4-D, ME	4-Nitrophenol, ME
Dalapon, ME	Pentachlorophenol, ME
2,4-DB, ME	Picloram, ME
DCPA, Di ME	2,4,5-T, ME
Dicamba, ME	2,4,5-TP, ME

Underivatized Analytes

M-515A-R2 $ 90 / **1 x 1 mL**
M-515A-R2-PAK *SAVE 20%* $ 360 / **5 x 1 mL**
At stated conc. in MeOH 16 comps.

Acifluorfen	(100 µg/mL)	3,5-Dichlorobenzoic acid	(100 µg/mL)
Bentazon	(200 µg/mL)	Dichloroprop	(300 µg/mL)
Chloramben	(100 µg/mL)	Dinoseb	(200 µg/mL)
2,4-D	(200 µg/mL)	4-Nitrophenol	(100 µg/mL)
Dalapon	(1300 µg/mL)	Pentachlorophenol	(100 µg/mL)
2,4-DB	(800 µg/mL)	Picloram	(100 µg/mL)
DCPA acid	(100 µg/mL)	2,4,5-T	(100 µg/mL)
Dicamba	(100 µg/mL)	2,4,5-TP	(100 µg/mL)

Technical Note

If you require the complete absence of partial esterification, we recommed M-515.4A and M-515.3A products.

Performance Check Solution

M-515-QC $ 20 / **1 x 1 mL**
M-515-QC-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
At stated conc. in MtBE 3 comps.

3,5-Dichlorobenzoic acid methyl ester	(600 ng/mL)
Dinoseb methyl ether	(4 ng/mL)
4-Nitroanisole	(1600 ng/mL)

Performance Check Solution with ISTD & SS

M-515-QC-R $ 30 / **1 x 1 mL**
M-515-QC-R-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. in MtBE 5 comps.

4,4'-Dibromooctafluorobiphenyl (ISTD)	(250 ng/mL)
3,5-Dichlorobenzoic acid methyl ester	(600 ng/mL)
2,4-Dichlorophenyl acetic acid methyl ester (SS)	(500 ng/mL)
Dinoseb methyl ether	(4 ng/mL)
4-Nitroanisole	(1600 ng/mL)

Internal Standard

M-515-IS $ 20 / **1 x 1 mL**
M-515-IS-PAK *SAVE 20%* $ 80 / **1 x 1 mL**
0.1 mg/mL in MtBE

4,4'-Dibromooctafluorobiphenyl

Surrogate Standards

M-515-SS $ 10 / **1 x 1 mL**
M-515-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 mg/mL in MtBE
M-515-SS-50X *NEW* $ 30 / **5 x 1 mL**
5.0 mg/mL in MtBE

2,4-Dichlorophenylacetic acid methyl ester

P-244S $ 12 / **1 x 1 mL**
0.1 mg/mL in MeOH

2,4-Dichlorophenylacetic acid

Method 515.2 Chlorinated Acids in Water by GC/ECD

Methyl Derivatives

M-515.2-1 $ 75 / **1 x 1 mL**
M-515.2-1-PAK *SAVE 20%* $ 300 / **5 x 1 mL**
At stated conc. in MeOH 6 comps.

DCPA, ME	(100 µg/mL)	Dinoseb, ME	(200 µg/mL)
3,5-Dichlorobenzoic acid, ME	(500 µg/mL)	Pentachlorophenol, ME	(100 µg/mL)
Dichlorprop, ME	(100 µg/mL)	2,4,5-T, ME	(100 µg/mL)

M-515.2-2 $ 80 / **1 x 1 mL**
M-515.2-2-PAK *SAVE 20%* $ 320 / **5 x 1 mL**
At stated conc. in MeOH 7 comps.

Acifluorfen, ME	(200 µg/mL)	Dicamba, ME	(300 µg/mL)
Bentazon, ME	(1000 µg/mL)	Picloram, ME	(300 µg/mL)
2,4-D, ME	(100 µg/mL)	2,4,5-TP, ME	(100 µg/mL)
2,4-DB, ME	(1000 µg/mL)		

Underivatized Analytes

M-515.2A-1 $ 40 / **1 x 1 mL**
M-515.2A-1-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
At stated conc. in MeOH 6 comps.

DCPA acid	(100 µg/mL)	Dinoseb	(200 µg/mL)
3,5-Dichlorobenzoic acid	(500 µg/mL)	Pentachlorophenol	(100 µg/mL)
Dichlorprop	(100 µg/mL)	2,4,5-T	(100 µg/mL)

M-515.2A-2 $ 45 / **1 x 1 mL**
M-515.2A-2-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
At stated conc. in MeOH 7 comps.

Acifluorfen	(200 µg/mL)	Dicamba	(300 µg/mL)
Bentazon	(1000 µg/mL)	Picloram	(300 µg/mL)
2,4-D	(100 µg/mL)	2,4,5-TP	(100 µg/mL)
2,4-DB	(1000 µg/mL)		

Method 515.1 & 515.2 Chlorinated Acids in Water by GC/ECD

Laboratory Performance Check Solution

M-8150/51-LPC-5ML $ 20 / **1 x 5 mL**
At stated conc. in Isooctane 5 comps.

3,5-Dichlorobenzoic acid	(600 ng/mL)	DCAA	(500 ng/mL)
Dinoseb	(4 ng/mL)	DBOB	(250 ng/mL)
4-Nitrophenol	(1600 ng/mL)		

Method 515.3 Chlorinated Acids in Drinking Water by ECD

Underivatized Acids

M-515.3A $ 70 / **1 x 1 mL**
M-515.3A-PAK *SAVE 20%* $ 280 / **5 x 1 mL**
At stated conc. in Acetone 17 comps.

Acifluorfen	(50 µg/mL)	3,5-Dichlorobenzoic acid	(50 µg/mL)
Bentazon	(100 µg/mL)	Dichlorprop	(100 µg/mL)
Chloramben	(50 µg/mL)	Dinoseb	(100 µg/mL)
2,4-D	(100 µg/mL)	4-Nitrophenol	(100 µg/mL)
Dalapon	(100 µg/mL)	Pentachlorophenol	(10 µg/mL)
2,4-DB	(100 µg/mL)	Picloram	(100 µg/mL)
DCPA Diacid	(50 µg/mL)	2,4,5-T	(25 µg/mL)
DCPA monoacid	(50 µg/mL)	Silvex	(25 µg/mL)
Dicamba	(50 µg/mL)		

Laboratory Performance Check Methyl Derivatives

M-515.3-LPC $ 30 / **1 x 1 mL**
M-515.3-LPC-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. in MtBE 4 comps.

2,4-DB methyl ester	(25 µg/mL)
Dinoseb methyl ether	(25 µg/mL)
Chloramben methyl ester	(12.5 µg/mL)
4-Nitroanisole	(25 µg/mL)

Independent Check Standard Methyl Derivatives

M-515.3-ICS $ 105 / **1 x 1 mL**
M-515.3-ICS-PAK *SAVE 20%* $ 420 / **5 x 1 mL**
At stated conc. in MtBE 16 comps.

Acifluorfen methyl ester	(50 µg/mL)	Methyl-3,5-Dichlorobenzoate	(50 µg/mL)
Bentazon methyl	(100 µg/mL)	Dichlorprop methyl ester	(100 µg/mL)
Chloramben methyl ester	(50 µg/mL)	Dinoseb methyl ether	(100 µg/mL)
2,4-D methyl ester	(100 µg/mL)	4-Nitroanisole	(100 µg/mL)
Dalapon methyl ester	(100 µg/mL)	Pentachloroanisole	(10 µg/mL)
2,4-DB methyl ester	(100 µg/mL)	Picloram methyl ester	(100 µg/mL)
Dacthal	(100 µg/mL)	2,4,5-T methyl ester	(25 µg/mL)
Dicamba methyl ester	(50 µg/mL)	Silvex methyl ester	(25 µg/mL)

Internal Standard

M-515-IS $ 20 / **1 x 1 mL**
M-515-IS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.1 mg/mL in MtBE

4,4'-Dibromooctafluorobiphenyl

Method 515.4 Chlorinated Acids in Drinking Water by ECD

Underivatized Acids

M-515.4A $ 70 / **1 x 1 mL**
M-515.4A-PAK *SAVE 20%* $ 280 / **5 x 1 mL**
At stated conc. in Acetone 17 comps.

Acifluorfen	(50 µg/mL)	3,5-Dichlorobenzoic acid	(50 µg/mL)
Bentazon	(100 µg/mL)	Dichlorprop	(100 µg/mL)
Chloramben	(50 µg/mL)	Dinoseb	(100 µg/mL)
2,4-D	(100 µg/mL)	Pentachlorophenol	(10 µg/mL)
Dalapon	(100 µg/mL)	Picloram	(50 µg/mL)
2,4-DB	(100 µg/mL)	2,4,5-T	(25 µg/mL)
DCPA Diacid	(50 µg/mL)	Silvex	(25 µg/mL)
DCPA monoacid	(50 µg/mL)	Quinclorac	(50 µg/mL)
Dicamba	(50 µg/mL)		

Underivatized Surrogate

M-8150B-SS $ 10 / **1 x 1 mL**
M-8150B-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 mg/mL in Acetone

2,4-Dichlorophenylacetic acid

Quality Control Sample Methyl Derivatives

M-515.4-QCS $ 125 / **1 x 1 mL**
M-515.4-QCS-PAK *SAVE 20%* $ 500 / **5 x 1 mL**
At stated conc. in MtBE 16 comps.

Acifluorfen methyl ester	(50 µg/mL)	Methyl-3,5-Dichlorobenzoate	(50 µg/mL)
Bentazon methyl	(100 µg/mL)	Dichlorprop methyl ester	(100 µg/mL)
Chloramben methyl ester	(50 µg/mL)	Dinoseb methyl ether	(100 µg/mL)
2,4-D methyl ester	(100 µg/mL)	Pentachloroanisole	(10 µg/mL)
Dalapon methyl ester	(100 µg/mL)	Picloram methyl ester	(50 µg/mL)
2,4-DB methyl ester	(100 µg/mL)	2,4,5-T methyl ester	(25 µg/mL)
Dacthal	(100 µg/mL)	Silvex methyl ester	(25 µg/mL)
Dicamba methyl ester	(50 µg/mL)	Quinclorac methyl ester	(50 µg/mL)

Technical Note

M-515.3A and M-515.4A are to be used as procedural standards for the calibration of the method. These standards should be carried through the entire extraction and derivatization procedure associated with the samples.

Buy AccuPaks™
Save 20-40% 5 x 1 mL

Method 521 Nitrosamines by SPE & Capillary Column GC

Analyte Stock Solution

M-521 $ 50 / **1 x 1 mL**
200 µg/mL each in CH_2Cl_2 7 comps.

N-Nitrosodimethylamine
N-Nitrosomethylethylamine
N-Nitrosodiethylamine
N-Nitrosodi-n-propylamine
N-Nitrosodi-n-butylamine
N-Nitrosopyrrolidine
N-Nitrosopiperidine

Internal Standard Stock Solution

M-521-IS $ 50 / **1 x 1 mL**
M-521-IS-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
1.0 mg/mL in CH_2Cl_2

N-Nitrosodi-n-propylamine-d_{14}

Surrogate Standard Stock Solution

M-521-SS $ 35 / **1 x 1 mL**
M-521-SS-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
1.0 mg/mL in CH_2Cl_2

N-Nitrosodimethylamine-d_6

Adehydes and Ketones in Alcohol Solvents

Standards containing aldehydes and ketones in methanol are given shorter expiration periods because of their ability to form acetals and ketals. AccuStandard adds stabilizers to inhibit this reaction. To enhance stability, freezer storage is required.

Analyzing Volatiles

Special Considerations for Volatile Analytes
Volatile Analytes, especially gases, can be troublesome to analyze. To provide the best possible standard we suggest the following procedures:
1. Keep the ampules cool (follow the storage conditions on the label).
2. Prior to use, invert the ampule several times to ensure the gases are in the solution, not in the headspace. Mixing too vigorously can cause the gases to be lost as well.
3. Use freshly opened ampules whenever possible.
4. When transferring, take care to avoid losses of the very volatile components. For example, holding the barrel of a syringe in your hand can warm it enough to lose some of the most volatile components.
5. If using the purge and trap (PT) system is giving questionable results, try a direct liquid injection. If the results are not as expected, there may be a problem with the PT apparatus.

Method 524.2 Volatile Organic Compounds by GC/MS

See M-502.2 VOCs by PID/ELCD
54 Liquid & 6 Gaseous Compounds

Addition to Method 524.2 (Revision 4.0 August 1992)

M-524R-B $ 55 / **1 x 1 mL**
M-524R-B-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
2.0 mg/mL each in MeOH 24 comps.

Acetone
Acrylonitrile
Allyl chloride
2-Butanone
Carbon disulfide
Chloroacetonitrile
1-Chlorobutane
trans-1,4-Dichloro-2-butene
1,1-Dichloropropanone
Diethyl ether
Ethyl methacrylate
Hexachloroethane
2-Hexanone
Methacrylonitrile
Methylacrylate
Methyl iodide
Methylmethacrylate
4-Methyl-2-pentanone
Methyl-*t*-butyl ether
Nitrobenzene
2-Nitropropane
Pentachloroethane
Propionitrile
Tetrahydrofuran

Mixtures of Internal, Surrogate Standards & Fortification Solutions

Internal Standards

M-502-IS $ 20 / **1 x 1 mL**
M-502-IS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH 2 comps.

1-Chloro-2-bromopropane
Fluorobenzene

M-502-IS-2 $ 30 / **1 x 1 mL**
M-502-IS-2-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH 3 comps.

1-Chloro-2-bromopropane
Fluorobenzene
Methylene chloride-d_2

M-524-IS $ 20 / **1 x 1 mL**
M-524-IS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH 2 comps.

1,2-Dichlorobenzene-d_4
Fluorobenzene

M-524-IS-2 $ 12 / **1 x 1 mL**
M-524-IS-2-PAK *SAVE 20%* $ 48 / **5 x 1 mL**
2.0 mg/mL in MeOH
M-524-IS-2-10X *NEW* $ 20 / **5 x 1 mL**
20 mg/mL in MeOH

Fluorobenzene

Fortification Standard

M-524-FS $ 25 / **1 x 1 mL**
M-524-FS-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2.0 mg/mL each in MeOH 3 comps.

4-Bromofluorobenzene
1,2-Dichlorobenzene-d_4
Fluorobenzene

Surrogate Standard

M-524-SS $ 20 / **1 x 1 mL**
M-524-SS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH 2 comps.

4-Bromofluorobenzene
1,2-Dichlorobenzene-d_4

GC/MS Tuning Solution

M-624-SS-03-10X $ 10 / **1 x 1 mL**
2.0 mg/mL each in MeOH

p-Bromofluorobenzene

Method 525.1 Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary GC/MS

PAH Mixtures

M-525-1 $ 30 / **1 x 1 mL**
M-525-1-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.1 mg/mL each in Acetone 13 comps.
M-525-1-5X $ 30 / **1 x 1 mL**
M-525-1-5X-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.5 mg/mL each in Acetone 13 comps.

Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[a]pyrene
Benzo[g,h,i]perylene
Chrysene
Dibenz[a,h]anthracene
Fluorene
Indeno[1,2,3-cd]pyrene
Phenanthrene
Pyrene

PCB Congener Mixtures

M-525-2 $ 35 / **1 x 1 mL**
M-525-2-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
0.1 mg/mL each in Acetone 8 comps.
M-525-2-5X $ 50 / **1 x 1 mL**
M-525-2-5X-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
0.5 mg/mL each in Acetone 8 comps.

2-Chlorobiphenyl (#1)
2,3-Dichlorobiphenyl (#5)
2,2',3,3',4,4',6-Heptachlorobiphenyl (#171)
2,2',4,4',5,6'-Hexachlorobiphenyl (#154)
2,2',3,3',4,5',6,6'-Octachlorobiphenyl (#200)
2,2',3',4,6-Pentachlorobiphenyl (#98)
2,2',4,4'-Tetrachlorobiphenyl (#47)
2,4,5-Trichlorobiphenyl (#29)

Pesticide Mixtures

M-525-3 $ 75 / **1 x 1 mL**
M-525-3-PAK *SAVE 20%* $ 300 / **5 x 1 mL**
0.1 mg/mL each in Acetone
M-525-3-5X $ 95 / **1 x 1 mL**
M-525-3-5X-PAK *SAVE 20%* $ 380 / **5 x 1 mL**
0.5 mg/mL each in Acetone 12 comps.

Alachlor
Aldrin
Atrazine
α-Chlordane
γ-Chlordane
Endrin
Heptachlor
Heptachlor epoxide
Lindane
Methoxychlor
Simazine
trans-Nonachlor

Semi-Volatile Mixtures

M-525-4 $ 25 / **1 x 1 mL**
M-525-4-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
0.1 mg/mL in Acetone (PCP 0.4 mg/mL)
M-525-4-5X $ 25 / **1 x 1 mL**
M-525-4-5X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
0.5 mg/mL in Acetone (PCP 2.0 mg/mL) 9 comps.

Butylbenzylphthalate
di-*n*-Butylphthalate
Diethylphthalate
bis(2-Ethylhexyl)adipate
Dimethylphthalate
Hexachlorobenzene
Hexachlorocyclopentadiene
bis(2-Ethylhexyl)phthalate
Pentachlorophenol *(PCP)*

Multi-Component / Analyte

M-525-5 $ 20 / **1 x 1 mL**
M-525-5-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2.5 mg/mL in Acetone

Toxaphene

Internal Standard

M-525-IS $ 50 / **1 x 1 mL**
M-525-IS-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 4 comps.

Acenaphthene-d_{10}
Chrysene-d_{12}
Perylene-d_{12}
Phenanthrene-d_{10}

Fortification Standards

M-525-FS-1 $ 50 / **1 x 1 mL**
M-525-FS-1-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
0.5 mg/mL each in Acetone 4 comps.

Acenaphthene-d_{10}
Chrysene-d_{12}
Perylene-d_{12}
Phenanthrene-d_{10}

M-525-FS-2 $ 20 / **1 x 1 mL**
M-525-FS-2-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.5 mg/mL in CH_2Cl_2

p-Terphenyl-d_{14}

Tuning Standards

CLP-TS $ 20 / **1 x 1 mL**
CLP-TS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
50 µg/mL in CH_2Cl_2

Perfluorokerosene

M-525-TS $ 20 / **1 x 1 mL**
M-525-TS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.1 mg/mL in CH_2Cl_2

DFTPP

Surrogate Standard

M-525-SS $ 30 / **1 x 1 mL**
M-525-SS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.5 mg/mL in Acetone

Pyrene-d_{10}

Buy the Complete Set and Save

Method 525 Organic Compounds in Drinking Water Sets

M-525-R-SET $ 150 / **5 x 1 mL (M-525-1, M-525-2, M-525-3, M-525-4, M-525-5)**
M-525-R-5X-SET $ 170 / **5 x 1 mL (M-525-1-5X, M-525-2-5X, M-525-3-5X, M-525-4-5X, M-525-5)**
M-525-SET $ 200 / **7 x 1 mL (M-525-1-5X, M-525-2-5X, M-525-3-5X, M-525-4-5X, M-525-5, M-525-IS, M-525-TS)**

Method 525.2 (Revision 1.0) Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary GC/MS

All 112 analytes (excluding Disulfoton sulfoxide and Disulfoton sulfone which can be found in the Pesticide section) listed in this revision can be found in the mixes below. We realize that many labs will not be analyzing for all of these analytes at one time since it is not practical or necessary in many instances. If all the analytes must be determined, the following multiple calibration mixes are offered to accomplish this task. Several of these mixes are from our current product line and are grouped as nitrogen/phosphorus pesticides, organochlorine pesticides, semi-volatiles, polyaromatics, PCB congeners, and individual multi-component solutions for the Aroclors and Toxaphene. These solutions can be purchased individually or as a complete set to complement your laboratory's particular needs. Additionally, the required surrogate, internal, and tuning standards are offered below.

Nitrogen/Phosphorus Pesticides

M-507A — $ 30 / **1 x 1 mL**
1.0 mg/mL each in MtBE — 6 comps.

Ametryn, Cycloate, Disulfoton, Fenamiphos, Merphos, Prometon

M-507B — $ 45 / **1 x 1 mL**
1.0 mg/mL each in MtBE — 9 comps.

Atrazine, Diphenamid, EPTC, Ethoprop, Mevinphos, Prometryne, Propazine, Terbutryn, Triadimefon

M-507C — $ 75 / **1 x 1 mL**
1.0 mg/mL each in MtBE — 9 comps.

Butachlor, Carboxin, Diazinon, Metolachlor, Metribuzin, MGK-264, Norflurazon, Terbufos, Vernolate

M-507D — $ 80 / **1 x 1 mL**
1.0 mg/mL each in MtBE — 10 comps.

Alachlor, Atraton, Bromacil, Butylate, Chlorpropham, Hexazinone, Molinate, Pronamide, Stirofos, Tricyclazole

M-507E — $ 60 / **1 x 1 mL**
1.0 mg/mL each in MtBE — 8 comps.

Dichlorvos, Fenarimol, Fluridone, Napropamide, Pebulate *(Tillam)*, Simetryn, Tebuthiuron, Terbacil

M-507F-R2 — $ 25 / **1 x 1 mL**
1.0 mg/mL each in Acetone — 2 comps.

Methyl paraoxon, Simazine

Auxiliary Standards

Internal Standard

M-525.2-IS — $ 40 / **1 x 1 mL**
M-525.2-IS-PAK — ***SAVE 20%*** $ 160 / **5 x 1 mL**
0.5 mg/mL each in Acetone — 3 comps.

Acenapthene-d_{10}, Chrysene-d_{12}, Phenanthrene-d_{10}

Surrogate Standard

M-525.2-SS — $ 30 / **1 x 1 mL**
M-525.2-SS-PAK — ***SAVE 20%*** $ 120 / **5 x 1 mL**
0.5 mg/mL each in Acetone — 3 comps.

1,3-Dimethyl-2-nitrobenzene, Perylene-d_{12}, Triphenylphosphate

Internal/Surrogate Standard

M-525.2-IS/SS — $ 50 / **1 x 1 mL**
M-525.2-IS/SS-PAK — ***SAVE 20%*** $ 200 / **5 x 1 mL**
0.5 mg/mL each in Acetone — 6 comps.

Acenapthene-d_{10}, Chrysene-d_{12}, 1,3-Dimethyl-2-nitrobenzene, Perylene-d_{12}, Phenanthrene-d_{10}, Triphenylphosphate

Tuning Standard

M-525.2-TS — $ 30 / **1 x 1 mL**
0.5 mg/mL each in CH_2Cl_2 — 3 comps.

4,4'-DDT, DFTPP, Endrin

Technical Note

Endrin & DDT can break down in the injection port at elevated temperatures. Breakdown can be monitored by running the Pesticide Degradation standard (M-8081-DS). The problem can be alleviated by replacing the dirty injection port liner, or by using cool, on-column injection.

Multi-Component Technical Solutions

Toxaphene

M-525-5 — $ 20 / **1 x 1 mL**
2.5 mg/mL in Acetone

Aroclor® 1016

C-216S-M-28.5X — $ 15 / **1 x 1 mL**
1.0 mg/mL in MeOH

Aroclor 1254

C-254S-M-28.5X — $ 15 / **1 x 1 mL**
1.0 mg/mL in MeOH

Aroclor 1260

C-260S-M-28.5X — $ 15 / **1 x 1 mL**
1.0 mg/mL in MeOH

Complete Method 525.2 Set

M-525.2-SET — $ 650 / **18 x 1 mL**

M-507A	M-507D	M-508P-A	M-525-2-5X	M-525.2-IS	C-216S-M-28.5X
M-507B	M-507E	M-508P-B-R2	M-525-4R-5X	M-525.2-SS	C-254S-M-28.5X
M-507C	M-507F-R2	M-525-1-5X	M-525-5	M-525.2-TS	C-260S-M-28.5X

Method 525.2 (Continued) Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary GC/MS

Chlorinated Pesticides

Mix A

M-508P-A — $ 55 / **1 x 1 mL**
M-508P-A-PAK — *SAVE 20%* $ 220 / **5 x 1 mL**
1.0 mg/mL each in MtBE — 17 comps.

- Aldrin
- α-BHC
- β-BHC
- δ-BHC
- γ-BHC
- 4,4'-DDD
- 4,4'-DDE
- 4,4'-DDT
- Dieldrin
- Endosulfan I
- Endosulfan II
- Endosulfan sulfate
- Endrin
- Endrin aldehyde
- Heptachlor
- Heptachlor epoxide
- Methoxychlor

Mix B

M-508P-B-R2 — $ 45 / **1 x 1 mL**
M-508P-B-R2-PAK — *SAVE 20%* $ 180 / **5 x 1 mL**
1.0 mg/mL each in MtBE — 15 comps.

- α-Chlordane
- γ-Chlordane
- Chlorobenzilate
- Chloroneb
- Chlorothalonil
- Chlorpyrifos
- Cyanazine
- DCPA
- Etridiazole
- Hexachlorobenzene
- *trans*-Nonachlor
- *cis*-Permethrin (0.5 mg/mL)
- *trans*-Permethrin (1.5 mg/mL)
- Propachlor
- Trifluralin

Certificate will reflect actual cis/trans permethrin ratio

Semi-Volatile Analytes

PAH Mixtures

M-525-1-5X — $ 30 / **1 x 1 mL**
0.5 mg/mL each in Acetone — 13 comps.

- Acenaphthylene
- Anthracene
- Benz[a]anthracene
- Benzo[b]fluoranthene
- Benzo[k]fluoranthene
- Benzo[a]pyrene
- Benzo[g,h,i]perylene
- Chrysene
- Dibenz[a,h]anthracene
- Fluorene
- Indeno[1,2,3-cd]pyrene
- Phenanthrene
- Pyrene

PCB Congener Mixtures

M-525-2-5X — $ 50 / **1 x 1 mL**
0.5 mg/mL each in Acetone — 8 comps.

- 2-Chlorobiphenyl
- 2,3-Dichlorobiphenyl
- 2,2',3,3',4,4',6-Heptachlorobiphenyl
- 2,2',4,4',5,6'-Hexachlorobiphenyl
- 2,2',3,3',4,5',6,6'-Octachlorobiphenyl
- 2,2',3',4,6-Pentachlorobiphenyl
- 2,2',4,4'-Tetrachlorobiphenyl
- 2,4,5-Trichlorobiphenyl

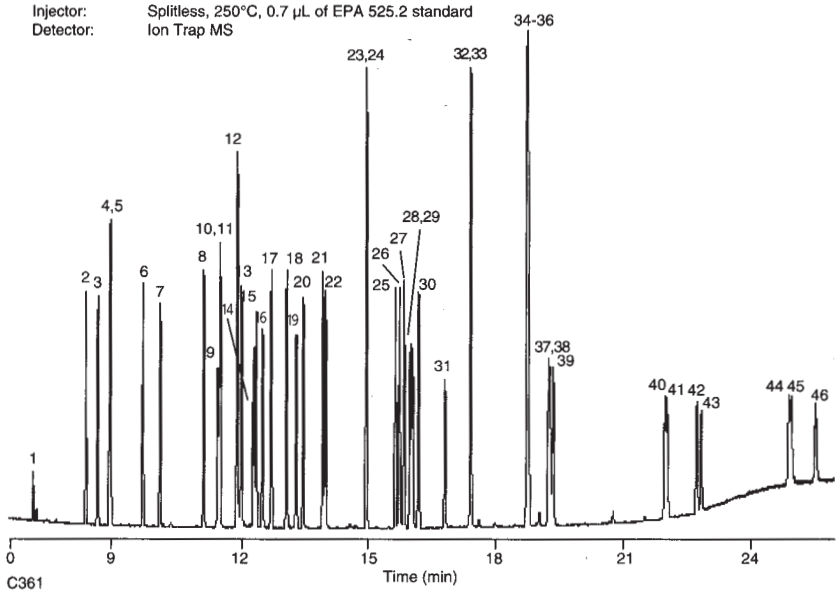
Semi-Volatile Mixtures

M-525-4-R-5X — $ 30 / **1 x 1 mL**
0.5 mg/mL each in Acetone — 11 comps.

- Butylbenzylphthalate
- di-*n*-Butylphthalate
- Diethylphthalate
- bis(2-Ethylhexyl)adipate
- Dimethylphthalate
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- Hexachlorocyclopentadiene
- bis(2-Ethylhexyl)phthalate
- Isophorone
- Pentachlorophenol *(2.0 mg/mL)*

EPA Method 525.2

Column: DB-XLB
30 m x 0.25 mm I.D., 0.25 µm
Agilent p/n: **122-1232**
Carrier: Helium at 33.3 cm/sec, measured at 150°C
Oven: 60°C for 0.5 min
60-160°C at 20°/min
160-325°C at 10°/min
325-350°C at 25°/min
350°C for 5 min
Injector: Splitless, 250°C, 0.7 µL of EPA 525.2 standard
Detector: Ion Trap MS



	Compound Name	m/z	RT
1.	Hexachlorocyclopentadiene	237	07:07
2.	Dimethylphthalate	163	08:22
3.	Acenaphthylene	152	08:39
4.	Acenaphthene-d10	164	08:55
5.	2-Chlorobiphenyl	188	08:57
6.	Diethylphthalate	149	09:43
7.	Fluorene	166	10:07
8.	2,3-Dichlorobiphenyl	222	11:09
9.	Hexachlorobenzene	284	11:29
10.	Simazine	201	11:31
11.	Atrazine	200,215	11:33
12.	Pentachlorophenol	266	11:56
13.	Lindane	181	12:02
14.	Phenanthrene-d10	188	12:19
15.	Phenanthrene	178	12:23
16.	Anthracene	178	12:32
17.	2,4,5-Trichlorobiphenyl	256	12:45
18.	Alachlor	160	13:06
19.	Heptachlor	100,160	13:19
20.	Di-n-butylphthalate	149	13:29
21.	2,2',4,4'-Tetrachlorobiphenyl	292	13:57
22.	Aldrin	66	14:01
23.	Heptachlor epoxide	81,353	14:57
24.	2,2',3',4,6-Pentachlorobiphenyl	326	14:58
25.	γ-Chlordane	375	15:39
26.	α-Chlordane	375	15:45
27.	*trans*-Nonachlor	409	15:52
28.	Pyrene-d10	212	16:00
29.	Pyrene	202	16:04
30.	2,2',3',4,6-Pentachlorobiphenyl	326	16:12
31.	Endrin	81	16:49
32.	Butylbenzylphthalate	149	17:25
33.	Di(2-ethylhexyl)adipate	129	17:26
34.	2,2',3,3',4,5',6,6'-Octachlorobiphenyl	430	18:47
35.	Methoxychlor	227	18:46
36.	Di(2-ethylhexyl)phthalate	149	18:45
37.	Benz[a]anthracene	228	19:15
38.	Chrysene-d12	240	19:16
39.	Chrysene	228	19:22
40.	Benzo[b]fluoranthene	252	21:59
41.	Benzo[k]fluoranthene	252	22:02
42.	Benzo[a]pyrene	252	22:44
43.	Perylene-d12	264	22:50
44.	Dibenz[a,h]anthracene	278	24:54
45.	Indeno[1,2,3-c,d]pyrene	276	24:56
46.	Benzo[g,h,i]perylene	276	25:31

Method 525.2 (Continued) Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary GC/MS

These solutions are to be used individually or combined for calibration curve development. The Nitrogen Phosphorous Pesticides typically analyzed by NPD were combined into convenient solutions for possible use in other EPA methods such as 507. The Chlorinated Pesticides typically analyzed by ECD were combined into a convenient solution for use in this method or additional methods such as 505 or 508.1.

Nitrogen / Phosphorus Pesticide Mixture

M-525.2-NP1-ASL — $ 170 / **1 x 1 mL**
M-525.2-NP1-ASL-PAK — *SAVE 20%* $ 680 / **5 x 1 mL**
100 µg/mL each in Acetone — 41 comps.

Alternate Source

- Alachlor
- Ametryn
- Atraton
- Atrazine
- Bromacil
- Butachlor
- Butylate
- Chlorpropham
- Dursban
- Cycloate
- Cyanazine
- Dichlorvos
- Diphenamid
- EPTC
- Ethoprop
- Fenarimol
- Fluridone
- Hexazinone
- Methyl paraoxon
- Metolachlor
- Metribuzin
- Mevinphos
- MGK-264
- Molinate
- Napropamide
- Norflurazon
- Pebulate
- Prometon
- Prometryne
- Pronamide
- Propachlor
- Propazine
- Simetryn
- Tetrachlorvinphos
- Tebuthiuron
- Terbacil
- Prebane
- Triadimefon
- Tricyclazole
- Trifluralin
- Vernolate

Nitrogen / Phosphorus Pesticide Mixture

M-525.2-NP2-ASL — $ 60 / **1 x 1 mL**
M-525.2-NP2-ASL-PAK — *SAVE 20%* $ 240 / **5 x 1 mL**
100 µg/mL each in Acetone — 6 comps.

Alternate Source

- Carboxin
- Diazinon
- Disulfoton
- Fenamiphos
- Merphos
- Terbufos

Organochlorine Pesticides

M-525.2-CP-ASL — $ 110 / **1 x 1 mL**
M-525.2-CP-ASL-PAK — *SAVE 20%* $ 440 / **5 x 1 mL**
100 µg/mL each in Acetone — 30 comps.

Alternate Source

- Alachlor
- Aldrin
- Atrazine
- α-BHC
- β-BHC
- δ-BHC
- γ-BHC
- Chlorobenzilate
- Chlorothalonil
- Chloroneb
- Dacthal
- p,p'-DDD
- p,p'-DDE
- p,p'-DDT
- Dieldrin
- Endosulfan I
- Endosulfan II
- Endosulfan sulfate
- Endrin
- Endrin aldehyde
- Etridiazole
- α-Chlordane
- γ-Chlordane
- Heptachlor
- Heptachlor epoxide (Isomer B)
- Methoxychlor
- *cis*-Permethrin
- *trans*-Permethrin
- Simazine
- *trans*-Nonachlor

Semi-Volatiles Mixture

M-525.2-SV-ASL — $ 55 / **1 x 1 mL**
M-525.2-SV-ASL-PAK — *SAVE 20%* $ 220 / **5 x 1 mL**
100 µg/mL each in Acetone — 33 comps.

Alternate Source

- Acenaphthylene
- Anthracene
- Benz[a]anthracene
- Benzo[b]fluoranthene
- Benzo[k]fluoranthene
- Benzo[g,h,i]perylene
- Benzo[a]pyrene
- Benzyl butyl phthalate
- 2-Chlorobiphenyl
- Chrysene
- Dibenz[a,h]anthracene
- 2,3-Dichlorobiphenyl
- bis(2-Ethylhexyl)adipate
- bis(2-Ethylhexyl)phthalate
- Diethyl phthalate
- Dimethyl phthalate
- Dibutyl phthalate
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- Fluorene
- Hexachlorobenzene
- 2,2',4,4',5,6'-Hexachlorobiphenyl
- 2,2',3,3',4,4',6-Heptachlorobiphenyl
- Hexachlorocyclopentadiene
- Indeno[1,2,3-cd]pyrene
- Isophorone
- 2,2',3,3',4,5',6,6'-Octachlorobiphenyl
- 2,2',3',4,6-Pentachlorobiphenyl
- Pentachlorophenol (400 µg/mL)
- Phenanthrene
- Pyrene
- 2,2',4,4'-Tetrachlorobiphenyl
- 2,4,5-Trichlorobiphenyl

Regulated Semi-Volatiles Mixture

M-525-REG-ASL — $ 35 / **1 x 1 mL**
M-525-REG-ASL-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
0.5 mg/mL each in Acetone — 6 comps.

Alternate Source

- Benzo[a]pyrene
- bis(2-Ethylhexyl)adipate
- bis(2-Ethylhexyl)phthalate
- Hexachlorobenzene
- Hexachlorocyclopentadiene
- Pentachlorophenol (2.0 mg/mL)

ISTD/SS Fortification Solution

M-525.2-FS-ASL — $ 69 / **1 x 1 mL**
M-525.2-FS-ASL-PAK — *SAVE 20%* $ 276 / **5 x 1 mL**
500 µg/mL each in Acetone — 7 comps.

Alternate Source

- Acenaphthene-d_{10}
- Chrysene-d_{12}
- 1,3-Dimethyl-2-nitrobenzene
- Perylene-d_{12}
- Phenanthrene-d_{10}
- Pyrene-d_{10}
- Triphenylphosphate

Surrogate Standard

M-525.2-SS2-ASL — $ 35 / **1 x 1 mL**
M-525.2-SS2-ASL-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
500 µg/mL each in Acetone — 4 comps.

Alternate Source

- 1,3-Dimethyl-2-nitrobenzene
- Perylene-d_{12}
- Pyrene-d_{10}
- Triphenylphosphate

Regulated Semi-Volatiles Mixture

M-525-REG-EA — $ 125 / **1 x 1 mL**
100 µg/mL each in Ethyl acetate — 25 comps.
M-525-REG-EA-5X *NEW* — $ 150 / **1 x 1 mL**
500 µg/mL each in Ethyl acetate — 25 comps.

- Alachlor
- Aldrin
- Atrazine
- Benzo(a)pyrene
- Butachlor
- α-Chlordane
- γ-Chlordane
- Cyanazine
- Dieldrin
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- bis(2-Ethylhexyl)adipate
- bis(2-Ethylhexyl)phthalate
- Endrin
- Heptachlor
- Heptachlor epoxide (isomer B)
- Hexachlorobenzene
- Hexachlorocyclopentadiene
- Lindane
- Methoxychlor
- Metolachlor
- Metribuzin
- trans-Nonachlor
- Propachlor
- Simazine

Alternate Source

Improves Analytical Results, while Saving Time and Money
The Alternate Source Line (ASL) is AccuStandard products that exactly matches another vendor's products. These ASL products can be used as independant standards for your primary supplier.

For additional Cross Referencing, visit our Website

Method 526 Semi-Volatiles by GC/MS

Primary Dilution Standard

M-526-0.2X-EA — $ 40 / **1 x 1 mL**
M-526-0.2X-EA-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
200 µg/mL each in Ethyl acetate — 11 comps.
M-526 — $ 50 / **1 x 1 mL**
M-526-PAK — *SAVE 20%* $ 200 / **5 x 1 mL**
1000 µg/mL each in Acetone — 11 comps.

Acetochlor
Cyanazine
Diazinon
2,4-Dichlorophenol
1,2-Diphenylhydrazine
Disulfoton
Dyfonate
Nitrobenzene
Prometon
Terbufos
2,4,6-Trichlorophenol

Internal/Surrogate Standards

M-526-IS/SS — $ 45 / **1 x 1 mL**
M-526-IS/SS-PAK — *SAVE 20%* $ 180 / **5 x 1 mL**
500 µg/mL each in Acetone — 5 comps.

Acenaphthene-d_{10}
Chrysene-d_{12}
1,3-Dimethyl-2-nitrobenzene
Phenanthrene-d_{10}
Triphenylphosphate

M-525-TS-0.05X — $ 15 / **1 x 1 mL**
5 µg/mL in CH_2C_2

DFTPP

Internal Standard

M-525.2-IS — $ 40 / **1 x 1 mL**
M-525.2-IS-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
500 µg/mL each in Acetone — 3 comps.

Acenaphthene-d_{10}
Chrysene-d_{12}
Phenanthrene-d_{10}

Surrogate Standard

M-526-SS — $ 25 / **1 x 1 mL**
M-526-SS-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
500 µg/mL each in Acetone — 2 comps.

1,3-Dimethyl-2-nitrobenzene
Triphenylphosphate

Storage Conditions

All products come with storage conditions listed on the label of the ampule or bottle. Some chemical formulations require refrigeration or freezer storage to slow down reactions among the components. Other standards require sonication prior to use because they are near their saturation for the particular formulation. It is imperative that these conditions are followed to ensure the chemical reference standard will be at the stated concentration.

Method 527 Pesticides & Flame Retardants in Drinking Water by SPE & Capillary GC/MS

PBDE Standard

M-527-BDE — $ 250 / **1 x 1 mL**
50 µg/mL each in Isooctane:Ethyl Acetate (8:2) — 5 comps.

2,2',4,4'-Tetrabromodiphenyl ether
2,2',4,4',6-Pentabromodiphenyl ether
2,2',4,4',5-Pentabromodiphenyl ether
2,2',4,4',5,5'-Hexabromodiphenyl ether
2,2',4,4',5,5'-Hexabromobiphenyl

Pesticide Mix A

M-527-PEST-A — $ 125 / **1 x 1 mL**
500 µg/mL each in MeOH — 11 comps.

Atrazine
Bioallethrin, S-cyclopentyl isomer
Bromacil
Esfenvalerate
Fenvalerate
Hexazinone
Kepone
Norflurazon
Oxychlordane isomer
Prometryne
Propazine

Pesticide Mix B

M-527-PEST-B — $ 100 / **1 x 1 mL**
500 µg/mL each in MeOH — 12 comps.

Bifenthrin
Dimethoate
Dursban
Fenamiphos
Malathion
Mirex
Nitrofen
Parathion
Terbufos sulfone
Thiazopyr
Thiobencarb
Vinclozolin

Internal Standard

M-525.2-IS — $ 40 / **1 x 1 mL**
M-525.2-IS-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
0.5 mg/mL each in Acetone — 3 comps.

Acenapthene-d_{10}
Chrysene-d_{12}
Phenanthrene-d_{10}

Surrogate Standard

M-525.2-SS — $ 30 / **1 x 1 mL**
0.5 mg/mL each in Acetone — 3 comps.

1,3-Dimethyl-2-nitrobenzene
Perylene-d_{12}
Triphenylphosphate

Method 528 Phenols by GC/MS

Stock Calibration Standard

M-528-CONC $ 45 / **1 x 1 mL**
M-528-CONC-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 12 comps.

4-Chloro-3-methylphenol	2-Methyl-4,6-Dinitrophenol
2-Chlorophenol	2-Nitrophenol
o-Cresol	4-Nitrophenol
2,4-Dichlorophenol	Pentachlorophenol
2,4-Dimethylphenol	Phenol
2,4-Dinitrophenol	2,4,6-Trichlorophenol

Analyte Fortification Solution

M-528-AFS $ 40 / **1 x 1 mL**
M-528-AFS-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
At stated conc. in MeOH 12 comps.

4-Chloro-3-methylphenol	(100 µg/mL)	2-Methyl-4,6-Dinitrophenol	(500 µg/mL)
2-Chlorophenol	(100 µg/mL)	2-Nitrophenol	(100 µg/mL)
o-Cresol	(100 µg/mL)	4-Nitrophenol	(500 µg/mL)
2,4-Dichlorophenol	(100 µg/mL)	Pentachlorophenol	(500 µg/mL)
2,4-Dimethylphenol	(100 µg/mL)	Phenol	(100 µg/mL)
2,4-Dinitrophenol	(500 µg/mL)	2,4,6-Trichlorophenol	(100 µg/mL)

Internal Standard

M-528-IS $ 35 / **1 x 1 mL**
M-528-IS-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
At stated conc. in CH_2Cl_2 2 comps.

1,2-Dimethyl-3-nitrobenzene	(1000 µg/mL)
2,3,4,5-Tetrachlorophenol	(2000 µg/mL)

Surrogate Standards

M-528-SS $ 55 / **1 x 1 mL**
M-528-SS-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
At stated conc. in MeOH 3 comps.

2-Chlorophenol-d_4	(1000 µg/mL)
2,4-Dimethylphenol-3,5,6-d_3	(1000 µg/mL)
2,4,6-Tribromophenol	(2500 µg/mL)

Peak Tailing Factor Standard

M-528-PTF $ 20 / **1 x 1 mL**
M-528-PTF-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
10 µg/mL each in CH_2Cl_2 4 comps.

2,4-Dimethylphenol	4-Nitrophenol
2-Methyl-4,6-dinitrophenol	Pentachlorophenol

M-528-SS2 $ 50 / **1 x 1 mL**
M-528-SS2-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
At stated conc. in MeOH 3 comps.

2-Chlorophenol-d_4	(1000 µg/mL)
2,4-Dimethylphenol-3,5,6-d_3	(1000 µg/mL)
2,4,6-Tribromophenol	(2000 µg/mL)

Method 529 Explosive & Related Compounds by SPE & Capillary Column GC/MS

Method 529 Calibration Curve

All in µg/mL in Ethyl acetate Storage Cond.: Freeze (<-10°C)

M-529-	01	02	03	04	05	06	07	08	09
2-Amino-4,6-dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
4-Amino-2,6-dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
3,5-Dinitroaniline	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
1,3-Dinitrobenzene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
2,4-Dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
2,6-Dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
RDX	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
Nitrobenzene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
2-Nitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
3-Nitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
4-Nitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
1,3,5-Trinitrobenzene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
Tetryl	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
TNT	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10

Full Scan MS Calibration Set

M-529-MS-SET $ 325 / **6 x 1 mL**
M-529-03, M-529-05, M-529-06, M-529-07, M-529-08, M-529-09

SIM Calibration Set

M-529-SIM-SET $ 325 / **7 x 1 mL**
M-529-01, M-529-02, M-529-03, M-529-04, M-529-05, M-529-06, M-529-07

Storage Condition.: Freeze (<-10°C)

Internal Standard Stock Solution

M-529-IS $ 20 / **1 x 1 mL**
2.0 mg/mL Ethyl acetate

3,4-Dinitrotoluene

Surrogate Analyte Stock Solutions

M-529-SS1 $ 55 / **1 x 1 mL**
M-529-SS1-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
1000 µg/mL each in MeOH 2 comps.

1,3,5-Trimethyl-2-nitrobenzene	1,2,4-Trimethyl-5-nitrobenzene

M-529-SS2 $ 15 / **1 x 1 mL**
M-529-SS2-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1000 µg/mL each in CH_2Cl_2

Nitrobenzene-d_5

Internal Standard Fortification Solution

M-529-ISFS $ 90 / **1 x 1 mL**
200 µg/mL Ethyl acetate 14 comps.

2-Amino-4,6-dinitrotoluene	Nitrobenzene
4-Amino-2,6-dinitrotoluene	2-Nitrotoluene
3,5-Dinitroaniline	3-Nitrotoluene
1,3-Dinitrobenzene	4-Nitrotoluene
2,4-Dinitrotoluene	1,3,5-Trinitrobenzene
2,6-Dinitrotoluene	Tetryl
RDX	TNT

Surrogate Analyte Fortification Solution

M-529-SAFS $ 60 / **1 x 1 mL**
100 µg/mL each in MeOH 3 comps.

1,3,5-Trimethyl-2-nitrobenzene	Nitrobenzene-d_5
1,2,4-Trimethyl-5-nitrobenzene	

Method 531 + 531.1 N-Methyl carbamoyl oximes & N-Methyl carbamates by HPLC

M-531-SET — $ 90 / **set of 11 x 1 mL**
Each at 0.1 mg/mL in AcCN — Analytes listed below

Each at 0.1 mg/mL in AcCN	Cat. No.	Price / 1 mL
Aldicarb sulfoxide	M-531-01	$ 20
Aldicarb sulfone	M-531-02	20
Oxamyl	M-531-03	12
Methomyl	M-531-04	12
3-Hydroxycarbofuran	M-531-05	20
Aldicarb	M-531-06	12
Propoxur	M-531-07	12
Carbofuran	M-531-08	12
Carbaryl	M-531-09	12
1-Naphthol	M-531-10	12
Methiocarb	M-531-11	12

M-531M — $ 60 / **1 x 1 mL**
M-531M-PAK ***NEW*** — ***SAVE 20%*** $ 240 / **5 x 1 mL**
0.1 mg/mL each in AcCN — 11 comps.

Performance Check Solution

M-531-QC-R — $ 30 / **1 x 1 mL**
At stated conc. in AcCN — 4 comps.

Aldicarb sulfoxide	(100 µg/mL)	3-Hydroxycarbofuran	(2 µg/mL)
BDMC	(10 µg/mL)	Methiocarb	(20 µg/mL)

Internal Standard

M-531-IS — $ 25 / **1 x 1 mL**
0.1 mg/mL in AcCN

4-Bromo-3,5-dimethylphenyl N-methylcarbamate *(BDMC)*

Carbamate Pesticide Mix

M-531-REG-ASL — $ 25 / **1 x 1 mL**
M-531-REG-ASL-PAK — ***SAVE 20%*** $ 100 / **5 x 1 mL**
100 µg/mL in MeOH — 2 comps.

Carbofuran — Oxamyl

Method 532 Phenylureas by HPLC

Phenylurea Concentrate Standard

M-532-CONC1 — $ 45 / **1 x 1 mL**
M-532-CONC1-PAK — ***SAVE 20%*** $ 180 / **5 x 1 mL**
5.0 mg/mL each in MeOH — 6 comps.

Karmex	Propanil
Fluometuron	Siduron
Linuron	Tebuthiuron

Phenylurea Concentrate Standard

M-532-CONC2 — $ 30 / **1 x 1 mL**
M-532-CONC2-PAK — ***SAVE 20%*** $ 120 / **5 x 1 mL**
5.0 mg/mL each in Acetone — 2 comps.

Diflubenzuron — Thidiazuron

Phenylurea Primary Dilution Standard

M-532 — $ 50 / **1 x 1 mL**
M-532-PAK — ***SAVE 20%*** $ 200 / **5 x 1 mL**
100 µg/mL each in MeOH, except Siduron — 8 comps.

Diflubenzuron	Propanil
Karmex	Siduron (200 µg/mL)
Fluometuron	Tebuthiuron
Linuron	Thidiazuron

Phenylurea Surrogate Standard

M-532-SS — $ 35 / **1 x 1 mL**
M-532-SS-PAK — ***SAVE 20%*** $ 140 / **5 x 1 mL**
500 µg/mL each in MeOH — 2 comps.

Carbazole — Monuron

Method 535 Acetamide-Herbicide Degradates

Ethanesulfonic acid (ESA) and oxanilic acid (OA) degradation products of acetanilide/acetamide herbicides have been found in U.S. ground waters and surface waters. The substitution of the sulfonic acid or the carbonic acid for the chlorine atom greatly increases the water solubility of degradates relative to the parent compound and contributes to the increased potential for leaching into groundwater. As a result, alachlor ESA and other acetanilide degradation products were listed on the 1998 Safe Drinking Water Act Contaminant Candidate List (CCL). One acetamide and five acetanilide herbicides are currently registered for agricultural use in the U.S. The next step in the CCL-process is to collect data on the concentrations and occurrence of these compounds in the nation's drinking water supplies. However, the existing analytical methods for measuring chloroacetanilide degradates do not address issues specific to analyzing these compounds in drinking water. Because many of the methods were developed for ground water, dechlorination was not addressed nor was the method tested in all types of drinking water matrices. In addition, existing methods do not address all twelve ESA and OA degradates of the six U.S. registered acetanilide/acetamide herbicides. The focus of this research was to develop a sensitive and specific analytical method for the analysis of alachlor ESA and other chloroacetanilide degradates in drinking water.

M-535-SET — $ 750 / **14 x 1 mL** — NEW
At stated conc. in MeOH

Acetochlor ESA	50 µg/mL	Propachlor ESA	20 µg/mL
Acetochlor OA	50 µg/mL	Propachlor OA	20 µg/mL
Alachlor ESA	50 µg/mL	Dimethenamid ESA	10 µg/mL
Alachlor OA	50 µg/mL	Dimethenamid OA	10 µg/mL
Flufenacet ESA	20 µg/mL	**Internal Standard**	
Flufenacet OA	20 µg/mL	Butachlor ESA sodium salt	20 µg/mL
Metolachlor ESA	50 µg/mL	**Surrogate Standard**	
Metolachlor OA	50 µg/mL	Dimethachlor ESA sodium salt	20 µg/mL

Method 547 Glyphosate by HPLC

M-547 $ 20 / **1 x 1 mL**
0.1 mg/mL in Deionized water
M-547-10X ***NEW*** $ 30 / **1 x 1 mL**
1.0 mg/mL in Deionized water

Glyphosate

Glyphosate Metabolite

M-547-02 $ 20 / **1 x 1 mL**
0.1 mg/mL in Deionized water

Aminomethyl phosphonic acid *(AMPA)*

Method 548 Endothall by GC/ECD

M-548A $ 20 / **1 x 1 mL**
10 µg/mL in Deionized water
M-548B $ 20 / **1 x 1 mL**
50 µg/mL in Deionized water

Endothall

Internal Standard

M-548-IS $ 10 / **1 x 1 mL**
10 µg/mL in MtBE

Endosulfan I

Calibration Standard

M-548-CAL $ 35 / **1 x 1 mL**
100 µg/mL in MtBE

Endothall pentafluorophenyl hydrazine derivative

Method 548.1 Endothall by GC/MS

P-183S $ 24 / **1 x 1 mL**
100 µg/mL in MeOH

Endothall

Internal Standard

M-548.1-IS $ 30 / **1 x 1 mL**
500 µg/mL in MeOH

Acenaphthene-d_{10}

Methyl Derivative

M-548.1-ME $ 22 / **1 x 1 mL**
100 µg/mL in MeOH

Dimethyl endothall

Method 549.1/549.2 Diquat & Paraquat Liquid - Solid Extraction & HPLC

M-549.1 $ 22 / **1 x 1 mL**
1.0 mg/mL each in Deionized water as non-hydrated species 2 comps.

Diquat - H_2O (1.97 mg/mL)
Paraquat - 4 H_2O (1.77 mg/mL)

Method 550 + 550.1 PAHs by HPLC & Internal Standard

M-550-QC $ 50 / **1 x 1 mL**
At stated conc. in AcCN 16 comps.

Acenaphthene	(1000 µg/mL)	Chrysene	(50 µg/mL)
Acenaphthylene	(1000 µg/mL)	Dibenz[a,h]anthracene	(10 µg/mL)
Anthracene	(50 µg/mL)	Fluoranthene	(2.5 µg/mL)
Benz[a]anthracene	(1 µg/mL)	Fluorene	(100 µg/mL)
Benzo[a]pyrene	(5 µg/mL)	Indeno[1,2,3-cd]pyrene	(10 µg/mL)
Benzo[b]fluoranthene	(1 µg/mL)	Naphthalene	(1000 µg/mL)
Benzo[g,h,i]perylene	(5 µg/mL)	Phenanthrene	(50 µg/mL)
Benzo[k]fluoranthene	(1 µg/mL)	Pyrene	(50 µg/mL)

Internal Standard

M-550-IS $ 20 / **1 x 1 mL**
0.1 mg/mL in AcCN

4,4'-Difluorobiphenyl

Method 551 Chlorinated Organic Solvents + Trihalomethanes by GC/ECD

M-551A $ 30 / **1 x 1 mL**
M-551A-PAK ***SAVE 20%*** $ 120 / **5 x 1 mL**
5.0 mg/mL each in MeOH 10 comps.

Bromodichloromethane	1,2-Dibromoethane
Bromoform	1,2-Dibromo-3-chloropropane
Carbon tetrachloride	Tetrachloroethene
Chlorodibromomethane	1,1,1-Trichloroethane
Chloroform	Trichloroethene

Disinfection By-products

M-551B $ 50 / **1 x 1 mL**
5.0 mg/mL each in Acetone 8 comps.
M-551B-SET $ 90 / **set of 8 x 1 mL**
Each at 5.0 mg/mL in Acetone

	Cat. No.	Price / 1 mL
Bromochloroacetonitrile	M-551B-1	$ 15
Chloral hydrate	M-551B-2	15
Chloropicrin	M-551B-3	15
Dibromoacetonitrile	M-551B-4	15
Dichloroacetonitrile	M-551B-5	15
1,1-Dichloro-2-propanone	M-551B-6	15
Trichloroacetonitrile	M-551B-7	15
1,1,1-Trichloro-2-propanone	M-551B-8	15

Expiration Dates

Expiration dates are determined by short-term and long-term stability studies, experience and knowledge of chemical interactions. As part of our long-term studies, standards are analyzed at the end of their assigned period and sometimes can be recertified for an additional length of time. Please contact our Customer or Technical Service Department for more information.

Method 551.1A Chlorinated Solvents, Trihalomethanes Disinfection By-products & Halogenated Pesticides/ Herbicides in Drinking Water by GC/ECD

Chlorinated Organic Solvents + Trihalomethanes

M-551.1A $ 30 / **1 x 1 mL**
M-551.1A-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. in Acetone 12 comps.

Bromodichloromethane	(1000 µg/mL)
Bromoform	(1000 µg/mL)
Carbon tetrachloride	(500 µg/mL)
Chloroform	(1000 µg/mL)
Dibromochloromethane	(1000 µg/mL)
1,2-Dibromo-3-chloropropane	(1000 µg/mL)
1,2-Dibromoethane	(1000 µg/mL)
Tetrachloroethene	(500 µg/mL)
1,1,1-Trichloroethane	(1000 µg/mL)
1,1,2-Trichloroethane	(10,000 µg/mL)
Trichloroethene	(1000 µg/mL)
1,2,3-Trichloropropane	(10,000 µg/mL)

Disinfection By-products

M-551.1B $ 40 / **1 x 1 mL**
M-551.1B-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
1000 µg/mL each in Acetone 8 comps.

Bromochloroacetonitrile	Dichloroacetonitrile
Chloral hydrate	1,1-Dichloro-2-propanone
Chloropicrin	Trichloroacetonitrile
Dibromoacetonitrile	1,1,1-Trichloro-2-propanone

Pesticide/Herbicide Mixture

M-551.1C $ 45 / **1 x 1 mL**
M-551.1C-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
At stated conc. in Acetone 17 comps.

Alachlor	(10 µg/mL)	Hexachlorobenzene	(1 µg/mL)
Atrazine	(200 µg/mL)	Hexachlorocyclopentadiene	(1 µg/mL)
Bromacil	(10 µg/mL)	Lindane	(1 µg/mL)
Cyanazine	(30 µg/mL)	Methoxychlor	(5 µg/mL)
Endrin	(2 µg/mL)	Metolachlor	(10 µg/mL)
Endrin aldehyde	(2 µg/mL)	Metribuzin	(5 µg/mL)
Endrin ketone	(2 µg/mL)	Simazine	(200 µg/mL)
Heptachlor	(1 µg/mL)	Trifluralin	(1 µg/mL)
Heptachlor epoxide (isomer B)	(1 µg/mL)		

Technical Note

1. Method 551.1A analytes are formulated into **3 separate solutions** to meet various analytical laboratory testing requirements. Each solution is intended for use as a stand-alone formulation or in combination with the other two solutions.
2. **Chloral hydrate** is a DEA schedule IV drug. AccuStandard has the necessary license and exemption approval to offer this analyte in a multi-component formulation. This multi-component formulation containing chloral hydrate is tested for stability. In addition, the solution is manufactured in small batches to insure the freshest product.

Using the 3 mixture version not only provides versatility but also eliminates running two separate 5 point calibration curves (one for the core analytes and a separate Chloral hydrate curve).

Method 551.1A Auxiliary Standards by ECD

Laboratory Performance Check Solutions

Pentane Extracts

M-551.1-LPC-P $ 25 / **1 x 1 mL**
M-551.1-LPC-P-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in Pentane 7 comps.

Alachlor	(83 µg/mL)	Hexachlorocyclopentadiene	(20 µg/mL)
Bromacil	(83 µg/mL)	Lindane	(0.2 µg/mL)
Bromodichloromethane	(30 µg/mL)	Trichloroethene	(30 µg/mL)
Endrin	(30 µg/mL)		

MtBE Extracts

M-551.1-LPC $ 25 / **1 x 1 mL**
M-551.1-LPC-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in MtBE 7 comps.

Alachlor	(83 µg/mL)	Hexachlorocyclopentadiene	(20 µg/mL)
Bromacil	(83 µg/mL)	Lindane	(0.2 µg/mL)
Bromodichloromethane	(30 µg/mL)	Trichloroethene	(30 µg/mL)
Endrin	(30 µg/mL)		

Internal Standard Solutions

M-551.1-IS $ 10 / **1 x 1 mL**
M-551.1-IS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
100 µg/mL in Acetone
M-551.1-IS-100X $ 20 / **1 x 1 mL**
M-551.1-IS-100X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
10,000 µg/mL in Acetone

p-Bromofluorobenzene

Modified Laboratory Performance Check Solutions

Pentane Extracts

M-551.1-MLPC-P $ 20 / **1 x 1 mL**
M-551.1-MLPC-P-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
At stated conc. in Pentane 4 comps.

γ-BHC	(0.2 µg/mL)	Hexachlorocyclopentadiene	(20 µg/mL)
Bromodichloromethane	(30 µg/mL)	Trichloroethene	(30 µg/mL)

MtBE Extracts

M-551.1-MLPC $ 20 / **1 x 1 mL**
M-551.1-MLPC-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
At stated conc. in MtBE 4 comps.

γ-BHC	(0.2 µg/mL)	Hexachlorocyclopentadiene	(20 µg/mL)
Bromodichloromethane	(30 µg/mL)	Trichloroethene	(30 µg/mL)

Surrogate Standard Solutions

M-551.1-SS $ 10 / **1 x 1 mL**
M-551.1-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
10 µg/mL in Acetone
M-551.1-SS-100X $ 20 / **1 x 1 mL**
M-551.1-SS-100X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
1,000 µg/mL in Acetone

Decafluorobiphenyl

Method 552 Haloacetic Acids by ECD

Methyl Derivatives

M-552-R — $ 60 / **1 x 1 mL**
1.0 mg/mL each in MtBE — 8 comps.
M-552-R-SET — $ 120 / **set of 8 x 1 mL**
Each at 1.0 mg/mL in MtBE

	Cat. No.	Price 1 mL
2,4-Dichloroanisole	M-552-R-01	$ 30
Methyl bromoacetate	M-552-R-02	$ 30
Methy bromochloroacetate	M-552-R-03	$ 30
Methyl chloroacetate	M-552-R-04	$ 30
Methyl dibromoacetate	M-552-R-05	$ 30
Methyl dichloroacetate	M-552-R-06	$ 30
Methyl trichloroacetate	M-552-R-07	$ 30
2,4,6-Trichloroanisole	M-552-R-08	$ 30

Underivatized Analytes

M-552A-R — $ 60 / **1 x 1 mL**
1.0 mg/mL each in MtBE — 8 comps.
M-552A-R-SET — $ 90 / **set of 8 x 1 mL**
Each at 1.0 mg/mL in MtBE

	Cat. No.	Price 1 mL
Bromoacetic acid	M-552A-R-01	$ 15
Bromochloroacetic acid	M-552A-R-02	$ 25
Chloroacetic acid	M-552A-R-03	$ 15
Dibromoacetic acid	M-552A-R-04	$ 15
Dichloroacetic acid	M-552A-R-05	$ 15
2,4-Dichlorophenol	M-552A-R-06	$ 15
Trichloroacetic acid	M-552A-R-07	$ 15
2,4,6-Trichlorophenol	M-552A-R-08	$ 15

Internal Standards

APP-9-208-10X — $ 10 / **1 x 1 mL**
APP-9-208-10X-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in MeOH

1,2,3-Trichloropropane

M-552-IS — $ 15 / **1 x 1 mL**
M-552-IS-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
5.0 mg/mL in MeOH

1,2-Dibromopropane

Surrogate Standards as Acids & Methyl esters

P-242S-10X — $ 14 / **1 x 1 mL**
P-242S-10X-PAK — *SAVE 20%* $ 56 / **5 x 1 mL**
1.0 mg/mL in MeOH

3,5-Dichlorobenzoic acid

P-247S-10X — $ 14 / **1 x 1 mL**
P-247S-10X-PAK — *SAVE 20%* $ 56 / **5 x 1 mL**
1.0 mg/mL in MeOH

3,5-Dichlorobenzoic acid methyl ester

M-552-SS — $ 15 / **1 x 1 mL**
M-552-SS-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
20 mg/mL in MtBE

2,3-Dibromopropionic acid

M-552-SS-ME — $ 15 / **1 x 1 mL**
M-552-SS-ME-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
20 mg/mL in MtBE

2,3-Dibromopropionic acid methyl ester

Method 552.1 Haloacetic Acids by ECD

Methyl Derivatives

M-552.1 — $ 45 / **1 x 1 mL**
At stated conc. in MeOH — 7 comps.
M-552.1-SET — $ 105 / **set of 7 x 1 mL**
Each at stated conc. in MeOH

		Cat. No.	Price 1 mL
Dalapon ME	(200 µg/mL)	M-552.1-01	$ 25
Methyl bromoacetate	(200 µg/mL)	M-552.1-02	25
Methyl bromochloroacetate	(200 µg/mL)	M-552.1-03	25
Methyl chloroacetate	(300 µg/mL)	M-552.1-04	25
Methyl dibromoacetate	(100 µg/mL)	M-552.1-05	25
Methyl dichloroacetate	(300 µg/mL)	M-552.1-06	25
Methyl trichloroacetate	(100 µg/mL)	M-552.1-07	25

Underivatized Analytes

M-552.1A — $ 45 / **1 x 1 mL**
At stated conc. in MeOH — 7 comps.
M-552.1A-SET — $ 90 / **set of 7 x 1 mL**
Each at stated conc. in MeOH

Dalapon	(200 µg/mL)
Bromoacetic acid	(200 µg/mL)
Bromochloroacetic acid	(200 µg/mL)
Chloroacetic acid	(300 µg/mL)
Dibromoacetic acid	(100 µg/mL)
Dichloroacetic acid	(300 µg/mL)
Trichloroacetic acid	(100 µg/mL)

Internal Standard

M-552.1-IS — $ 10 / **1 x 1 mL**
M-552.1-IS-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in MtBE

1,2,3-Trichloropropane

Surrogate Standards

M-552.1-SS — $ 10 / **1 x 1 mL**
M-552.1-SS-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in MtBE

2-Bromopropanoic acid

M-552.1-SS-ME — $ 10 / **1 x 1 mL**
M-552.1-SS-ME-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in MtBE

Methyl 2-bromopropionate

Buy AccuPaks™
Save 20-40% 5 x 1 mL

Method 552.2 Haloacetic Acids & Dalapon in Drinking Water by L-L extraction, Derivatization & GC by ECD

These convenient sets of 10 individual ampules for Method 552.2, each containing a single analyte or its methyl derivative were formulated with both the acids & their methyl derivatives and with and without the surrogate.

Methyl Derivatives

Haloacetic Acid Methyl Derivatives without Surrogates

M-552.2-R1 — $ 60 / **1 x 1 mL**
At stated conc. in MtBE — 10 comps.
M-552.2-SET — $ 150 / **set of 10 x 1 mL**
M-552.3-R1 ***NEW*** — $ 75 / **1 x 1 mL**
100 µg/mL each in MtBE

		Cat. No.	Price 1 mL
Dalapon methyl ester	(40 µg/mL)	M-552.2-01	$ 20
Methyl bromoacetate	(40 µg/mL)	M-552.2-02	20
Methyl bromochloroacetate	(40 µg/mL)	M-552.2-03	20
Methyl bromodichloroacetate	(40 µg/mL)	M-552.2-04	20
Methyl chloroacetate	(60 µg/mL)	M-552.2-05	20
Methyl chlorodibromoacetate	(100 µg/mL)	M-552.2-06	20
Methyl dibromoacetate	(20 µg/mL)	M-552.2-07	20
Methyl dichloroacetate	(60 µg/mL)	M-552.2-08	20
Methyl tribromoacetate	(200 µg/mL)	M-552.2-09	20
Methyl trichloroacetate	(20 µg/mL)	M-552.2-10	20

Haloacetic Acid Methyl Derivatives with Surrogate (Methyl-2,3-dibromopropionate)

M-552.2 — $ 60 / **1 x 1 mL**
At stated conc. in MtBE — 11 comps.
M-552.3 ***NEW*** — $ 75 / **1 x 1 mL**
100 µg/mL each in MtBE — 11 comps.

Dalapon methyl ester	(40 µg/mL)
Methyl bromoacetate	(40 µg/mL)
Methyl bromochloroacetate	(40 µg/mL)
Methyl bromodichloroacetate	(40 µg/mL)
Methyl chloroacetate	(60 µg/mL)
Methyl chlorodibromoacetate	(100 µg/mL)
Methyl dibromoacetate	(20 µg/mL)
Methyl dichloroacetate	(60 µg/mL)
Methyl tribromoacetate	(200 µg/mL)
Methyl trichloroacetate	(20 µg/mL)
Methyl-2,3-dibromopropionate (Surr.)	(100 µg/mL)

Surrogate Standard - Haloacetic Acid Methyl Derivative

M-552.2-SS-ME — $ 10 / **1 x 1 mL**
1000 µg/mL in MtBE

Methyl 2,3-dibromopropionate

Laboratory Performance Check Solution

M-552.2-LPC — $ 20 / **1 x 1 mL**
M-552.2-LPC-PAK — ***SAVE 20%*** $ 80 / **5 x 1 mL**
At stated conc. in MtBE — 4 comps.

Methyl bromochloroacetate	(4 µg/mL)
Methyl chloroacetate	(6 µg/mL)
Methyl chlorodibromoacatate	(10 µg/mL)
Methyl-2,3-dibromopropionate	(10 µg/mL)

Working Level

M-552.2-LPC-WL-25ML — $ 30 / **1 x 25 mL**
M-552.2-LPC-WL-50ML — $ 50 / **1 x 50 mL**
At stated conc. in MtBE — 4 comps.

Methyl bromochloroacetate	(0.004 µg/mL)
Methyl chloroacetate	(0.006 µg/mL)
Methyl chlorodibromoacatate	(0.010 µg/mL)
Methyl-2,3-dibromopropionate	(0.010 µg/mL)

Haloacetic Acids

Haloacetic Acid without Surrogate

M-552.2A-R1 — $ 60 / **1 x 1 mL**
At stated conc. in MtBE — 10 comps.
M-552.2A-SET — $ 125 / **set of 10 x 1 mL**
M-552.3A-R1 ***NEW*** — $ 75 / **1 x 1 mL**
100 µg/mL each in MtBE

		Cat. No.	Price 1 mL
Dalapon acid	(40 µg/mL)	M-552.2-04	$ 15
Monobromoacetic acid	(40 µg/mL)	M-552.2-07	15
Bromochloroacetic acid	(40 µg/mL)	M-552.2-01	15
Bromodichloroacetic acid	(40 µg/mL)	M-552.2-02	20
Monochloroacetic acid	(60 µg/mL)	M-552.2-08	15
Chlorodibromoacetic acid	(100 µg/mL)	M-552.2-03	20
Dibromoacetic acid	(20 µg/mL)	M-552.2-05	15
Dichloroacetic acid	(60 µg/mL)	M-552.2-06	15
Tribromoacetic acid	(200 µg/mL)	M-552.2-09	15
Trichloroacetic acid	(20 µg/mL)	M-552.2-10	15

Haloacetic Acid Mix with Surrogate (2,3-Dibromopropionic acid)

M-552.2A — $ 65 / **1 x 1 mL**
At stated conc. in MtBE — 11 comps.

Dalapon acid	(40 µg/mL)
Monobromoacetic acid	(40 µg/mL)
Bromochloroacetic acid	(40 µg/mL)
Bromodichloroacetic acid	(40 µg/mL)
Monochloroacetic acid	(60 µg/mL)
Chlorodibromoacetic acid	(100 µg/mL)
Dibromoacetic acid	(20 µg/mL)
Dichloroacetic acid	(60 µg/mL)
Tribromoacetic acid	(200 µg/mL)
Trichloroacetic acid	(20 µg/mL)
2,3-Dibromopropionic acid (Surr.)	(100 µg/mL)

Surrogate Standards - Haloacetic Acid

M-552.2-SS — $ 10 / **1 x 1 mL**
1000 µg/mL in MtBE

2,3-Dibromopropionic acid

NEW

M-552.2-SS2 — $ 15 / **1 x 1 mL**
10 mg/mL in MtBE

2-Bromobutanoic acid

Internal Standard

M-552.2-IS — $ 10 / **1 x 1 mL**
1000 µg/mL in MtBE

1,2,3-Trichloropropane

Method 553 Benzidines & Nitrogen containing Pesticides by L-L or L-S Extraction & RP HPLC/Particle Beam/MS

Analytes

M-553 ‡ — $ 95 / **1 x 1 mL**
At stated conc. in AcCN:MeOH (1:1) — 13 comps.

Benzidine	(250 µg/mL)	3,3'-Dimethylbenzidine	(350 µg/mL)
Benzoylprop ethyl	(350 µg/mL)	Diuron	(450 µg/mL)
Caffeine	(300 µg/mL)	Linuron	(1,300 µg/mL)
Carbaryl	(1,000 µg/mL)	Monuron	(400 µg/mL)
o-Chlorophenyl thiourea	(750 µg/mL)	Rotenone	(3,200 µg/mL)
3,3'-Dichlorobenzidine	(250 µg/mL)	Siduron	(450 µg/mL)
3,3'-Dimethoxybenzidine	(750 µg/mL)		

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Performance Check Solution

M-553-PC — $ 15 / **1 x 1 mL**
0.1 mg/mL in AcCN

DFTPPO *(Decafluorotriphenylphosphine oxide)*

Method 554 Carbonyl Compounds as DNPH Derivatives by HPLC

Carbonyl Compounds

M-554-R1 — $ 65 / **1 x 1 mL**
1.0 mg/mL each in AcCN — 12 comps.

Acetaldehyde	Heptanal
Butanal	Hexanal
Crotonaldehyde	Nonanal
Cyclohexanone	Octanal
Decanal	Pentanal
Formaldehyde	Propanal

DNPH Derivatives

M-554-DNPH — $ 100 / **1 x 1 mL**
1.0 mg/mL each in MeOH:AcCN (19:1) — 12 comps.
M-554-DNPH-SET — $ 175 / **set of 12 x 1 mL**
Each at 1.0 mg/mL in MeOH:AcCN (19:1)

	Cat. No.	Price 1 mL
Acetaldehyde-DNPH ‡	M-554-DNPH-01	$ 20
Butanal-DNPH	M-554-DNPH-02	20
Crotonaldehyde-DNPH ‡	M-554-DNPH-03	20
Cyclohexanone-DNPH	M-554-DNPH-04	20
Decanal-DNPH	M-554-DNPH-05	20
Formaldehyde-DNPH	M-554-DNPH-06	20
Heptanal-DNPH	M-554-DNPH-07	20
Hexanal-DNPH	M-554-DNPH-08	20
Nonanal-DNPH	M-554-DNPH-09	20
Octanal-DNPH	M-554-DNPH-10	20
Pentanal-DNPH	M-554-DNPH-11	20
Propanal-DNPH	M-554-DNPH-12	20

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Method 555 Chlorinated Acids by HPLC

Mix A

M-555A — $ 55 / **1 x 1 mL**
1.0 mg/mL each in AcCN — 8 comps.

Acifluorfen	Dicamba
Bentazon	Dichlorprop
Chloramben	Picloram
2,4-D	2,4,5-TP

Mix B

M-555B — $ 55 / **1 x 1 mL**
1.0 mg/mL each in AcCN — 8 comps.

2,4-DB	MCPP
3,5-Dichlorobenzoic acid	4-Nitrophenol
Dinoseb	Pentachlorophenol
MCPA	2,4,5-T

Method 556/556.1 Carbonyl Compounds by PFBHA Derivative with analysis by GC/ECD

Mix A

M-556-MIXA — $ 85 / **1 x 1 mL**
1.0 mg/mL each in AcCN — 13 comps.

Acetaldehyde	Heptanal
Benzaldehyde	Hexanal
Butanal	Nonanal
Crotonaldehyde	Octanal
Cyclohexanone	Pentanal
Decanal	Propanal
Formaldehyde	

Mix B

M-556-MIXB — $ 40 / **1 x 1 mL**
1.0 mg/mL each in AcCN — 2 comps.

Glyoxal — Methyl glyoxal

Technical Note

Difference between Method 556 & 556.1
This product (M-556) was designed to meet both versions of the carbonyl methods. The primary difference between method 556 and 556.1 is that crotonaldehyde has been removed from the analyte list in the 556.1 method. If you require a formulation without the crotonaldehyde, we can custom formulate a standard to meet your exact requirements.

Procedural Calibration Standard
M-556 is to be used as a procedural standard for calibration of the method. As a procedural calibration standard it should be carried through the entire extraction and derivatization procedure associated with the samples. The oxime derivatives are analyzed by GC/ECD. Our Synthesis Department has the capability to manufacture the actual oxime derivatives. If your lab has an application for the actual derivatives, contact our technical department and we can provide a quotation to meet your requirements.

Internal Standard

M-556-IS — $ 30 / **1 x 1 mL**
M-556-IS-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
10 mg/mL in Hexane

1,2-Dibromopropane

Surrogate Standards

M-556-SS — $ 10 / **1 x 1 mL**
M-556-SS-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
20 µg/mL in AcCN
M-556-SS-100X — $ 20 / **1 x 1 mL**
M-556-SS-100X-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL in AcCN

2',4',5'-Trifluoroacetophenone

PFBHA Reagent

M-556-DER-10ML — $ 50 / **1 x 10 mL**
M-556-DER-10ML-PAK — *SAVE 20%* $ 200 / **5 x 10 mL**
15 mg/mL in Water

O-(2,3,4,5,6-Pentafluorobenzyl)hydroxylamine hydrochloride

Working Level (Internal Standard)

M-556-IS-WL-5ML-VAP — $ 50 / **10 x 5 mL**
400 µg/L in Hexane

1,2-Dibromopropane

Custom Services

Custom Synthesis

The AccuStandard Synthesis Department employs PhD Organic Chemists with many years of academic and industrial experience. This experienced team has developed hundreds of pure chemical compounds for companies and governmental agencies around the world. AccuStandard specializes in synthesizing chemicals of high purity to be used as reference standards, for milligram to kilogram batches. AccuStandard is the only company to synthesize all 209 individual PCB congeners as well as over 180 individual PBDE congeners.

Synthesis Experience

- PCBs (all 209 congeners), PBBs, PCB Metabolites
- Explosives - TNT, RDX, HMX, TATP, HND, HMTD
- PBDEs (over 180 congeners)
- PBDE Metabolites
- FBDEs
- Halo-Dibenzodioxins
- Halo-Dibenzofurans
- PAHs, Nitro-PAHs
- Substituted Diphenylethers
- Pesticides and Metabolites
- Forensics
- Wear Metals
- Pharmaceuticals and Other Rare Chemicals

Lab Resources

- Milligram to Kilogram Scale Glassware
- Equipment to work under N_2/Ar
- Liquid Solid Phase Chrom. (mg to 2 kg)
- Flash Chrom. (mg to 2 kg) including Horizon High Performance Flash Chrom. System
- Microwave Synthesis System
- Preparative TLC
- Buchi Rotary Evaporators
- Vacuum Drying Oven
- Parr Pressure Reactor (high pressure reaction, hydrogenation)
- Distillation Equipment - High Vacuum Distillation, Molecular Distillation (Kugelrohr), and Spinning Band Columns

Analytical Resources

- ^{1}H-NMR spectrometer - 400 MHZ
- GC/MS, GC/FID, GC/ECD, GC/NPD
- HPLC
- ICP
- ICP/MS
- Low Sulfur Analyzers (Antek, X-Ray Optical)
- LC/MS/MS
- Hg Analyzer

Custom Formulations

With over 40,000 custom and catalog standards, there is a good chance that AccuStandard will have a catalog item to meet your needs. However, if your laboratory requires something specific, our Chemists will manufacture a Custom Standard to meet your unique requirements. Custom Standards are an economical and time saving way to have a Standard prepared for your individual needs.

Custom QC options

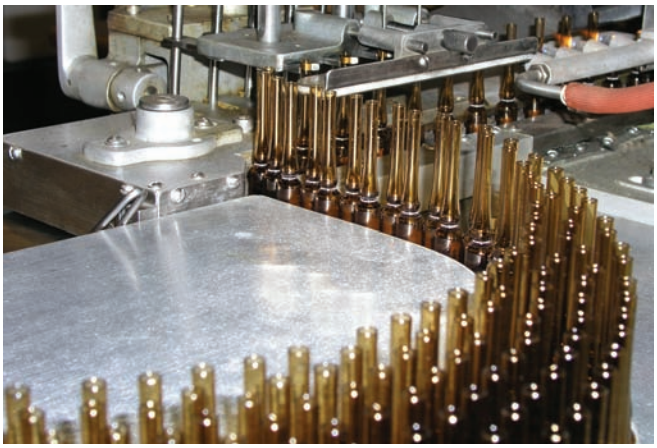
1. Gravimetric/Volumetric Certification: Each purity is measured gravimetrically and QC verified instrumentally (where available). Every component in the Standard is guaranteed to be within +/-0.5% of the requested value unless otherwise stated on the Certificate of Analysis. The solutions are diluted to volume using Class A glassware. A Certificate of Analysis accompanies each Standard and documents the gravimetric values used.
2. Full Quantitative Certification: This QA/QC method includes extended GC analysis using both internal calibration standards plus statistical analysis. A data package containing analytical and gravimetric data can be provided if requested during the quotation phase (Organic Customs only).

Custom Packaging & Bulk Quantity Requirements

AccuStandard has the resources and equipment to meet your custom packaging requirements.

- Automated ampule filling & sealing 0.2 mL up to 20 mL and ampule sizes from 1 mL to 20 mL
- Quantities from 500 to over 500,000 ampules
- Homogeneity testing
- Amber ampules for added product stability
- Private labeling and packaging (OEM)

We can reduce your costs using the Cozzoli Auto Filling/Sealing Machine to package just the right size product for your application. OEM Standards - Privately labeled standards manufactured and tested to your specifications. Cold and under-Nitrogen sealing available.



EPA Safe Drinking Water Act (SDWA) Amendment National Primary Drinking Water Standards

The **Safe Drinking Water Act (SDWA)** amendment of 1996 established a new charter for the Nation's public water systems. The Environmental Protection Agency sets standards for protecting the safety of drinking water. The regulatory section of this act eliminates the requirement for the EPA to regulate 25 additional contaminants every three years. Instead, every 5 years from enactment of the amendment, the EPA will determine whether or not to regulate at least 5 new contaminants from a list being published within 18 months of the enactment of the amendment. The following two pages of National Primary Drinking Water Standards are formulated to provide convenience and flexibility when analyzing regulated contaminants from the Drinking Water Priority list.

Volatiles

Phase I
VOCs

M-502C-07 — $ 35 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 12 comps.

- Benzene
- Bromodichloromethane
- Bromoform
- Carbon tetrachloride
- Chloroform
- Dibromochloromethane
- 1,4-Dichlorobenzene
- 1,2-Dichloroethane
- 1,1-Dichloroethylene
- 1,1,1-Trichloroethane
- Trichloroethylene
- Vinyl chloride

Phase II
VOCs

M-502C-08 — $ 35 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 12 comps.

- Chlorobenzene
- 1,2-Dichlorobenzene
- *cis*-1,2-Dichloroethylene
- *trans*-1,2-Dichloroethylene
- 1,2-Dichloropropane
- Ethylbenzene
- Styrene
- Tetrachloroethylene
- Toluene
- *o*-Xylene
- *m*-Xylene
- *p*-Xylene

Phase V
Additions

M-502C-10 — $ 25 / **1 x 1 mL**
2.0 mg/mL in MeOH — 3 comps.

- Dichloromethane
- 1,2,4-Trichlorobenzene
- 1,1,2-Trichloroethane

Phase VIB
Additions

M-502C-11 — $ 30 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 7 comps.

- Acrylonitrile
- Bromomethane
- *cis*-1,3-Dichloropropene *
- *trans*-1,3-Dichloropropene **
- Hexachlorobutadiene
- 1,1,1,2-Tetrachloroethane
- 1,2,3-Trichloropropane

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Technical Note

If you require formulations with additional analytes found on the contaminant list, please contact our Technical Department.

Combined Phase I, Phase II, Phase V
Volatiles

M-502-REG — $ 45 / **1 x 1 mL**
M-502-REG-PAK — *SAVE 20%* $ 180 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 27 comps.
M-502-REG-10X *NEW* — $ 60 / **1 x 1 mL**
M-502-REG-10X-PAK *NEW* — *SAVE 20%* $ 240 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 27 comps.

- Benzene
- Bromodichloromethane
- Bromoform
- Carbon tetrachloride
- Chlorobenzene
- Chloroform
- Dibromochloromethane
- 1,2-Dichlorobenzene
- 1,4-Dichlorobenzene
- 1,2-Dichloroethane
- 1,1-Dichloroethylene
- *cis*-1,2-Dichloroethylene
- *trans*-1,2-Dichloroethylene
- Dichloromethane
- 1,2-Dichloropropane
- Ethylbenzene
- Styrene
- Tetrachloroethylene
- Toluene
- 1,2,4-Trichlorobenzene
- 1,1,1-Trichloroethane
- 1,1,2-Trichloroethane
- Trichloroethylene
- Vinyl chloride
- *m*-Xylene
- *o*-Xylene
- *p*-Xylene

Method 504 EDB & DBCP

M-504 — $ 15 / **1 x 1 mL**
M-504-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 2 comps.

- 1,2-Dibromoethane *(EDB)*
- 1,2-Dibromo-3-chloropropane *(DBCP)*

Method Specific Individual Standards

Compounds	Method	Concentration	Cat. No.	Price
Diquat	549.1	100 µg/mL in MeOH	P-231S	$ 12
Endothal	548.1	100 µg/mL in MeOH	P-183S	22
Ethylene thiourea ††	509	0.1 mg/mL in 0.17 w/v DTT in Ethyl acetate	M-509	15
Glyphosate	547	100 µg/mL in H_2O	M-547	20
2,3,7,8-TCDD	525	500 µg/mL in Toluene	D-404S	50
Toxaphene	525	2.5 mg/mL in Acetone	M-525-5	20
Water Treatment Chemicals				
Acrylamide	8032	1.0 mg/mL in MeOH	M-8032	10
Epichlorohydrin	8260B	2000 µg/mL in MeOH	M-8260B-02	45

†† Proposed Phase VIB Additions, 0.1% w/v DDT as a scavenger

EPA Safe Drinking Water Act (SDWA) Amendment National Primary Drinking Water Standards (continued)

Regulated Herbicide Mixture (Non-derivatized)

M-515-REG — $ 30 / **1 x 1 mL**
At stated conc. in Acetone — 8 comps.

Acifluorfen ††	(100 µg/mL)	Dinoseb	(200 µg/mL)
2,4-D	(300 µg/mL)	Pentachlorophenol	(100 µg/mL)
Dalapon	(1000 µg/mL)	Picloram	(100 µg/mL)
Dicamba ††	(100 µg/mL)	2,4,5-TP	(100 µg/mL)

Regulated Herbicide Mixtures (Methyl Derivatives)

M-515-REG-ME — $ 35 / **1 x 1 mL**
At stated conc. MtBE — 8 comps.

Acifluorfen methyl ester ††	(250 ng/mL)	Dinoseb methyl ether	(500 ng/mL)
2,4-D methyl ester	(500 ng/mL)	Pentachloroanisole	(100 ng/mL)
Dalapon methyl ester	(2000 ng/mL)	Picloram methyl ester	(250 ng/mL)
Dicamba methyl ester ††	(500 ng/mL)	2,4,5-TP methyl ester	(500 ng/mL)

M-515-REG-ME-1000X — $ 55 / **1 x 1 mL**
At stated conc. MtBE — 8 comps.

Acifluorfen methyl ester ††	(250 µg/mL)	Dinoseb methyl ether	(500 µg/mL)
2,4-D methyl ester	(500 µg/mL)	Pentachloroanisole	(100 µg/mL)
Dalapon methyl ester	(2000 µg/mL)	Picloram methyl ester	(250 µg/mL)
Dicamba methyl ester ††	(500 µg/mL)	2,4,5-TP methyl ester	(500 µg/mL)

Regulated Semi-Volatiles Mixture

M-525-REG-EA — $ 125 / **1 x 1 mL**
0.1 mg/mL each in Ethyl Acetate — 25 comps.
M-525-REG-EA-5X — $ 150 / **1 x 1 mL**
0.5 mg/mL each in Ethyl Acetate — 25 comps.

Alachlor	Endrin
Aldrin †	Heptachlor
Atrazine	Heptachlor epoxide
Benzo[a]pyrene	Hexachlorobenzene
Butachlor †	Hexachlorocyclopentadiene
α-Chlordane	Lindane
γ-Chlordane	Methoxychlor
Cyanazine ††	Metolachlor ††
Dieldrin †	Metribuzin ††
2,4-Dinitrotoluene ††	*trans*-Nonachlor
2,6-Dinitrotoluene ††	Propachlor †
bis(2-Ethylhexyl)adipate	Simazine
bis(2-Ethylhexyl)phthalate	

† **Unregulated Additions**
†† **Proposed Phase VIB Additions**

Regulated Pesticide Mixture

M-531-REG — $ 55 / **1 x 1 mL**
0.1 mg/mL each in Acetonitrile — 8 comps.

Aldicarb	Carbofuran
Aldicarb sulfone	3-Hydrocarbofuran †
Aldicarb sulfoxide	Methomyl ††
Carbaryl †	Oxamyl

Proposed Phase VIA Additions

Disinfectant By-products

Bromoform ††
Chloroform ††
Dibromochloromethane ††
Dichlorobromomethane ††
} see Method 501 Total Trihalomethanes

Method 551, Chlorinated Solvents + Disinfectant By-products

Bromoacetic acid ††
Chloroacetic acid ††
Dibromoacetic acid ††
Dichloroacetic acid ††
Trichloroacetic acid ††
} Haloacetic acids see Method 552.2

Regulated Pesticide Mixture

M-508.1-ASL — $ 60 / **1 x 1 mL**
M-508.1-ASL-PAK — Alternate Source — *SAVE 20%* $ 240 / **5 x 1 mL**
100 µg/mL each in MtBE — 17 comps.

Alachlor	Heptachlor epoxide (Isomer B)
Aldrin	Hexachlorobenzene
Atrazine	Hexachlorocyclopentadiene
γ-BHC	Methoxychlor
α-Chlordane	Metolachlor
γ-Chlordane	Metribuzin
Dieldrin	Propachlor
Endrin	Simazine
Heptachlor	

Regulated Semi-Volatiles Mixture

M-525-REG-ASL — $ 35 / **1 x 1 mL**
M-525-REG-ASL-PAK — Alternate Source — *SAVE 20%* $ 140 / **5 x 1 mL**
0.5 mg/mL each in Acetone — 6 comps.

Benzo[a]pyrene	Hexachlorobenzene
bis(2-Ethylhexyl)adipate	Hexachlorocyclopentadiene
bis(2-Ethylhexyl)phthalate	Pentachlorophenol (2.0 mg/mL)

Carbamate Pesticide Mixture

M-531-REG-ASL — $ 25 / **1 x 1 mL**
M-531-REG-ASL-PAK — Alternate Source — *SAVE 20%* $ 100 / **5 x 1 mL**
100 µg/mL each in MeOH — 2 comps.

Carbofuran	Oxamyl

Alternate Source

Validates Analytical Results, while Saving Time and Money
The Alternate Source Line (ASL) is AccuStandard products that exactly matches another vendor's products. These ASL products can be used as independant standards for your primary supplier.

For additional Cross Referencing, visit our Website

Water Protocol EPA Consent Decree

Purgeable A

M-001A $ 20 / **1 x 1 mL**
0.2 mg/mL each in MeOH 11 comps.

Carbon tetrachloride
Chlorobenzene
Chloroform
Dibromochloromethane
1,1-Dichloroethane
1,1-Dichloroethylene
1,2-Dichloropropane
Methylene chloride
Tetrachloroethylene
1,1,2-Trichloroethane
Trichloroethylene

Purgeable B

M-001B-R $ 20 / **1 x 1 mL**
0.2 mg/mL each in MeOH 13 comps.

Benzene
Bromodichloromethane
Bromoform
2-Chloroethyl vinyl ether
1,2-Dichloroethane
trans-1,2-Dichloroethylene
cis-1,3-Dichloropropene *
trans-1,3-Dichloropropene **
Ethylbenzene
1,1,2,2-Tetrachloroethane
Toluene
1,1,1-Trichloroethane
Trichlorofluoromethane

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Purgeable C (Gases)

M-001C $ 25 / **1 x 1 mL**
0.2 mg/mL each in MeOH 5 comps.

Bromomethane
Chloroethane
Chloromethane
Dichlorodifluoromethane
Vinyl chloride

Base/Neutral 1

M-001D $ 30 / **1 x 1 mL**
At stated conc. in MeOH
M-001D-D $ 30 / **1 x 1 mL**
At stated conc. in CH_2Cl_2 12 comps.

Acenaphthylene	(0.2 mg/mL)
Benzo[b]fluoranthene	(0.1 mg/mL)
4-Bromophenyl phenyl ether	(0.2 mg/mL)
bis(2-Chloroethyl)ether	(0.2 mg/mL)
bis(2-Chloro-1-methylethyl)ether	(0.2 mg/mL)
1,4-Dichlorobenzene	(0.2 mg/mL)
3,3-Dichlorobenzidine	(0.2 mg/mL)
Dimethyl phthalate	(0.2 mg/mL)
Di-n-butyl phthalate	(0.2 mg/mL)
2,6-Dinitrotoluene	(0.2 mg/mL)
bis(2-Ethylhexyl)phthalate	(0.2 mg/mL)
Nitrobenzene	(0.2 mg/mL)

Base/Neutral 2

M-001E $ 30 / **1 x 1 mL**
At stated conc. in MeOH
M-001E-D $ 30 / **1 x 1 mL**
At stated conc. in CH_2Cl_2 15 comps.

Acenaphthene	(0.2 mg/mL)
Anthracene	(0.2 mg/mL)
Benz[a]anthracene	(0.1 mg/mL)
Chrysene	(0.1 mg/mL)
Dibenz[a,h]anthracene	(0.1 mg/mL)
1,2-Dichlorobenzene	(0.2 mg/mL)
1,3-Dichlorobenzene	(0.2 mg/mL)
Diethyl phthalate	(0.2 mg/mL)
2,4-Dinitrotoluene	(0.2 mg/mL)
Fluorene	(0.2 mg/mL)
Hexachlorobenzene	(0.2 mg/mL)
Hexachlorobutadiene	(0.2 mg/mL)
Naphthalene	(0.2 mg/mL)
bis(2-Chloroethoxy)methane	(0.2 mg/mL)
Pyrene	(0.1 mg/mL)

Base/Neutral 3

M-001F $ 30 / **1 x 1 mL**
At stated conc. in MeOH
M-001F-D $ 30 / **1 x 1 mL**
At stated conc. in CH_2Cl_2 11 comps.

Butyl benzyl phthalate	(0.2 mg/mL)
2-Chloronaphthalene	(0.2 mg/mL)
1,2-Diphenylhydrazine	(0.2 mg/mL)
Fluoranthene	(0.1 mg/mL)
Hexachlorocyclopentadiene	(0.2 mg/mL)
Hexachloroethane	(0.2 mg/mL)
Isophorone	(0.2 mg/mL)
N-Nitroso-*di*-*n*-propylamine	(0.2 mg/mL)
N-Nitrosodiphenylamine	(0.2 mg/mL)
Phenanthrene	(0.2 mg/mL)
1,2,4-Trichlorobenzene	(0.2 mg/mL)

Base/Neutral 4

M-001G $ 30 / **1 x 1 mL**
At stated conc. in MeOH:CH_2Cl_2(1:1)
M-001G-D $ 30 / **1 x 1 mL**
At stated conc. in CH_2Cl_2 9 comps.

Benzidine	(0.2 mg/mL)
Benzo[k]fluoranthene	(0.1 mg/mL)
Benzo[g,h,i]perylene	(0.1 mg/mL)
Benzo[a]pyrene	(0.1 mg/mL)
2-Chloroethyl vinyl ether	(0.2 mg/mL)
4-Chlorophenylphenyl ether	(0.2 mg/mL)
Di-*n*-octyl phthalate	(0.2 mg/mL)
Indeno[1,2,3-cd]pyrene	(0.1 mg/mL)
N-Nitrosodimethylamine	(0.2 mg/mL)

Pesticide Mixture

M-001H $ 40 / **1 x 1 mL**
At stated conc. in MeOH 16 comps.

Aldrin	(0.1 mg/mL)
α-BHC	(0.1 mg/mL)
β-BHC	(0.1 mg/mL)
γ-BHC	(0.1 mg/mL)
δ-BHC	(0.1 mg/mL)
p,p'-DDT	(0.6 mg/mL)
p,p'-DDE	(0.2 mg/mL)
p,p'-DDD	(0.6 mg/mL)
Dieldrin	(0.2 mg/mL)
Endosulfan I	(0.2 mg/mL)
Endosulfan II	(0.2 mg/mL)
Endosulfan sulfate	(0.6 mg/mL)
Endrin	(0.2 mg/mL)
Endrin aldehyde	(0.6 mg/mL)
Heptachlor	(0.1 mg/mL)
Heptachlor epoxide	(0.1 mg/mL)

Phenol Mixture

M-001P $ 25 / **1 x 1 mL**
At stated conc. in MeOH
M-001P-D $ 25 / **1 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 11 comps.

4-Chloro-3-methylphenol	(2.5 mg/mL)
2-Chlorophenol	(0.5 mg/mL)
2,4-Dichlorophenol	(0.5 mg/mL)
2,4-Dimethylphenol	(0.5 mg/mL)
2,4-Dinitrophenol	(1.5 mg/mL)
2-Nitrophenol	(0.5 mg/mL)
4-Nitrophenol	(2.5 mg/mL)
2-Methyl-4,6-dinitrophenol	(2.5 mg/mL)
Pentachlorophenol	(2.5 mg/mL)
Phenol	(0.5 mg/mL)
2,4,6-Trichlorophenol	(1.5 mg/mL)

Polychlorinated Biphenyls

Each Aroclor® is a mixture of numerous comps., and considerable overlap in composition occurs between Aroclors.
Both at 0.2 mg/mL each in MeOH

Aroclor Mix 1

M-001K $ 15 / **1 x 1 mL**

Aroclor 1016
Aroclor 1232
Aroclor 1248
Aroclor 1260

Aroclor Mix 2

M-001L $ 15 / **1 x 1 mL**

Aroclor 1221
Aroclor 1242
Aroclor 1254

Chlordane & Toxaphene

M-001J $ 15 / **1 x 1 mL**
At stated conc. in MeOH 2 comps.

Chlordane	(0.02 mg/mL)
Toxaphene	(0.20 mg/mL)

Acrolein & Acrylonitrile

M-603 $ 14 / **1 x 1 mL**
1.0 mg/mL each in H_2O 2 comps.

Internal Standard - Anthracene-d_{10}

M-001N $ 20 / **1 x 1 mL**
2.0 mg/mL in CH_2Cl_2

Used as a GC/MS internal standard in the analysis of the base/neutral extractables.

M-001R $ 15 / **1 x 1 mL**
20 mg/mL each in MeOH 3 comps.

Bromochloromethane
1,4-Dichlorobutane
2-Bromo-1-chloropropane

Recommended for use as internal standards for purgeables.

Complete Water Standard Kit

Z-009-R-SET $ 225 / **15 x 1 mL**
(M-001A,M-001B-2,M-001C,M-001D,M-001E,M-001F,M-001G,M-001H, M-001P,M-001K,M-001L,M-001J,M-603A,M-001N,M-001R)

Purgeable A	**Base/Neutral 1**	**Pesticide Mixture**	**Aroclor Mix 2**
Purgeable B	**Base/Neutral 2**	**Phenol Mixture**	**Acrolein-Acrylonitrile**
Purgeable C (Gases)	**Base/Neutral 3**	**Chlordane & Toxaphene**	**Anthracene-d_{10}**
	Base/Neutral 4	**Aroclor Mix 1**	**Internal Standard**

Standard Mixtures for EPA 600 Series

For Waste Water

Background Information

The EPA Methods for evaluating municipal and industrial wastewater pollutants are designated in the EPA 600 Series. This Series of methods evolved from the 1976 agreement by the EPA to study and, if necessary, to regulate **65 "priority pollutants"**. Several laboratories within the EPA collaborated on research projects that led to the 600 Series Methods.

Methods 601-612 were first published in 1979, along with a GC/MS method for the measurement of TCDD. AccuStandard followed the expansion of the 600 series methods by formulating analytical standards for additional 600 series methods listed in the EPA book "Methods for the Determination of Nonconventional Pesticides in Municipal and Industrial Wastewater."

The 600 Series product line contains standards used in the proposed and promulgated methods for the identification and quantification of organic compounds in municipal and industrial waste water. The organic compounds listed in the various methods include volatile organic compounds (VOCs), pesticides and synthetic organic compounds (SOCs).

Detectors

Analytical techniques used in the identification and quantification of the above compounds include gas chromatography with selective detectors (PID, ELCD, ECD, FID, NPD, FPD), gas chromatography/mass spectrometry (GC/MS) and high performance liquid chromatography (HPLC). The 600 series methods typically utilize packed columns, but chromatographic conditions can be modified (i.e. incorporation of advances in technology like capillary columns) if the modifications do not decrease the accuracy or lessen the precision of the method.

Comprehensive

Complete analysis of the target compounds by these 600 Series Methods can be accomplished using the series of standards formulated by AccuStandard for each method along with the suggested internal and surrogate standards. Formulations have been developed as easy to use large core mixes containing the target compounds and as high concentration sub-mixes for combination with other formulations to meet laboratory specific analyte detection requirements.

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Method 601 Purgeable Halocarbons by Purge & Trap - GC/MS

Liquids

M-601A — $ 35 / **1 x 1 mL**
M-601A-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-601A-10X — $ 35 / **1 x 1 mL**
M-601A-10X-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
20 mg/mL each in MeOH — 18 comps.

Carbon tetrachloride
Chlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropylene *
trans-1,3-Dichloropropylene **
Methylene chloride
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Gases

M-502B — $ 25 / **1 x 1 mL**
M-502B-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-502B-10X — $ 25 / **1 x 1 mL**
M-502B-10X-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 6 comps.

Bromomethane
Chloromethane
Chloroethane
Dichlorodifluoromethane
Trichlorofluoromethane
Vinyl chloride

Liquid Component

M-601C — $ 10 / **1 x 1 mL**
M-601C-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-601C-10X — $ 10 / **1 x 1 mL**
M-601C-10X-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
2.0 mg/mL each in MeOH

2-Chloroethylvinyl ether

Trihalomethanes

M-501 — $ 17 / **1 x 1 mL**
M-501-PAK — *SAVE 20%* $ 68 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-501-10X — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 4 comps.

Bromoform
Chloroform
Dichlorobromomethane
Dibromochloromethane

Purgeable Halocarbon Sets

M-601-SET — $ 50 / **4 x 1 mL**
0.2 mg/mL each in MeOH — **(M-601A, M-502B, M-601C, M-501)**
M-601-10X-SET — $ 75 / **4 x 1 mL**
2.0 mg/mL each in MeOH
(M-601A-10X,M-502B-10X,M-601C-10X,M-501-10X)

Purgeable Internal Standards

M-001R — $ 15 / **1 x 1 mL**
M-001R-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
20 mg/ml each in MeOH — 3 comps.

Bromochloromethane
1,4-Dichlorobutane
2-Bromo-1-chloropropane

Purgeable Halocarbon Mix

Alternate Source

M-601-ASL — $ 40 / **1 x 1 mL**
M-601-ASL-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
100 µg/mL each in MeOH — 28 comps.

Bromodichloromethane
Bromoform
Bromomethane
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
Dibromochloromethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Dichloromethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
Vinyl chloride

Performance Check Solution

Alternate Source

S-532-ASL — $ 25 / **1 x 1 mL**
S-532-ASL-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 8 comps.

Benzene
Carbon tetrachloride
1,4-Dichlorobenzene
1,2-Dichloroethane
1,1-Dichloroethene
1,1,1-Trichloroethane
Trichloroethene
Vinyl chloride

Technical Note

2 alternate approaches to perform Method 601 analysis:

Option 1 Use of the 4 ampule set (M-601) allows you to differentiate the more volatile analytes (M-502B) or less stable analytes (M-601C) and the THMs from the stable Method 601 liquids, which can then be ordered less frequently to optimize economy.

Option 2 The M-601-ASL formulation will serve as a convenient single injection standard for all analytes other than 2-Chloroethylvinyl ether. It can also be used as a Second Source or QC Standard.

Buy AccuPaks™
Save 20-40% 5 x 1 mL

Method 601/602 Purgeable Halocarbons by GC/MS

Purgeable Halocarbons & Aromatics

M-601/602 $ 45 / **1 x 1 mL**
M-601/602-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
0.2 mg/mL each in MeOH 25 comps.

Benzene
Bromoform
Carbon tetrachloride
Chlorobenzene
Chloroform
Dibromochloromethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorobromomethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropylene *
trans-1,3-Dichloropropylene **
Ethylbenzene
Methylene chloride
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Gases

M-601B $ 25 / **1 x 1 mL**
M-601B-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH 6 comps.

Bromomethane
Chloromethane
Chloroethane
Dichlorodifluoromethane
Trichlorofluoromethane
Vinyl chloride

Liquids

M-601C $ 10 / **1 x 1 mL**
M-601C-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
0.2 mg/mL in MeOH

2-Chloroethylvinyl ether

Purgeable Aromatics

M-602 $ 20 / **1 x 1 mL**
M-602-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.2 mg/mL each in MeOH 7 comps.

Benzene
Chlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Ethylbenzene
Toluene

Purgeable Aromatics - Gasoline ID

M-602-GAS $ 30 / **1 x 1 mL**
M-602-GAS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-602-GAS-10X $ 30 / **1 x 1 mL**
M-602-GAS-10X-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH 11 comps.

Benzene
Chlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Ethylbenzene
Toluene
o-Xylene
p-Xylene
m-Xylene
MtBE

Surrogate Standard

M-602-SS $ 20 / **1 x 1 mL**
M-602-SS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.2 mg/mL in MeOH
M-602-SS-100X *NEW* $ 20 / **1 x 1 mL**
20 mg/mL in MeOH

α,α,α-Trifluorotoluene

Combined 601/602 Purgeable Halocarbon & Aromatic Gasoline ID Mixture with MtBE

M-601-CHG $ 55 / **1 x 1 mL**
M-601-CHG-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
100 µg/mL each in MeOH 35 comps.

Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
Dibromochloromethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
cis-1,3-Dichloropropene *
trans-1,3-Dichloropropene **
Dichloromethane
Ethylbenzene
MtBE
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
m-Xylene
o-Xylene
p-Xylene
Vinyl chloride

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Technical Note

AccuStandard designed two sets of formulations for those laboratories analyzing Method 601/602 analytes by PID/HALL in series allowing for simultaneous screening of gasoline contamination:

M-601/602 The first set of formulations provide the analytical chemist with the method analytes in a core mix of liquids and a separate mix of the more volatile gases. By providing the six gases in a separate solution the chemist can replace the volatile gases on a more frequent basis.

M-601-CHG The second formulation has the Method 601/602 analytes plus the oxygenate MtBE in one convenient solution. Since the oxygenate MtBE is added to gasoline, its presence on a chromatogram can provide early detection of gasoline contamination at the monitoring well.

Target Analytes

M-601/602/BTEX $ 50 / **1 x 1 mL**
0.2 mg/mL each in MeOH
M-601/602/BTEX-10X $ 60 / **1 x 1 mL**
2.0 mg/mL each in MeOH 26 comps.

Benzene
Carbon tetrachloride
Chlorobenzene
Ethylbenzene
Methyl-t-butyl ether
Methylene chloride
Tetrachloroethene
Toluene
Trichloroethene
cis-1,3-Dichloropropene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
o-Xylene
m-Xylene
p-Xylene
1,3-Dichlorobenzene
1,4-Dichlorobenzene

Gasoline Oxygenate - MtBE

S-078 $ 10 / **1 x 1 mL**
200 µg/mL in MeOH
S-078-10X $ 12 / **1 x 1 mL**
2.0 mg/mL in MeOH

Methyl t-butyl ether (*MtBE*)

Method 603 Acrolein & Acrylonitrile by GC/FID

M-603 $ 14 / **1 x 1 mL**
M-603-PAK *SAVE 20%* $ 56 / **5 x 1 mL**
1.0 mg/mL each in Water 2 comps.
M-603-M-5X $ 30 / **1 x 1 mL**
5.0 mg/mL each in MeOH:Water 90:10 2 comps.

Acrolein
Acrylonitrile

Method 604 Phenols by GC/FID

M-604 $ 25 / **1 x 1 mL**
M-604-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
0.5 mg/mL each in MeOH 11 comps.

4-Chloro-3-methylphenol
2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2-Methyl-4,6-dinitrophenol
2-Nitrophenol
4-Nitrophenol
Pentachlorophenol
Phenol
2,4,6-Trichlorophenol

Surrogate Standard

M-604-SS $ 20 / **1 x 1 mL**
M-604-SS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.2 mg/mL each in MeOH

2,4,6-Tribromophenol

Phenol as Pentafluorobenzyl Derivatives by GC/ECD

M-604-PFB $ 65 / **1 x 1 mL**
M-604-PFB-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
0.2 mg/mL each in MeOH 11 comps.

4-Chloro-3-methylphenol
2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2-Methyl-4,6-dinitrophenol
2-Nitrophenol
4-Nitrophenol
Pentachlorophenol
Phenol
2,4,6-Trichlorophenol

Surrogate Standard

M-604-SS-PFB $ 20 / **1 x 1 mL**
M-604-SS-PFB-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.2 mg/mL each in MeOH

2,4,6-Tribromophenol-PFB

Method 605 Benzidines by HPLC

M-605-10X $ 25 / **1 x 1 mL**
M-605-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
1.0 mg/mL each in MeOH 2 comps.

Benzidine
3,3'-Dichlorobenzidine

Method 606 Phthalate Esters by GC/ECD

M-606 $ 20 / **1 x 1 mL**
M-606-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.2 mg/mL each in MeOH 6 comps.

Benzyl butyl phthalate
Dimethyl phthalate
Diethyl phthalate
Di-*n*-butyl phthalate
Di-*n*-octyl phthalate
bis(2-Ethylhexyl)phthalate

Method 607 Nitrosamines by GC/NPD

M-607 $ 18 / **1 x 1 mL**
M-607-PAK *SAVE 20%* $ 72 / **5 x 1 mL**
At stated conc. in MeOH 3 comps.

N-Nitrosodimethylamine (0.2 mg/mL)
N-Nitrosodiphenylamine (0.4 mg/mL)
N-Nitrosodi-*n*-propylamine (0.2 mg/mL)

Method 608 Pesticides and PCBs by GC/ECD

Pesticides and PCBs Set

M-608-SET $ 60 / **4 x 1 mL**
(M-001H, M-001J, M-001K, M-001L)

M-001H $ 40 / **1 x 1 mL**
At stated conc. in MeOH 16 comps.

Aldrin	(0.1 mg/mL)	Dieldrin	(0.2 mg/mL)
α-BHC	(0.1 mg/mL)	Endosulfan I	(0.2 mg/mL)
β-BHC	(0.1 mg/mL)	Endosulfan II	(0.2 mg/mL)
δ-BHC	(0.1 mg/mL)	Endosulfan sulfate	(0.6 mg/mL)
γ-BHC	(0.1 mg/mL)	Endrin	(0.2 mg/mL)
4,4'-DDD	(0.6 mg/mL)	Endrin aldehyde	(0.6 mg/mL)
4,4'-DDE	(0.2 mg/mL)	Heptachlor	(0.1 mg/mL)
4,4'-DDT	(0.6 mg/mL)	Heptachlor epoxide	(0.1 mg/mL)

M-001J $ 15 / **1 x 1 mL**
At stated conc. in MeOH 2 comps.

Chlordane (0.02 mg/mL)
Toxaphene (0.20 mg/mL)

M-001K $ 15 / **1 x 1 mL**
0.2 mg/mL each in MeOH 4 comps.

Aroclor 1016
Aroclor 1232
Aroclor 1248
Aroclor 1260

M-001L $ 15 / **1 x 1 mL**
0.2 mg/mL each in MeOH 3 comps.

Aroclor 1221
Aroclor 1242
Aroclor 1254

Performance Check Solution

M-608-QC $ 50 / **1 x 1 mL**
M-608-QC-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
At stated conc. in MeOH 17 comps.

Aldrin	(0.02 mg/mL)	Endosulfan I	(0.02 mg/mL)
α-BHC	(0.02 mg/mL)	Endosulfan II	(0.10 mg/mL)
β-BHC	(0.02 mg/mL)	Endosulfan sulfate	(0.10 mg/mL)
δ-BHC	(0.02 mg/mL)	Endrin	(0.10 mg/mL)
γ-BHC	(0.02 mg/mL)	Endrin aldehyde	(0.02 mg/mL)
4,4'-DDD	(0.10 mg/mL)	Heptachlor	(0.02 mg/mL)
4,4'-DDE	(0.02 mg/mL)	Heptachlor epoxide	(0.02 mg/mL)
4,4'-DDT	(0.10 mg/mL)	Methoxychlor	(0.02 mg/mL)
Dieldrin	(0.02 mg/mL)		

Pesticides

Alternate Source

M-608-ASL $ 50 / **1 x 1 mL**
M-608-ASL-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
20 µg/mL each in MeOH 16 comps.

Aldrin	γ-BHC	Dieldrin	Endrin
α-BHC	p,p'-DDD	Endosulfan I	Endrin aldehyde
β-BHC	p,p'-DDE	Endosulfan II	Heptachlor
δ-BHC	p,p'-DDT	Endosulfan sulfate	Heptachlor epoxide (Isomer B)

Technical Mix Analytes - Aroclors (Polychlorinated Biphenyls)

Each at 1,000 µg/mL in Hexane

AccuPAK™ *(5 x 1 mL)*
SAVE 20%

Aroclors #	Cat. No.	1 mL	Cat. No.	PAK
Aroclor 1016	C-216S-H-10X	$ 20	C-216S-H-10X-PAK	$ 80
Aroclor 1221	C-221S-H-10X	20	C-221S-H-10X-PAK	80
Aroclor 1232	C-232S-H-10X	20	C-232S-H-10X-PAK	80
Aroclor 1242	C-242S-H-10X	20	C-242S-H-10X-PAK	80
Aroclor 1248	C-248S-H-10X	20	C-248S-H-10X-PAK	80
Aroclor 1254	C-254S-H-10X	20	C-254S-H-10X-PAK	80
Aroclor 1260	C-260S-H-10X	20	C-260S-H-10X-PAK	80
Aroclor 1262	C-262S-H-10X	20	C-262S-H-10X-PAK	80
Aroclor 1268	C-268S-H-10X	20	C-268S-H-10X-PAK	80

Method 608.1 & 608.2 Organochlorine Pesticides in Municipal & Industrial Wastewater by GC/ECD

M-608.1 $ 35 / **1 x 1 mL**
M-608.1-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
100 µg/mL each in Isooctane 7 comps.

Chlorobenzilate
Chloroneb
Chloropropylate
Dibromochloropropane
Etridiazole
PCNB
Propachlor

M-608.2 $ 35 / **1 x 1 mL**
M-608.2-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
100 µg/mL each in Isooctane 6 comps.

Chlorothalonil
DCPA
Dichloram
Methoxychlor
cis-Permethrin *
trans-Permethrin *

*** Actual concentrations stated on Certificate of Product Data**

Method 609 Nitroaromatics & Isophorone by GC/ECD/FID

M-609R-SET $ 20 / **2 x 1 mL**
(M-609A-R, M-609B-R)

M-609A-R $ 15 / **1 x 1 mL**
1.0 mg/mL each in Hexane 2 comps.

Isophorone
Nitrobenzene

M-609B-R $ 15 / **1 x 1 mL**
1.0 mg/mL each in Hexane 2 comps.

2,4-Dinitrotoluene
2,6-Dinitrotoluene

Performance Check Solution

M-609-QC $ 20 / **1 x 1 mL**
At stated conc. in Acetone 4 comps.

Isophorone	(100 µg/mL)	2,4-Dinitrotoluene	(20 µg/mL)
Nitrobenzene	(100 µg/mL)	2,6-Dinitrotoluene	(20 µg/mL)

Method 611 Haloethers by GC/ECD or ECLD

M-611 $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH 5 comps.

bis(2-Chloroethyl)ether
bis(2-Chloroethoxy)methane
bis(2-Chloro-1-methylethyl)ether
4-Bromophenyl phenyl ether
4-Chlorophenyl phenyl ether

Method 612 Chlorinated Hydrocarbons by GC/ECD

M-612 $ 25 / **1 x 1 mL**
At stated conc. in Isooctane 9 comps.

2-Chloronaphthalene	(400 µg/mL)	Hexachlorobutadiene	(1 µg/mL)
1,2-Dichlorobenzene	(200 µg/mL)	Hexachloroethane	(1 µg/mL)
1,3-Dichlorobenzene	(200 µg/mL)	Hexachlorocyclopentadiene	(1 µg/mL)
1,4-Dichlorobenzene	(400 µg/mL)	1,2,4-Trichlorobenzene	(40 µg/mL)
Hexachlorobenzene	(1 µg/mL)		

Method 613 2,3,7,8-TCDD by GC/MS

M-613 $ 40 / **1 x 1 mL**
M-613-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
10 µg/mL in Toluene

2,3,7,8-Tetrachlorodibenzo-*p*-dioxin

Method 614 & 614.1 Organophosphorus Pesticides by GC/NPD

M-614 $ 30 / **1 x 1 mL**
1,000 µg/mL each in Acetone:Hexane (1:1) 8 comps.

Azinphos methyl
Demeton (mix of O & S isomers)
Diazinon
Disulfoton
Ethion
Malathion
Parathion
Parathion methyl

M-614.1 $ 30 / **1 x 1 mL**
1,000 µg/mL each in Acetone:Hexane (1:1) 4 comps.

Dioxathion
EPN
Ethion
Terbufos

M-614.1-ASL Alternate Source $ 46 / **1 x 1 mL**
At stated conc. in Hexane 4 comps.

Dioxathion (10 µg/mL)
EPN (200 µg/mL)
Ethion (100 µg/mL)
Terbufos (4 µg/mL)

Method 610 PAHs by GC/FID or HPLC

M-610 $ 30 / **1 x 1 mL**
At stated conc. in MeOH:CH_2Cl_2 (1:1) 16 comps.
M-610A $ 35 / **1 x 1 mL**
At stated conc. in MeOH:CH_2Cl_2 (1:1) 16 comps.
M-610-QC $ 35 / **1 x 1 mL**
At stated conc in AcCN 16 comps.

Compound	M-610 (mg/mL)	M-610A (mg/mL)	M-610-QC (mg/mL)
Acenaphthene	0.1	1.0	0.1
Acenaphthylene	0.1	2.0	0.1
Anthracene	0.1	0.1	0.1
Benzo[a]anthracene	0.1	0.1	0.01
Benzo[a]pyrene	0.1	0.1	0.01
Benzo[b]fluoranthene	0.1	0.2	0.01
Benzo[g,h,i]perylene	0.1	0.2	0.01
Benzo[k]fluoranthene	0.1	0.1	0.005
Chrysene	0.1	0.1	0.01
Dibenz[a,h]anthracene	0.1	0.2	0.01
Fluoranthene	0.1	0.2	0.01
Fluorene	0.1	0.2	0.1
Indeno[1,2,3-cd]pyrene	0.1	0.1	0.01
Naphthalene	0.1	1.0	0.1
Phenanthrene	0.1	0.1	0.1
Pyrene	0.1	0.1	0.01

Matrix Spiking Solution

M-610-MS $ 30 / **1 x 1 mL**
M-610-MS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. in AcCN 6 comps.

Benz[a]pyrene	(0.5 mg/mL)	2-Methylnaphthalene	(5.0 mg/mL)
Chrysene	(0.5 mg/mL)	Phenanthrene	(0.5 mg/mL)
1-Methylnaphthalene	(5.0 mg/mL)	Pyrene	(0.5 mg/mL)

For additional formulations also see Method 8310

Method 615 Chlorinated Herbicides

Chlorinated Herbicides

Each at 0.2 mg/mL *

Compound	Herbicide Acids In MeOH Cat. No.	Methyl Derivatives In Hexane Cat. No.	1 mL Price
2,4-D	M-8150S-A-01	M-8150-01	$ 15
2,4-DB	M-8150S-A-02	M-8150-02	15
2,4,5-T	M-8150S-A-03	M-8150-03	15
2,4,5-TP	M-8150S-A-04	M-8150-04	15
Dalapon	M-8150S-A-05	M-8150-05	15
Dicamba	M-8150S-A-06	M-8150-06	15
Dichlorprop	M-8150S-A-07	M-8150-07	15
Dinoseb	M-8150S-A-08	M-8150-08	15
MCPA (2.0 mg/mL) *	M-8150S-A-09	M-8150-09	15
MCPP (2.0 mg/mL) *	M-8150S-A-10	M-8150-10	15
Set of 10 x 1 mL	**M-8150A-SET**	**M-8150-SET**	$ 125

Each Solution at 0.2 mg/mL, except MCPA & MCPP — Above analytes

Underivatized

M-8150A — $ 40 / **1 x 1 mL**
0.1 mg/mL in MEOH, except MCPA and MCPP — 10 comps.

2,4-D
Dalapon
2,4-DB
Dicamba
Dichlorprop
Dinoseb
MCPA (10 mg/mL)
MCPP (10 mg/mL)
2,4,5-TP
2,4,5-T

Methyl Derivatives

M-8150 — $ 45 / **1 x 1 mL**
0.1 mg/mL in MEOH, except MCPA and MCPP — 10 comps.

2,4-D
Dalapon
2,4-DB
Dicamba
Dichlorprop
Dinoseb
MCPA (10 mg/mL)
MCPP (10 mg/mL)
2,4,5-TP
2,4,5-T

Method 617 Chlorinated Pesticides & PCBs by GC/ECD

Mix #1 - Analytes

Z-014C-R2 — $ 85 / **1 x 1 mL**
Z-014C-R2-PAK — *SAVE 20%* $ 340 / **5 x 1 mL**
2.0 mg/mL each in Hexane : Toluene (1:1) — 18 comps.

Aldrin
α-BHC
β-BHC
γ-BHC
δ-BHC
4,4'-DDD
4,4'-DDE
4,4'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulphate
Endrin
Endrin ketone
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Methoxychlor

Mix #2 - Analytes

M-617-2 — $ 45 / **1 x 1 mL**
2.0 mg/mL each in Hexane : Toluene (1:1) — 9 comps.

Captan
Carbophenothion
Dichloran
Dicofol
Isodrin
Mirex
PCNB
Perthane
Trifluralin

Chlordane

P-017S-20X — $ 24 / **1 x 1 mL**
2.0 mg/mL in MeOH

Toxaphene

P-093S-40X — $ 24 / **1 x 1 mL**
4.0 mg/mL in MeOH

Method 618 Volatile Pesticides by GC/ECD

Volatile Pesticides

M-618 — $ 20 / **1 x 1 mL**
20 mg/mL each in Isooctane — 2 comps.

Chloropicrin
Ethylene dibromide

Internal Standard

M-618-IS — $ 10 / **1 x 1 mL**
20 mg/mL in Isooctane

Bromoform

Method 619 Triazine Herbicides by GC/NPD

Triazine Herbicides

Each at 0.1 mg/mL in MeOH

Compound	Cat. No.	1 mL	Compound	Cat. No.	1 mL
Ametryn	M-619-01	$ 12	Secbumeton	M-619-07	$ 22
Atraton	M-619-02	22	Simetryn	M-619-08	22
Atrazine	M-619-03	12	Simazine	M-619-09	12
Prometon	M-619-04	12	Terbuthylazine	M-619-10	32
Prometryn	M-619-05	12	Terbutryn	M-619-11	12
Propazine	M-619-06	12			

M-619-SET — $ 130 / **11 x 1 mL**
Each at 0.1 mg/mL in MeOH — Above 11 compounds
M-619M — $ 85 / **1 x 1 mL**
0.1 mg/mL each in MeOH — Above 11 compounds

Method 620 Diphenylamine by GC/NPD

Diphenylamine

M-620 — $ 15 / **1 x 1 mL**
1000 µg/mL each in MeOH

Diphenylamine

To delay premature breakdown of thermally labile product in transit we suggest requesting a Cold Pack.

Method 622 Organophosphorus Pesticides by GC/NPD

Organophosphorus Pesticides

M-622-SET — $ 390 / **27 x 1 mL**
1000 µg/mL each in Hexane

Azinphos methyl (01)
Bolstar *(Sulprofos)* (02)
Chlorpyrifos (03)
Coumaphos (04)
Demeton, O & S (05)
Diazinon (06)
Dichlorvos (07)
Dimethoate (08)
Disulfoton (09)
EPN (10)
Ethoprop (11)
Fensulfothion (12)
Fenthion (13)
Malathion (14)
Merphos (15)
Mevinphos (16)
Monocrotophos (17)
Naled (18)
Parathion ethyl (19)
Parathion methyl (20)
Phorate (21)
Ronnel (22)
Stirophos (23)
Sulfotep (24)
TEPP (25)
Tokuthion (26)
Trichloronate (27)

Method 622.1 Thiophosphate Pesticides by GC/NPD

Thiophosphate Pesticides

M-622.1 — $ 40 / **1 x 1 mL**
1.0 mg/mL each in MtBE — 7 comps.

- Aspon
- Dichlofenthion
- Famphur
- Fenitrothion
- Fonophos
- Phosmet
- Thionazin

Method 624 Purgeables by GC/MS

Purgeables

M-624 — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 31 comps.

- Benzene
- Bromodichloromethane
- Bromoform
- Bromomethane
- Carbon tetrachloride
- Chlorobenzene
- Chloroethane
- 2-Chloroethylvinyl ether
- Chloroform
- Chloromethane
- Dibromochloromethane
- 1,2-Dichlorobenzene
- 1,3-Dichlorobenzene
- 1,4-Dichlorobenzene
- 1,1-Dichloroethane
- 1,2-Dichloroethane
- 1,1-Dichloroethene
- *trans*-1,2-Dichloroethene
- 1,2-Dichloropropane
- *cis*-1,3-Dichloropropene *
- *trans*-1,3-Dichloropropene **
- Ethylbenzene
- Methylene chloride
- 1,1,2,2-Tetrachloroethane
- Tetrachloroethene
- Toluene
- 1,1,1-Trichloroethane
- 1,1,2-Trichloroethane
- Trichloroethene
- Trichlorofluoromethane
- Vinyl chloride

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Surrogates

Each at 0.2 mg/mL in MeOH

Component	Cat. No.	Price / 1 mL
Benzene-d_6	M-624-SS-01	$ 20
Bromochloromethane	M-624-SS-02	20
4-Bromofluorobenzene	M-624-SS-03	10
1-Chloro-2-bromopropane	M-624-SS-04	10
1,4-Dichlorobutane	M-624-SS-05	10
1,2-Dichloroethane-d_4	M-624-SS-06	20
1,4-Difluorobenzene	M-624-SS-07	10
Ethylbenzene-d_{10}	M-624-SS-08	20
Fluorobenzene	M-624-SS-09	10
Pentafluorobenzene	M-624-SS-10	10
1,2-Dichlorobenzene-d_4	M-624-SS-11	20
2-Bromochlorobenzene	M-624-SS-12	10
4-Chlorofluorobenzene	M-624-SS-13	10
a,a,a-Trichlorotoluene	M-624-SS-14	10

Surrogate Standards

M-624-SS-M — $ 25 / **1 x 1 mL**
M-624-SS-M-PAK — ***SAVE 20%*** $ 100 / **5 x 1 mL**
20 mg/mL each in MeOH — 3 comps.

- 4-Bromofluorobenzene
- Fluorobenzene
- Pentafluorobenzene

Internal Standard

M-001R — $ 15 / **1 x 1 mL**
M-001R-PAK — ***SAVE 20%*** $ 60 / **5 x 1 mL**
20 mg/mL each in MeOH — 3 comps.

- Bromochloromethane
- 1,4-Dichlorobutane
- 2-Bromo-1-chloropropane

Tens of thousands of Standards Ready-to-Ship

Method 625 Semi-Volatiles Analysis by GC/MS

The following composite mixtures were formulated to allow the flexibility of preparing a complete semi-volatile mix to meet your laboratory's specific needs. These Base/Neutral analytes are also available in a two ampule set to extend the useful life of your stock calibration standards.

Base-Neutral Analytes (44 comps.)

Acenaphthene
Acenaphthylene
Anthracene
Azobenzene
Benz[a]anthracene
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
4-Bromophenyl phenyl ether
Butyl benzyl phthalate
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloro-1-methylethyl)ether
2-Chloronaphthalene
4-Chlorophenyl phenyl ether
Chrysene
Dibenz[a,h]anthracene
Di-*n*-butyl phthalate
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Diethyl phthalate
Dimethyl phthalate
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-*n*-octyl phthalate
bis(2-Ethylhexyl)phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno[1,2,3-*cd*]pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
N-Nitrosodi-*n*-propylamine
Phenanthrene
Pyrene
1,2,4-Trichlorobenzene

Benzidine Analytes (2 comps.)

Benzidine
3,3'-Dichlorobenzidine

Base-Neutral Mix

CLP-HC-BN-R — $ 160 / **1 x 1 mL**
2.0 mg/mL each in Benzene : CH_2Cl_2 : AcCN (2:2:1) — 44 comps.
CLP-HC-BN-R-PAK — *SAVE 20%* $ 640 / **5 x 1 mL**
2.0 mg/mL each in Benzene : CH_2Cl_2 : AcCN (2:2:1) — 44 comps.

Benzidine Analytes (2 comps.)

Z-014F — $ 30 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

M-625-BN — $ 55 / **1 x 1 mL**
M-625-BN-PAK — *SAVE 20%* $ 220 / **5 x 1 mL**
0.1 mg/mL each in CH_2Cl_2 — 44 Base-Neutrals and 2 Benzidines

M-625-BN-5X — $ 115 / **1 x 1 mL**
M-625-BN-5X-PAK — *SAVE 20%* $ 460 / **5 x 1 mL**
0.5 mg/mL each in CH_2Cl_2 — 44 Base-Neutrals and 2 Benzidines

CLP-HC-BN — $ 150 / **1 x 1 mL**
CLP-HC-BN-PAK — *SAVE 20%* $ 600 / **5 x 1 mL**
2.0 mg/mL each in Benzene : CH_2Cl_2 : AcCN (2:2:1)
44 Base-Neutrals and 2 Benzidines

CLP-HC-BN-SET — $ 190 / **2 x 1 mL**
CLP-HC-BN-SET-PAK — *SAVE 20%* $ 760 / **5 x (2 x 1 mL)**
CLP-HC-BN-R & Z-014F

Method 625 Modification Standard

M-625-MOD — $ 50 / **1 x 1 mL**
M-625-MOD-PAK — *SAVE 20%* $ 200 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 — 17 comps.

Acetophenone
Aniline
Benzoic acid
Carbazole
p-Cresol
o-Cresol
2,3-Dichloroaniline
n-Decane
n-Docosane
n-Dodecane
n-Eicosane
n-Hexadecane
1-Methylphenanthrene
n-Octadecane
Pyridine
a-Terpineol
n-Tetradecane

Daily QA/QC Standards

M-625-BN-1 — $ 25 / **1 x 1 mL**
M-625-BN-1-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
0.5 mg/mL each in CH_2Cl_2 — 12 comps.

Acenaphthylene
Benzo[b]fluoranthene
4-Bromophenylphenyl ether
bis(2-Chloroethyl)ether
bis(2-Chloro-1-methylethyl)ether
1,4-Dichlorobenzene
3,3'-Dichlorobenzidine
Dimethyl phthalate
Di-*n*-butyl phthalate
2,6-Dinitrotoluene
bis(2-Ethylhexyl)phthalate
Nitrobenzene

M-625-BN-2 — $ 25 / **1 x 1 mL**
M-625-BN-2-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
0.5 mg/mL each in CH_2Cl_2 — 15 comps.

Acenaphthene
Anthracene
Benz[a]anthracene
bis(2-Chloroethoxy)methane
Chrysene
Dibenz[a,h]anthracene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
Diethyl phthalate
2,4-Dinitrotoluene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Naphthalene
Pyrene

M-625-BN-3 — $ 25 / **1 x 1 mL**
M-625-BN-3-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
0.5 mg/mL each in CH_2Cl_2 — 11 comps.

Azobenzene
Benzyl butyl phthalate
2-Chloronaphthalene
Fluoranthene
Hexachlorocyclopentadiene
Hexachloroethane
Isophorone
N-Nitrosodi-*n*-propylamine
N-Nitrosodiphenylamine
Phenanthrene
1,2,4-Trichlorobenzene

M-625-BN-4 — $ 25 / **1 x 1 mL**
M-625-BN-4-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
0.5 mg/mL each in CH_2Cl_2 — 8 comps.

Benzidine
Benzo[a]pyrene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
4-Chlorophenylphenyl ether
Di-*n*-octyl phthalate
Indeno[1,2,3-cd]pyrene
N-Nitrosodimethylamine

Technical Note

These 4 standards can be combined for use in daily QA/QC, as a second source lot or as spiking and duplicates.

High Concentration Acid Extractables Phenol Mix

Z-014H — $ 30 / **1 x 1 mL**
Z-014H-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 11 comps.

4-Chloro-3-methylphenol
2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2-Methyl-4,6-dinitrophenol
2-Nitrophenol
4-Nitrophenol
Pentachlorophenol
Phenol
2,4,6-Trichlorophenol

Acid Extractables Mixture

M-625A $ 25 / **1 x 1 mL**
M-625A-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
20 µg/mL each in MeOH 11 comps.

4-Chloro-3-methylphenol
2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
4,6-Dinitro-2-methylphenol
2-Nitrophenol
4-Nitrophenol
Pentachlorophenol
Phenol
2,4,6-Trichlorophenol

Single Component Surrogates & Internal Standards

Base/Neutrals

Individual solutions at 0.2 mg/mL in CH_2Cl_2

Component	Cat. No.	1 mL
Aniline-d_5	M-625-01	$ 20
Anthracene-d_{10}	M-625-02	20
Benz[a]anthracene-d_{12}	M-625-03	20
Decafluorobiphenyl	M-625-04	20
4,4'-Dibromobiphenyl	M-625-05	20
4,4'-Dibromooctafluorobiphenyl	M-625-06	20
2,2'-Difluorobiphenyl	M-625-07	20
4-Fluoroaniline	M-625-08	20
2-Fluorobiphenyl	M-625-09	20
1-Fluoronaphthalene	M-625-10	20
2-Fluoronaphthalene	M-625-11	20
Naphthalene-d_8	M-625-12	20
Nitrobenzene-d_5	M-625-13	20
Phenanthrene-d_{10}	M-625-14	20
Pyridine-d_5	M-625-15	20

Acids

Individual solution at 0.2 mg/mL in CH_2Cl_2

Component	Cat. No.	1 mL
2-Fluorophenol	M-625-16	$ 20
Pentafluorophenol	M-625-17	20
Phenol-d_5	M-625-18	20
2,4,6-Tribromophenol	M-625-19	20
2-Chlorophenol-d_4	M-625-20	20

Pesticide Extractables Mixture

M-625P $ 35 / **1 x 1 mL**
M-625P-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
20 µg/mL each in MeOH 11 comps.

Aldrin
β-BHC
δ-BHC
4,4'-DDD
4,4'-DDE
4,4'-DDT
Dieldrin
Endosulfan sulfate
Endrin aldehyde
Heptachlor
Heptachlor epoxide

GC/MS Calibration Standards

M-625C-SET $ 80 / **set of 5 x 1 mL**
5 solutions each at stated conc. in CH_2Cl_2

Component	Cat. No.	1 mL
Benzidine (50 µg/mL)	M-625C-1	$ 20
Pentachlorophenol (25 µg/mL)	M-625C-2	20
Decafluorotriphenylphosphine *(DFTPP)* (25 µg/mL)	M-625C-3	20
Benzidine (50 µg/mL) + DFTPP (25 µg/mL)	M-625C-4	20
Pentachlorophenol(25 µg/mL) + DFTPP(25 µg/mL)	M-625C-5	20

GC/MS Tuning Standards

M-625-TS $ 40 / **1 x 1 mL**
M-625-TS-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
50 µg/mL each in CH_2Cl_2 4 comps.
M-625-TS-20X $ 40 / **1 x 1 mL**
M-625-TS-20X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 4 comps.

Benzidine
p,p'-DDT
DFTPP
Pentachlorophenol

CLP-TS $ 20 / **1 x 1 mL**
CLP-TS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
50 µg/mL in CH_2Cl_2

Perfluorokerosene

Multi-Component Analytes (Polychlorinated Biphenyls, Chlordane & Toxaphene)

Each at 1,000 µg/mL in Hexane

AccuPAK™ (5 x 1 mL) *SAVE 20%*

Aroclors #	Cat. No.	1 mL	Cat. No.	PAK
Aroclor 1016	C-216S-H-10X	$ 20	C-216S-H-10X-PAK	$ 80
Aroclor 1221	C-221S-H-10X	20	C-221S-H-10X-PAK	80
Aroclor 1232	C-232S-H-10X	20	C-232S-H-10X-PAK	80
Aroclor 1242	C-242S-H-10X	20	C-242S-H-10X-PAK	80
Aroclor 1248	C-248S-H-10X	20	C-248S-H-10X-PAK	80
Aroclor 1254	C-254S-H-10X	20	C-254S-H-10X-PAK	80
Aroclor 1260	C-260S-H-10X	20	C-260S-H-10X-PAK	80
Aroclor 1262	C-262S-H-10X	20	C-262S-H-10X-PAK	80
Aroclor 1268	C-268S-H-10X	20	C-268S-H-10X-PAK	80
Pesticides				
Chlordane	P-017S-H-10X	$ 15	P-017S-H-10X-PAK	$ 60
Toxaphene	P-093S-H-10X	15	P-093S-H-10X-PAK	60

Chlordane and Toxaphene

M-001J $ 15 / **1 x 1 mL**
M-001J-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
At stated conc. in MeOH 2 comps.

Chlordane (0.02 mg/mL)
Toxaphene (0.20 mg/mL)

Polychlorinated Biphenyls

Aroclor Mix #1

M-001K $ 15 / **1 x 1 mL**
0.2 mg/mL each in MeOH 4 comps.

Aroclor 1016
Aroclor 1232
Aroclor 1248
Aroclor 1260

Aroclor Mix #2

M-001L $ 15 / **1 x 1 mL**
0.2 mg/mL each in MeOH 3 comps.

Aroclor 1221
Aroclor 1242
Aroclor 1254

Internal Standard Mix

Z-014J $ 80 / **1 x 1 mL**
Z-014J-PAK *SAVE 37%* $ 250 / **5 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 6 comps.

Acenaphthene-d_{10}
Chrysene-d_{12}
1,4-Dichlorobenzene-d_4
Naphthalene-d_8
Perylene-d_{12}
Phenanthrene-d_{10}

Method 625 Priority Pollutant Standards

The EPA procedures call for fused silica capillary column analysis of priority pollutants. AccuStandard has assembled the following mixtures to be used in calibrating this analytical system. These mixtures are highly concentrated to aid in the establishment of response factors.

Base/Neutrals - Mix #1

Z-014A $ 50 / **1 x 1 mL**
Z-014A-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 14 comps.

- 4-Bromophenylphenyl ether
- Butyl benzyl phthalate
- bis(2-Chloroethoxy)methane
- bis(2-Chloroethyl)ether
- bis(2-Chloro-1-methylethyl)ether
- 4-Chlorophenylphenyl ether
- Diethyl phthalate
- Dimethyl phthalate
- Di-*n*-butyl phthalate
- Di-*n*-octyl phthalate
- bis(2-Ethylhexyl)phthalate
- N-Nitrosodimethylamine
- N-Nitrosodi-*n*-propylamine
- N-Nitrosodiphenylamine

Base/Neutrals - Mix #2

Z-014B $ 50 / **1 x 1 mL**
Z-014B-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 14 comps.

- Azobenzene
- 2-Chloronaphthalene
- 1,2-Dichlorobenzene
- 1,3-Dichlorobenzene
- 1,4-Dichlorobenzene
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- Hexachlorobenzene
- Hexachlorobutadiene
- Hexachlorocyclopentadiene
- Hexachloroethane
- Isophorone
- Nitrobenzene
- 1,2,4-Trichlorobenzene

Toxic Substances - Mix #1

Z-014D $ 25 / **1 x 1 mL**
Z-014D-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 4 comps.

- Benzoic acid
- 2-Methylphenol
- 4-Methylphenol
- 2,4,5-Trichlorophenol

Toxic Substances - Mix #2

Z-014E $ 30 / **1 x 1 mL**
Z-014E-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 8 comps.

- Aniline
- Benzyl alcohol
- 4-Chloroaniline
- Dibenzofuran
- 2-Methylnaphthalene
- 2-Nitroaniline
- 3-Nitroaniline
- 4-Nitroaniline

Benzidine Mix

Z-014F $ 30 / **1 x 1 mL**
Z-014F-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH 2 comps.

- Benzidine
- 3,3'-Dichlorobenzidine

PAH Mix

Z-014G $ 65 / **1 x 1 mL**
Z-014G-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2: Benzene (1:1) 16 comps.

- Acenaphthene
- Acenaphthylene
- Anthracene
- Benz[a]anthracene
- Benzo[a]pyrene
- Benzo[b]fluoranthene
- Benzo[g,h,i]perylene
- Benzo[k]fluoranthene
- Chrysene
- Dibenz[a,h]anthracene
- Fluoranthene
- Fluorene
- Indeno[1,2,3-cd]pyrene
- Naphthalene
- Phenanthrene
- Pyrene

PAH Mix

Z-014G-R $ 65 / **1 x 1 mL**
Z-014G-R-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2: Benzene (1:1) 17 comps.

- Acenaphthene
- Acenaphthylene
- Anthracene
- Benz[a]anthracene
- Benzo[a]pyrene
- Benzo[b]fluoranthene
- Benzo[g,h,i]perylene
- Benzo[k]fluoranthene
- Carbazole
- Chrysene
- Dibenz[a,h]anthracene
- Fluoranthene
- Fluorene
- Indeno[1,2,3-cd]pyrene
- Naphthalene
- Phenanthrene
- Pyrene

Phenols Mix

Z-014H $ 30 / **1 x 1 mL**
Z-014H-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 11 comps.

- 4-Chloro-3-methylphenol
- 2-Chlorophenol
- 2,4-Dichlorophenol
- 2,4-Dimethylphenol
- 2,4-Dinitrophenol
- 2-Methyl-4,6-dinitrophenol
- 2-Nitrophenol
- 4-Nitrophenol
- Pentachlorophenol
- Phenol
- 2,4,6-Trichlorophenol

Internal Standard Mix

Z-014J $ 80 / **1 x 1 mL**
Z-014J-PAK *SAVE 38%* $ 250 / **5 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 6 comps.

- Acenaphthene-d_{10}
- Chrysene-d_{12}
- 1,4-Dichlorobenzene-d_4
- Naphthalene-d_8
- Perylene-d_{12}
- Phenanthrene-d_{10}

Order a complete Set Save 25%

Method 625 Priority Pollutant Set

Z-014R-SET $ 350 / **set of 9 x 1 mL**

Set includes:

Z-014A	Base/Neutrals - Mix #1
Z-014B	Base/Neutrals - Mix #2
Z-014C	Pesticides - Mix #1
Z-014D	Toxic Substances - Mix #1
Z-014E	Toxic Substances -Mix #2
Z-014F	Benzidine Mix
Z-014G-R	PAH Mix
Z-014H	Phenols Mix
Z-014J	Internal Standard Mix

Z-014R-1-SET $ 350 / **set of 9 x 1 mL**

Set includes:

Z-014A	Base/Neutrals - Mix #1
Z-014B	Base/Neutrals - Mix #2
Z-014C-R	Pesticides - Mix #2
Z-014D	Toxic Substances - Mix #1
Z-014E	Toxic Substances - Mix #2
Z-014F	Benzidine Mix
Z-014G-R	PAH Mix
Z-014H	Phenols Mix
Z-014J	Internal Standard Mix

Z-014R-2-SET $ 230 / **set of 7 x 1 mL**

Set includes:

Z-014A	Base/Neutrals - Mix #1
Z-014B	Base/Neutrals - Mix #2
Z-014D	Toxic Substances - Mix #1
Z-014E	Toxic Substances - Mix #2
Z-014F	Benzidine Mix
Z-014G	PAH Mix
Z-014H	Phenols Mix

Z-014R-3-SET $ 230 / **set of 7 x 1 mL**

Set includes:

Z-014A	Base/Neutrals - Mix #1
Z-014B	Base/Neutrals - Mix #2
Z-014D	Toxic Substances - Mix #1
Z-014E	Toxic Substances - Mix #2
Z-014F	Benzidine Mix
Z-014G-R	PAH Mix
Z-014H	Phenols Mix

Method 625 (continued) Priority Pollutant Standards

Pesticides - Mix #1

Z-014C — $ 75 / **1 x 1 mL**
Z-014C-PAK — *SAVE 20%* $ 300 / **5 x 1 mL**
2.0 mg/mL each in Toluene : Hexane (1:1) — 16 comps.

Aldrin	4,4'-DDE	Endosulfan sulfate
α-BHC	4,4'-DDT	Endrin
β-BHC	Dieldrin	Endrin aldehyde
γ-BHC	Endosulfan I	Heptachlor
δ-BHC	Endosulfan II	Heptachlor epoxide
4,4'-DDD		

Pesticides - Mix #2

Z-014C-R — $ 95 / **1 x 1 mL**
Z-014C-R-PAK — *SAVE 20%* $ 380 / **5 x 1 mL**
2.0 mg/mL each in Toluene : Hexane (1:1) — 20 comps.

Aldrin	4,4'-DDD	Endrin
α-BHC	4,4'-DDE	Endrin aldehyde
β-BHC	4,4'-DDT	Endrin ketone
γ-BHC	Dieldrin	Heptachlor
δ-BHC	Endosulfan I	Heptachlor epoxide
α-Chlordane	Endosulfan II	Methoxychlor
γ-Chlordane	Endosulfan sulfate	

Pesticides - Mix #3

Z-014C-R2 — $ 85 / **1 x 1 mL**
Z-014C-R2-PAK — *SAVE 20%* $ 340 / **5 x 1 mL**
2.0 mg/mL each in Toluene : Hexane (1:1) — 18 comps.

Aldrin	4,4'-DDE	Endrin
α-BHC	4,4'-DDT	Endrin aldehyde
β-BHC	Dieldrin	Endrin ketone
γ-BHC	Endosulfan I	Heptachlor
δ-BHC	Endosulfan II	Heptachlor epoxide
4,4'-DDD	Endosulfan sulfate	Methoxychlor

Tuning Standards

M-625-TS — $ 40 / **1 x 1 mL**
M-625-TS-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
50 µg/mL each in CH_2Cl_2 — 4 comps.

Benzidine	DFTPP
p,p'-DDT	Pentachlorophenol

CLP-TS — $ 20 / **1 x 1 mL**
CLP-TS-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
50 µg/mL in CH_2Cl_2

Perfluorokerosene

EPA Method 625 GC/MS Calibration Standards

M-625C-SET — $ 80 / **set of 5 x 1 mL**
5 solutions each at stated conc. in CH_2Cl_2

Compound	Cat. No.	Price
Benzidine (50 µg/mL)	M-625C-1	$ 20
Pentachlorophenol (25 µg/mL)	M-625C-2	20
Decafluorotriphenylphosphine *(DFTPP)* (25 µg/mL)	M-625C-3	20
Benzidine (50 µg/mL) + DFTPP (25 µg/mL)	M-625C-4	20
Pentachlorophenol(25 µg/mL) + DFTPP(25 µg/mL)	M-625C-5	20

Method 627 Dinitroaniline Pesticides by GC/ECD

Dinitroaniline Pesticide Mixes

M-627 — $ 30 / **1 x 1 mL**
1.0 mg/mL each in MeOH — 4 comps.

Ethalfluralin	Tolban *(Profluralin)*
Paarlan *(Isopropalin)*	Trifluralin

M-627-R — $ 30 / **1 x 1 mL**
1.0 mg/mL each in MeOH — 5 comps.

Benfluralin	Tolban *(Profluralin)*
Ethalfluralin	Trifluralin
Paarlan *(Isopropalin)*	

Method 632 Carbamates & Urea Pesticides in Waste Water by HPLC

Carbamates & Urea Pesticides in Waste Water

M-632-SET — $ 200 / **set of 21 x 1 mL**
Individual Solutions, in 0.1 mg/mL in AcCN
M-632M — $ 125 / **1 x 1 mL**
Mixture containing the 21 analytes @ 0.1 mg/mL each in AcCN
M-632M-10X — $ 150 / **1 x 1 mL**
Mixture containing the 21 analytes @ 1.0 mg/mL each in AcCN

	Cat. No.	Price		Cat. No.	Price
Aminocarb	M-632-01	$ 12	Methomyl	M-632-12	$ 12
Barban	M-632-02	12	Mexacarbate	M-632-13	12
Carbaryl	M-632-03	12	Monuron	M-632-14	12
Carbofuran	M-632-04	12	Monuron-TCA	M-632-15	12
Chlorpropham	M-632-05	12	Neburon	M-632-16	12
Diuron	M-632-06	12	Oxamyl	M-632-17	12
Fenuron	M-632-07	12	Propham	M-632-18	12
Fenuron-TCA	M-632-08	12	Propoxur	M-632-19	12
Fluometuron	M-632-09	12	Siduron	M-632-20	12
Linuron	M-632-10	12	Swep	M-632-21	12
Methiocarb	M-632-11	12			

Method 632.1 Carbamates & Amides in Waste Water by HPLC

Carbamates & Amides in Waste Water

M-632.1-SET — $ 35 / **set of 4 x 1 mL**
Each in 0.1 mg/mL in AcCN

Vacor	M-632.1-1	$ 12	Napropamide	M-632.1-3	$ 12
Propanil	M-632.1-2	12	Carbaryl	M-632.1-4	12

Method 633 Organonitrogen Pesticides by GC/NPD

Organonitrogen Pesticides Mix

M-633 — $ 30 / **1 x 1 mL**
0.1 mg/mL each in MeOH — 6 comps.

Bromacil	Hexazinone	Terbacil
Deet	Metribuzin	Triadimefon

Method 634 Thiocarbamate Pesticides by GC/NPD

Thiocarbamate Pesticides Mix

M-634 — $ 45 / **1 x 1 mL**
1.0 mg/mL each in MeOH — 6 comps.

Butylate	EPTC	Pebulate
Cycloate	Molinate	Vernolate

Internal Standard

M-634-IS — $ 15 / **1 x 1 mL**
1.0 mg/mL in MeOH

Carbazole

Method 645 Amino Pesticides & Lethane by GC/NPD

Amino Pesticides Mix

M-645 $ 45 / **1 x 1 mL**
1.0 mg/mL each in Hexane 6 comps.

Alachlor, Butachlor, Diphenamid, Fluridone, Lethane, Norflurazon

HPLC 600's Additional Methods for Pesticides in Waste Water by HPLC

Method	Solutions at 0.1 mg/mL in AcCN	Cat. No.	Price
604.1	Hexachlorophene & Dichlorophene	M-604.1	$ 20
629	Cyanazine	M-629	20
631	Carbendazim	M-631	20
635	Rotenone	M-635	20
636	Bensulide	M-636	32
638	Oryzalin	M-638	20

Method	Solutions at 0.1 mg/mL in AcCN	Cat. No.	Price
639	Bendiocarb	M-639	$ 20
640	Mercaptobenzothiazole	M-640	20
641	Thiabendazole	M-641	20
642	Biphenyl & *o*-Phenylphenol	M-642	20
643	Bentazon *(Basagran)*	M-643	20
644	Picloram	M-644	20

Method 680 Determination of Pesticides & PCBs in Water & Soil/Sediment by GC/MS

PCB Isomer Calibration Mix

M-680A $ 45 / **1 x 1 mL**
At stated conc. in Hexane 9 comps.

2-Chlorobiphenyl	(50 µg/mL)
2,3-Dichlorobiphenyl	(50 µg/mL)
2,4,5-Trichlorobiphenyl	(50 µg/mL)
2,2',4,6-Tetrachlorobiphenyl	(100 µg/mL)
2,2',3,4,5'-Pentachlorobiphenyl	(100 µg/mL)
2,2',4,4',5,6'-Hexachlorobiphenyl	(100 µg/mL)
2,2',3,4',5,6,6'-Heptachlorobiphenyl	(150 µg/mL)
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	(150 µg/mL)
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	(250 µg/mL)

Internal Standard

M-680B $ 15 / **1 x 1 mL**
250 µg/mL in Toluene

Chrysene-d_{12}

Method 680 PCB Isomer Calibration Set

M-680-SET $ 45 / **2 x 1 mL (M-680A, M-680B)**

The EPA has designated the following isomers for use in quantifying PCB's by GC/MS. The PCBs are identified and measured as isomer groups (i.e., by level of chlorination). A concentration is measured for each PCB isomer group; total PCB concentration in each sample extract is obtained by summing isomer group concentrations.

Level of Chlorination	Isomer Selected	Congener Number	RF Value vs. Chrysene-d_{12}	Mean RF Value vs. Chrysene-d_{12}
1	2-mono	1	0.899	0.925
2	2,3-di	5	0.651	0.642
3	2,4,5-tri	29	0.411	0.411
4	2,2'4,6-tetra	50	0.305	0.431
5	2,2',3,4,5'-penta	87	0.299	0.287
6	2,2',4,4',5,6'-hexa	154	0.254	0.254
7	2,2',3,4',5,6,6'-hepta	188	0.164	0.160
8	2,2',3,3',4,5',6,6'-octa	201	0.207	0.191
9,10	2,2',3,3',4,4',5,5',6,6'-deca	209	0.144	0.150

Pesticide Mix

M-680P $ 65 / **1 x 1 mL**
M-680P-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
At stated conc. in Toluene : Hexane (1:1) 22 comps.

Aldrin	(1,000 µg/mL)	Endosulfan I	(2,000 µg/mL)
α-BHC	(1,000 µg/mL)	Endosulfan II	(2,000 µg/mL)
β-BHC	(1,000 µg/mL)	Endosulfan sulfate	(1,000 µg/mL)
γ-BHC	(1,000 µg/mL)	Endrin	(1,000 µg/mL)
δ-BHC	(1,000 µg/mL)	Endrin aldehyde	(1,000 µg/mL)
α-Chlordane	(1,000 µg/mL)	Endrin ketone	(1,000 µg/mL)
γ-Chlordane	(1,000 µg/mL)	Heptachlor	(1,000 µg/mL)
4,4'-DDD	(1,000 µg/mL)	Heptachlor epoxide (Isomer B)	(1,000 µg/mL)
4,4'-DDE	(1,000 µg/mL)	Methoxychlor	(1,000 µg/mL)
4,4'-DDT	(1,000 µg/mL)	*cis*-Nonachlor	(1,000 µg/mL)
Dieldrin	(1,000 µg/mL)	*trans*-Nonachlor	(1,000 µg/mL)

Pesticide Mid-Level Check

M-680P-MLC $ 65 / **1 x 1 mL**
M-680P-MLC-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
At stated conc. Toluene : Hexane (1:1) 21 comps.

Aldrin	(1,000 µg/mL)	Endosulfan I	(2,000 µg/mL)
α-BHC	(1,000 µg/mL)	Endosulfan II	(2,000 µg/mL)
β-BHC	(1,000 µg/mL)	Endosulfan sulfate	(1,000 µg/mL)
γ-BHC	(1,000 µg/mL)	Endrin	(1,000 µg/mL)
δ-BHC	(1,000 µg/mL)	Endrin ketone	(1,000 µg/mL)
α-Chlordane	(1,000 µg/mL)	Heptachlor	(1,000 µg/mL)
γ-Chlordane	(1,000 µg/mL)	Heptachlor epoxide (Isomer B)	(1,000 µg/mL)
4,4'-DDD	(1,000 µg/mL)	Methoxychlor	(1,000 µg/mL)
4,4'-DDE	(1,000 µg/mL)	*cis*-Nonachlor	(1,000 µg/mL)
4,4'-DDT	(1,000 µg/mL)	*trans*-Nonachlor	(1,000 µg/mL)
Dieldrin	(1,000 µg/mL)		

Retention Time Calibration Standard

M-680-RT $ 25 / **1 x 1 mL**
M-680-RT-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in Hexane 3 comps.

3,3',4,4'-Tetrachlorobiphenyl (100 µg/mL)
2,2',4,6,6'-Pentachlorobiphenyl (100 µg/mL)
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (200 µg/mL)

Internal Standard

M-680-IS $ 15 / **1 x 1 mL**
M-680-IS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
75 µg/mL each in Toluene : Hexane (1:1) 2 comps.
M-680-IS-10X $ 25 / **1 x 1 mL**
M-680-IS-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
750 µg/mL each in Hexane : CH_2Cl_2 (1:1) 2 comps.

Chrysene-d_{12} Phenanthrene-d_{10}

Tuning Standard

M-680-TS $ 10 / **1 x 1 mL**
M-680-TS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
10 µg/mL in CH_2Cl_2

Decafluorotriphenylphosphine *(DFTPP)*

Technical Note

Method 680[1] - EPA-PCB Isomer Calibration Kit
The EPA has designated 3,3',4,4'-Tetrachlorobiphenyl (#77), 2,2',4,6,6'-Pentachlorobiphenyl (#104), & 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (BZ# 208) for use in quantifying PCB's by GC/MS. All response factors are calculated using Chrysene-d_{12}, which is also included in the kit.

(1) Determination of Pesticides and PCBs in Water and Soil Sediment by GC/MS. Method 680 EMSL/EPA Cincinnati, Ohio by Ann Alford Stevens, Thomas A. Bellar, James W. Eichelberger and William L. Budde.

Method 1311 Toxicity Characteristic Leaching Procedure (TCLP)

Volatile Spiking Mixture

TCLP-VOC — $ 30 / **1 x 1 mL**
5.0 mg/mL each in MeOH, except 2-Butanone — 11 comps.

- Benzene
- 2-Butanone *(10 mg/mL)*
- Carbon tetrachloride
- Chlorobenzene
- Chloroform
- 1,4-Dichlorobenzene
- 1,2-Dichloroethane
- 1,1-Dichloroethene
- Tetrachloroethene
- Trichloroethene
- Vinyl chloride

Semi-Volatile Spiking Mix

TCLP-BNA — $ 50 / **1 x 1 mL**
TCLP-BNA-PAK — ***SAVE 20%*** $ 200 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 13 comps.

- *o*-Cresol
- *m*-Cresol
- *p*-Cresol
- 1,4-Dichlorobenzene
- 2,4-Dinitrotoluene
- Hexachlorobenzene
- Hexachlorobutadiene
- Hexachloroethane
- Nitrobenzene
- Pentachlorophenol
- Pyridine
- 2,4,5-Trichlorophenol
- 2,4,6-Trichlorophenol

Semi-Volatile Spiking Set

TCLP-BNA-SET — $ 50 / **set of 2 x 1 mL** (**TCLP-A** and **TCLP-BN**)

TCLP-A — $ 25 / **1 x 1 mL**
TCLP-A-PAK — ***SAVE 20%*** $ 100 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 6 comps.

- *o*-Cresol
- *m*-Cresol
- *p*-Cresol
- Pentachlorophenol
- 2,4,5-Trichlorophenol
- 2,4,6-Trichlorophenol

TCLP-BN — $ 25 / **1 x 1 mL**
TCLP-BN-PAK — ***SAVE 20%*** $ 100 / **5 x 1 mL**
2.0 mg/mL each in Acetone — 7 comps.

- 1,4-Dichlorobenzene
- 2,4-Dinitrotoluene
- Hexachlorobenzene
- Hexachlorobutadiene
- Hexachloroethane
- Nitrobenzene
- Pyridine

AccuLabel™ 2-Part Label System

(used on organic products in ampules)
Smudgeproof, tear and solvent resistant *
Kimdura® labels

Accuracy and Convenience

One part duplicates required information for labeling transfer vials with correct information such as catalog number, lot number, expiration date and proper storage conditions.
Second part can be placed into a laboratory journal to document the standard used for the analysis. This label section includes the information described above, and documents AccuStandard as the manufacturer.

* Includes the most common solvents: Methylene chloride, Methanol and Acetone

Pesticide Spiking Mix

TCLP-PES — $ 50 / **1 x 1 mL**
TCLP-PES-PAK — ***SAVE 20%*** $ 200 / **5 x 1 mL**
2.0 mg/mL each in MeOH, except Toxaphene — 7 comps.

- Chlordane
- Endrin
- Heptachlor
- Heptachlor epoxide
- Lindane
- Methoxychlor
- Toxaphene *(4.0 mg/mL)*

Pesticide Spiking Set

TCLP-PES-1/2-SET — $ 50 / **set of 2 x 1 mL** (**CLP-PES-1** and **TCLP-PES-2**)

TCLP-PES-1 — $ 35 / **1 x 1 mL**
TCLP-PES-1-PAK — ***SAVE 20%*** $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 5 comps.

- Endrin
- Heptachlor
- Heptachlor epoxide
- Lindane
- Methoxychlor

TCLP-PES-2 — $ 20 / **1 x 1 mL**
TCLP-PES-2-PAK — ***SAVE 20%*** $ 80 / **5 x 1 mL**
At stated conc. in MeOH — 2 comps.

- Chlordane (2.0 mg/mL)
- Toxaphene (4.0 mg/mL)

Herbicide, PFB Derivative Mixture

TCLP-HERB-PFB — $ 40 / **1 x 1 mL**
0.1 mg/mL each in MtBE — 2 comps.

- 2,4-D-PFB
- 2,4,5-TP-PFB

Herbicide, PFB Derivatives

M-8150-02-PFB — $ 30 / **1 x 1 mL**
0.1 mg/mL in MtBE

- 2,4-D-PFB

M-8150-04-PFB — $ 30 / **1 x 1 mL**
0.1 mg/mL in MtBE

- 2,4,5-TP-PFB

Herbicide Spiking Mixtures

TCLP-HERB — $ 20 / **1 x 1 mL**
TCLP-HERB-PAK — ***SAVE 20%*** $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

- 2,4-D
- 2,4,5-TP

TCLP-HERB-ME — $ 20 / **1 x 1 mL**
TCLP-HERB-ME-PAK — ***SAVE 20%*** $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

- 2,4-D, Me
- 2,4,5-TP, Me

Method 1311 TCLP and 1312 Synthetic Leaching Procedure on next page

EPA Method 1311, 1312

Method 1311 TCLP Regulatory Level Mixtures

Volatiles

TCLP-QC — $ 40 / **1 x 1 mL**
TCLP-QC-PAK — ***SAVE 20%*** $ 160 / **5 x 1 mL**
At stated conc. in MeOH — 10 comps.

Benzene	(5 µg/mL)	1,2-Dichloroethane	(5 µg/mL)
2-Butanone	(2000 µg/mL)	1,1-Dichloroethene	(7 µg/mL)
Carbon tetrachloride	(5 µg/mL)	Tetrachloroethene	(7 µg/mL)
Chlorobenzene	(1000 µg/mL)	Trichloroethene	(5 µg/mL)
Chloroform	(60 µg/mL)	Vinyl chloride	(2 µg/mL)

Pesticides

TCLP-PES-1/2-QC-SET — $ 50 / **set of 2 x 1 mL**
(includes **TCLP-PEST-1-QC** & **TCLP-PEST-2-QC**)

TCLP-PES-1-QC — $ 35 / **1 x 1 mL**
TCLP-PES-1-QC-PAK — ***SAVE 20%*** $ 140 / **5 x 1 mL**
At stated conc. in MeOH — 5 comps.

Endrin	(0.2 µg/mL)	Lindane	(4.0 µg/mL)
Heptachlor	(0.4 µg/mL)	Methoxychlor	(100 µg/mL)
Heptachlor epoxide	(0.04 µg/mL)		

TCLP-PES-2-QC — $ 20 / **1 x 1 mL**
TCLP-PES-2-QC-PAK — ***SAVE 20%*** $ 80 / **5 x 1 mL**
At stated conc. in MeOH — 2 comps.

Chlordane	(0.3 µg/mL)	Toxaphene	(5.0 µg/mL)

Semi-Volatiles

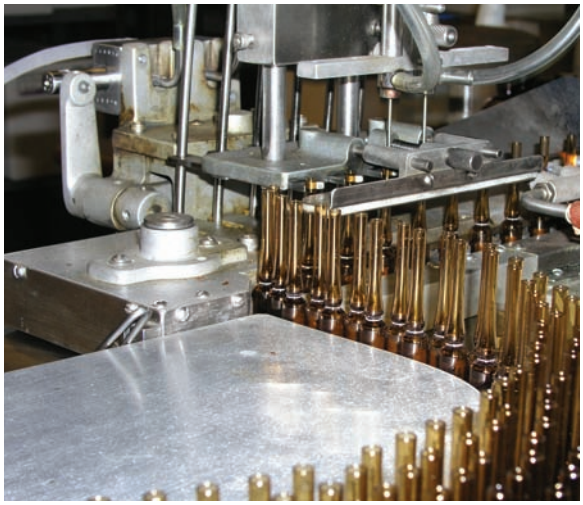
TCLP-BNA-QC — $ 60 / **1 x 1 mL**
At stated conc. in CH_2Cl_2 — 13 comps.

o-Cresol	(2000 µg/mL)	Hexachloroethane	(30 µg/mL)
m-Cresol	(2000 µg/mL)	Nitrobenzene	(20 µg/mL)
p-Cresol	(2000 µg/mL)	Pentachlorophenol	(1000 µg/mL)
1,4-Dichlorobenzene	(75 µg/mL)	Pyridine	(50 µg/mL)
2,4-Dinitrotoluene	(1.3 µg/mL)	2,4,5-Trichlorophenol	(4000 µg/mL)
Hexachlorobenzene	(1.3 µg/mL)	2,4,6-Trichlorophenol	(20 µg/mL)
Hexachlorobutadiene	(5 µg/mL)		

Herbicides

TCLP-HERB-ME-QC — $ 20 / **1 x 1 mL**
TCLP-HERB-ME-QC-PAK — ***SAVE 20%*** $ 80 / **5 x 1 mL**
At stated conc. in MeOH — 2 comps.

	Concentration as Methyl Derivative	**as Acid**
2,4-D, ME	(106.3 µg/mL)	(100 µg/mL)
2,4,5-TP, ME	(10.5 µg/mL)	(10 µg/mL)



Method 1312 Synthetic Leaching Procedure

Semi-Volatiles

TCLP-BNA-1312 — $ 50 / **1 x 1 mL**
TCLP-BNA-1312-PAK — ***SAVE 20%*** $ 200 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 14 comps.

Acenaphthene	2,4-Dinitrophenol
β-BHC	2,4-Dinitrotoluene
γ-BHC	*o*-Cresol
bis-2-Chloroethylether	2,4-Dimethylphenol
2-Chlorophenol	Hexachlorobenzene
1,2-Dichlorobenzene	Hexachlorobutadiene
1,4-Dichlorobenzene	Nitrobenzene

AccuStandard is accredited to ISO/IEC 17025:2005 and certified to ISO 9001:2000

EPA Method 1600 Series

Dioxins and Furans

Method	Description	199-210
1613	Dioxins & Furans (HRGC/HRMS)	199
1614	Polybrominated Diphenyl Ethers	200
1618	Organochloride & Phosphorus Pesticides	201
1653	Chlorinated Phenolics in Pulp & Paper	202
1656	Organo Halide Pesticides	202-203
1657	Organo Phosphorus Pesticides	204
1658	Phenoxy - acid Herbicides	205
1659	Dazomet	205
1664	Oil and Grease	205
1665	PMI Semi-Volatiles (GC/MS)	206
1666A	PMI Volatiles (GC/MS)	206
1667A	PMI Polutants (HPLC)	207
1668	209 PCB Congeners (GC)	208-209
1671	PMI Semi-Volatiles (GC/FID)	210
1673	PEG-600 (HPLC)	210
5041	VOCs from Stack Gas Effluents	210

Method 1613 Dioxins & Furans by HRGC/HRMS

Precision and Recovery Standard

M-1613-PAR Bold (-04) — $ 525 / **1 x 1 mL**
M-1613-PAR-PAK — $ 2,100 / **5 x 1 mL**
All units in ng/mL in Nonane — 17 comps.

M-1613-CAL	-01	-02	-03	-04	-05
2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.5	2	10	**40**	200
2,3,7,8-Tetrachlorodibenzofuran	0.5	2	10	**40**	200
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	2.5	10	50	**200**	1000
1,2,3,7,8-Pentachlorodibenzofuran	2.5	10	50	**200**	1000
2,3,4,7,8-Pentachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2.5	10	50	**200**	1000
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	2.5	10	50	**200**	1000
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	2.5	10	50	**200**	1000
1,2,3,4,7,8-Hexachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,6,7,8-Hexachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,7,8,9-Hexachlorodibenzofuran	2.5	10	50	**200**	1000
2,3,4,6,7,8-Hexachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	2.5	10	50	**200**	1000
1,2,3,4,6,7,8-Heptachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,4,7,8,9-Heptachlorodibenzofuran	2.5	10	50	**200**	1000
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	5	20	100	**400**	2000
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	5	20	100	**400**	2000

Calibration Set

M-1613-CAL-SET (-01,-02,-03,-04,-05) — $ 2,100 / **5 x 1 mL**
All in ng/mL in Nonane — 17 comps.

Technical Note

Native Solutions of the USEPA Method 1613 analytes can also be used for USEPA Method 23, 8280, 8290, EU Method EN-1948 and Japanese Methods JIS-K0311 and JIS-K0312.

2,3,7,8 Isomers only Mix

This solution is for those labs only determining the concentration of the two most toxic isomers.

M-1613-DF — $ 75 / **1 x 1 mL**
40 ng/mL each in Nonane — 2 comps.

2,3,7,8-Tetrachlorodibenzo-p-dioxin
2,3,7,8-Tetrachlorodibenzofuran

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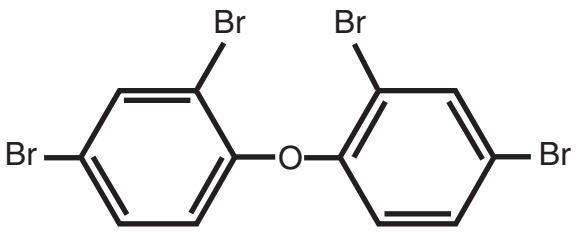
Method 1614 Bromodiphenyl Ether Mixtures

Responding to the need for the analysis of polybrominated diphenyl ether (PBDE) congeners, the EPA has developed Method 1614. Method 1614 is recommended for analysis of aqueous, solid, tissue, and multi-phase environmental samples. AccuStandard has the largest offering of synthesized PBDEs, see Flame Retardant section for complete listing.

PBDEs Standard Solution for Accuracy & Precision

At stated conc. in Isooctane — 39 comps.

Component	BDE-AAP-A $ 195 / 1 mL ng/mL	BDE-AAP-A-15X $ 750 / 1 mL µg/mL
2-Bromodiphenyl ether (#1)	100	1.5
3-Bromodiphenyl ether (#2)	100	1.5
4-Bromodiphenyl ether (#3)	100	1.5
2,4-Dibromodiphenyl ether (#7)	100	1.5
2,4'-Dibromodiphenyl ether (#8)	100	1.5
2,6-Dibromodiphenyl ether (#10)	100	1.5
3,3'-Dibromodiphenyl ether (#11)	100	1.5
3,4-Dibromodiphenyl ether (#12)	100	1.5
3,4'-Dibromodiphenyl ether (#13)	100	1.5
4,4'-Dibromodiphenyl ether (#15)	100	1.5
2,2',4-Tribromodiphenyl ether (#17)	100	1.5
2,3',4-Tribromodiphenyl ether (#25)	100	1.5
2,4,4'-Tribromodiphenyl ether (#28)	100	1.5
2,4,6-Tribromodiphenyl ether (#30)	100	1.5
2,4',6-Tribromodiphenyl ether (#32)	100	1.5
2',3,4-Tribromodiphenyl ether (#33)	100	1.5
3,3',4-Tribromodiphenyl ether (#35)	100	1.5
3,4,4'-Tribromodiphenyl ether (#37)	100	1.5
2,2',4,4'-Tetrabromodiphenyl ether (#47)	100	1.5
2,2',4,5'-Tetrabromodiphenyl ether (#49)	100	1.5
2,3',4,4'-Tetrabromodiphenyl ether (#66)	100	1.5
2,3',4',6-Tetrabromodiphenyl ether (#71)	100	1.5
2,4,4',6-Tetrabromodiphenyl ether (#75)	100	1.5
3,3',4,4'-Tetrabromodiphenyl ether (#77)	100	1.5
2,2',3,4,4'-Pentabromodiphenyl ether (#85)	150	2.25
2,2',4,4',5-Pentabromodiphenyl ether (#99)	150	2.25
2,2',4,4',6-Pentabromodiphenyl ether (#100)	150	2.25
2,3,4,5,6-Pentabromodiphenyl ether (#116)	150	2.25
2,3',4,4',5-Pentabromodiphenyl ether (#118)	150	2.25
2,3',4,4',6-Pentabromodiphenyl ether (#119)	150	2.25
3,3',4,4',5-Pentabromodiphenyl ether (#126)	150	2.25
2,2',3,4,4',5'-Hexabromodiphenyl ether (#138)	200	3.0
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	200	3.0
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	200	3.0
2,2',4,4',6,6'-Hexabromodiphenyl ether (#155)	200	3.0
2,3,4,4',5,6-Hexabromodiphenyl ether (#166)	200	3.0
2,2',3,4,4',5,6-Heptabromodiphenyl ether (#181)	250	3.75
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	250	3.75
2,3,3',4,4',5,6-Heptabromodiphenyl ether (#190)	250	3.75



Commonly Occurring PBDE Congeners for Precision and Recovery

BDE-COC — $ 600 / **1 x 1 mL**

At stated conc. in Isooctane — 14 comps.

	µg/mL
2,2',4-Tribromodiphenyl ether (#17)	5
2,4,4'-Tribromodiphenyl ether (#28)	5
2,2',4,4'-Tetrabromodiphenyl ether (#47)	5
2,3',4,4'-Tetrabromodiphenyl ether (#66)	5
2,3',4',6-Tetrabromodiphenyl ether (#71)	5
2,2',3,4,4'-Pentabromodiphenyl ether (#85)	5
2,2',4,4',5-Pentabromodiphenyl ether (#99)	5
2,2',4,4',6-Pentabromodiphenyl ether (#100)	5
2,2',3,4,4',5'-Hexabromodiphenyl ether (#138)	5
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	5
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	5
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	5
2,3,3',4,4',5,6-Heptabromodiphenyl ether (#190)	5
Decabromodiphenyl ether (#209)	25

PBDE Congeners of Primary Interest

BDE-CSM — $ 225 / **1 x 1 mL**

At stated conc. in Isooctane:Toluene — 8 comps.

	µg/mL
2,4,4'-Tribromodiphenyl ether (#28)	20
2,2',4,4'-Tetrabromodiphenyl ether (#47)	20
2,2',4,4',5-Pentabromodiphenyl ether (#99)	20
2,2',4,4',6-Pentabromodiphenyl ether (#100)	20
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	20
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	20
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	20
Decabromodiphenyl ether (#209)	200

Calibration Mix

BDE-CM — $ 65 / **1 x 1 mL**

At stated conc. in Isooctane — 8 comps.

Matrix Spiking Solution

BDE-MS — $ 40 / **1 x 1 mL**

At stated conc. in Isooctane — 8 comps.

	BDE-CM µg/mL	BDE-MS ng/mL
2,4,4'-Tribromodiphenyl ether (#28)	2.5	1
2,2',4,4'-Tetrabromodiphenyl ether (#47)	2.5	1
2,2',4,4',5-Pentabromodiphenyl ether (#99)	2.5	1
2,2',4,4',6-Pentabromodiphenyl ether (#100)	2.5	1
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	2.5	1
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	2.5	1
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	2.5	1
Decabromodiphenyl ether (#209)	25	10

Method 1618 Organo-halide, Organo-phosphorus Pesticides and Phenoxyacid Herbicides by Wide Bore Capillary Column GC

Method 1618 was developed by the Industrial Technology Division (ITD) within the United States Environmental Protection Agency's (US EPA) Office of Water Regulations and Standards (OWRS) to provide improved precision and accuracy of analysis of pollutants in aqueous and solid matrices in order to determine the level of these pollutants in industrial discharges. Method 1618 is used with wide bore GC columns to analyze for organo-halide and organo-phosphorus pesticides, phenoxy-acid herbicides and herbicide esters, polychlorinated biphenyls (PCBs) and other compounds amenable to extraction and analysis by wide bore capillary column gas chromatography with halogen-specific and organo-phosphorus detectors.

The chemical compounds in the AccuStandard mixtures that follow may be determined in waters, soils, sediments and sludges by this method. The method is a consolidation of EPA Methods 608, 608.1, 614, 615, 617, 622 and 701.

Organochlorine Pesticides

M-1618-1 — $ 75 / **1 x 1 mL**
M-1618-1-PAK — *SAVE 20%* $ 300 / **5 x 1 mL**
At stated conc. in Isooctane — 14 comps.

Aldrin	(100 ng/mL)	Endosulfan II	(200 ng/mL)
Captan	(200 ng/mL)	Endrin aldehyde	(100 ng/mL)
Chlorobenzilate	(500 ng/mL)	Heptachlor	(100 ng/mL)
Diallate	(250 ng/mL)	Heptachlor epoxide	(100 ng/mL)
p,p'-DDE	(200 ng/mL)	Lindane	(100 ng/mL)
p,p'-DDT	(200 ng/mL)	Methoxychlor	(200 ng/mL)
Endosulfan I	(200 ng/mL)	Isodrin	(100 ng/mL)

M-1618-2 — $ 75 / **1 x 1 mL**
At stated conc. in Isooctane — 16 comps.

α-BHC	(100 ng/mL)	Dichlone	(100 ng/mL)
β-BHC	(100 ng/mL)	Dieldrin	(100 ng/mL)
δ-BHC	(100 ng/mL)	Endrin	(100 ng/mL)
α-Chlordane	(100 ng/mL)	Endosulfan sulfate	(100 ng/mL)
γ-Chlordane	(100 ng/mL)	Endrin ketone	(100 ng/mL)
Carbophenothion	(1000 ng/mL)	Mirex	(100 ng/mL)
Captafol	(200 ng/mL)	PCNB	(100 ng/mL)
p,p'-DDD	(100 ng/mL)	Trifluralin	(200 ng/mL)

Organophosphate Pesticides

M-1618-3 — $ 90 / **1 x 1 mL**
At stated conc. in Isooctane — 19 comps.

Azinphos methyl	(100 ng/mL)	Merphos	(200 ng/mL)
Coumaphos	(50 ng/mL)	Methyl parathion	(100 ng/mL)
Diazinon	(100 ng/mL)	Malathion	(100 ng/mL)
Dichlorvos	(50 ng/mL)	Phorate	(100 ng/mL)
Dimethoate	(100 ng/mL)	Ronnel	(100 ng/mL)
EPN	(100 ng/mL)	Sulprofos	(50 ng/mL)
Ethyl parathion	(100 ng/mL)	Terbufos	(100 ng/mL)
Ethoprop	(100 ng/mL)	Tetrachlorvinphos	(100 ng/mL)
Ethyl azinphos	(100 ng/mL)	Trichlorofon	(100 ng/mL)
Fensulfothion	(200 ng/mL)		

M-1618-4 — $ 90 / **1 x 1 mL**
At stated conc. in Isooctane — 16 comps.

Chlorfenvinphos	(50 ng/mL)	Ethion	(100 ng/mL)
Chlorpyrifos	(50 ng/mL)	Famphur	(200 ng/mL)
Chlorpyrifos methyl	(100 ng/mL)	Fenthion	(100 ng/mL)
Crotoxyphos	(200 ng/mL)	Leptophos	(100 ng/mL)
Dichlorofenthion	(100 ng/mL)	Mevinphos	(100 ng/mL)
Demeton	(400 ng/mL)	Naled	(100 ng/mL)
Dioxathion	(600 ng/mL)	Phosmet	(200 ng/mL)
Disulfoton	(100 ng/mL)	Sulfotep	(50 ng/mL)

Phenoxyacid Herbicides

M-8150M — $ 40 / **1 x 1 mL**
M-8150M-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
20 µg/mL each in Hexane — 8 comps.

2,4-D	Dalapon
2,4-DB	Dicamba
2,4,5-T	Dichlorprop
2,4,5-TP	Dinoseb

M-8150M-2 — $ 15 / **1 x 1 mL**
M-8150M-2-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
2.0 mg/mL in Hexane — 2 comps.

MCPA — MCPP

Surrogate Standards

Organochlorine Pesticide

M-1618-SS — $ 15 / **1 x 1 mL**
M-1618-SS-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
2 µg/mL in Acetone

Dibutylchlorendate

Organophosphate Pesticide

M-1618-SP — $ 20 / **1 x 1 mL**
2 µg/mL each in Acetone — 2 comps.

Tributyl phosphate — Triphenyl phosphate

Phenoxyacid Herbicide

M-1618-SA — $ 10 / **1 x 1 mL**
2 µg/mL in Acetone

2,4-Dichlorophenyl acetic acid

Decomposition Solution

M-1618D — $ 15 / **1 x 1 mL**
M-1618D-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
At stated conc. in Acetone — 2 comps.

p,p'-DDT (2.0 µg/mL) — Endrin (1.0 µg/mL)

GPC Calibration Solution

M-1618-GP-5ML — $ 35 / **1 x 5 mL**
At stated conc. in Acetone — 5 comps.

Corn oil	(300.0 mg/mL)	Perylene	(0.1 mg/mL)
bis(2-Ethylhexyl)phthalate	(15.0 mg/mL)	Sulfur	(0.5 mg/mL)
Pentachlorophenol	(1.4 mg/mL)		

SPE Cartridge Calibration Solution

M-1618-SE — $ 10 / **1 x 1 mL**
M-1618-SE-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 µg/mL in Acetone

2,4,6-Trichlorophenol

EPA Method 1600 Series

Chlorinated Phenolics and Pesticides

Method 1653 Chlorinated Phenolics in Pulp and Paper Effluents

Method 1653 is designed to determine Chlorinated Phenolics (chlorinated phenols, guaiacols, catechols, vanillins, syringaldehydes) and other compounds in wastewater amenable to in-situ acetylation and analysis by GC/MS.

M-1653A-D-R-SET — $ 250 / **set of 4 x 1 mL** (set includes **M-1653A**, **B**, **C**, **D-AC**)

M-1653A — $ 25 / **1 x 1 mL**
M-1653A-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
0.1 mg/mL each in MeOH — 7 comps.

4-Chlorophenol
2,4-Dichlorophenol
2,6-Dichlorophenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,3,4,6-Tetrachlorophenol
Pentachlorophenol

M-1653B — $ 125 / **1 x 1 mL**
0.1 mg/mL each in MeOH — 8 comps.

4-Chloroguaiacol
3,4-Dichloroguaiacol
4,5-Dichloroguaiacol
4,6-Dichloroguaiacol
3,4,5-Trichloroguaiacol
3,4,6-Trichloroguaiacol
4,5,6-Trichloroguaiacol
Tetrachloroguaiacol

M-1653C — $ 95 / **1 x 1 mL**
0.1 mg/mL each in MeOH — 7 comps.

4-Chlorocatechol
3,4-Dichlorocatechol
3,6-Dichlorocatechol
4,5-Dichlorocatechol
3,4,5-Trichlorocatechol
3,4,6-Trichlorocatechol
Tetrachlorocatechol

M-1653D-AC — $ 65 / **1 x 1 mL**
0.1 mg/mL each in Acetone — 6 comps.

5-Chlorovanillin
6-Chlorovanillin
5,6-Dichlorovanillin
2-Chlorosyringaldehyde
2,6-Dichlorosyringaldehyde
Trichlorosyringol

Internal Standard

M-1653-IS — $ 35 / **1 x 1 mL**
1.0 mg/mL in MeOH
M-1653-IS-R — $ 35 / **1 x 1 mL**
1.0 mg/mL in Acetone

3,4,5-Trichlorophenol

Instrument Internal Standard

M-1653-IIS — $ 20 / **1 x 1 mL**
1.0 mg/mL in MeOH
M-1653-IIS-R — $ 20 / **1 x 1 mL**
5.0 mg/mL in Acetone

2,2'-Difluorobiphenyl

M-1653A-D-R2-SET — $ 250 / **set of 4 x 1 mL** (set includes **M-1653A-R**, **B-R**, **C-R**, **D-R**)

M-1653A-R — $ 25 / **1 x 1 mL**
At stated conc. in Acetone — 7 comps.

4-Chlorophenol	(25 µg/mL)	2,4,6-Trichlorophenol	(50 µg/mL)
2,4-Dichlorophenol	(50 µg/mL)	2,3,4,6-Tetrachlorophenol	(50 µg/mL)
2,6-Dichlorophenol	(50 µg/mL)	Pentachlorophenol	(100 µg/mL)
2,4,5-Trichlorophenol	(50 µg/mL)		

M-1653B-R — $ 125 / **1 x 1 mL**
At stated conc. in Acetone — 8 comps.

4-Chloroguaiacol	(25 µg/mL)	3,4,5-Trichloroguaiacol	(50 µg/mL)
3,4-Dichloroguaiacol	(50 µg/mL)	3,4,6-Trichloroguaiacol	(50 µg/mL)
4,5-Dichloroguaiacol	(50 µg/mL)	4,5,6-Trichloroguaiacol	(50 µg/mL)
4,6-Dichloroguaiacol	(50 µg/mL)	Tetrachloroguaiacol	(100 µg/mL)

M-1653C-R — $ 95 / **1 x 1 mL**
At stated conc. in Acetone — 7 comps.

4-Chlorocatechol	(25 µg/mL)	3,4,5-Trichlorocatechol	(100 µg/mL)
3,4-Dichlorocatechol	(50 µg/mL)	3,4,6-Trichlorocatechol	(100 µg/mL)
3,6-Dichlorocatechol	(50 µg/mL)	Tetrachlorocatechol	(100 µg/mL)
4,5-Dichlorocatechol	(50 µg/mL)		

M-1653D-R — $ 65 / **1 x 1 mL**
At stated conc. in Acetone — 6 comps.

5-Chlorovanillin	(50 µg/mL)	2-Chlorosyringaldehyde	(50 µg/mL)
6-Chlorovanillin	(50 µg/mL)	2,6-Dichlorosyringaldehyde	(100 µg/mL)
5,6-Dichlorovanillin	(100 µg/mL)	Trichlorosyringol	(50 µg/mL)

US EPA Pulp, Paper & Paperboard Cluster Rule

M-PAPCLUS — $ 30 / **1 x 1 mL**
M-PAPCLUS-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
0.1 mg/mL each in Water — 4 comps.

Methanol
Acetaldehyde
Propionaldehyde
Methyl ethyl ketone

Instrument Performance Check Solution

M-1653-TS — $ 20 / **1 x 1 mL**
50 µg/mL in Acetone

DFTPP

Method 1656 Organo-Halide Pesticides in Municipal & Industrial Wastewater by HSD

Method 1656 is a consolidation of several EPA wastewater methods used to determine the organo-halide pesticides and polychlorinated biphenyls (PCBs) associated with the Clean Water Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation and Liability Act; and other compounds amenable to extraction and analysis by wide-bore capillary column GC with a HSD.

GPC Calibration Solution

M-1600-GPC-5ML — $ 35 / **1 x 5 mL**
At stated conc. in CH_2Cl_2 — 5 comps.

Corn oil	(300 mg/mL)	Perylene	(0.1 mg/mL)
bis(2-Ethylhexyl)phthalate	(15 mg/mL)	Sulfur	(0.5 mg/mL)
Pentachlorophenol	(1.4 mg/mL)		

Solid-phase Extraction Cartridge Calibration Solution

M-1600-SPE — $ 10 / **1 x 1 mL**
0.1 mg/mL in Acetone

2,4,6-Trichlorophenol

Decomposition Test Solution

M-1656-DS — $ 25 / **1 x 1 mL**
At stated conc. in Isooctane — 2 comps.

4,4'-DDT (2 µg/mL)
Endrin (1 µg/mL)

Surrogate Spiking Solutions

CLP-PES-A — $ 15 / **1 x 1 mL**
0.2 mg/mL in Acetone

Dibutylchlorendate

CLP-032-R — $ 15 / **1 x 1 mL**
0.2 mg/mL each in Acetone — 2 comps.

Decachlorobiphenyl
Tetrachloro-*m*-xylene

CLP-034 — $ 15 / **1 x 1 mL**
0.2 mg/mL each in Acetone — 2 comps.

Dibutylchlorendate
Tetrachloro-*m*-xylene

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Method 1656 (continued) Calibration Solutions & Suggested Calibration Groups

M-1656-CAL-SET $ 360 / **7 x (3 x 1 mL)** (contains all 7 calibration groups at respective low, medium and igh ranges)

Calibration Group 1

M-1656-01-CAL-SET $ 75 / **3 x 1 mL**
All solutions in Isooctane 14 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
Acephate	2,000	10,000	40,000
Alachlor	20	100	400
Atrazine	1,000	5,000	20,000
β-BHC	10	50	200
Bromoxynil octanoate	50	250	1,000
Captafol	200	1,000	4,000
Diallate	200	1,000	4,000
Decachlorobiphenyl	10	50	200
Endosulfan sulfate	10	50	200
Endrin	20	100	400
Isodrin	10	50	200
Pendimethalin	50	250	1,000
Permethrin *(cis & trans)*	*200	1,000	4,000
Tetrachloro-*m*-xylene	5	25	100

*** Actual isomer concentration is stated on certificate of product data**

Calibration Group 2

M-1656-02-CAL-SET $ 60 / **3 x 1 mL**
All solutions in Isooctane 11 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
α-BHC	5	25	100
DCPA	5	25	100
4,4'-DDE	10	50	200
4,4'-DDT	10	50	200
Decachlorobiphenyl	10	50	200
Dichlone	20	100	400
Ethalfluralin	10	50	200
Fenarimol	20	100	400
Methoxychlor	20	100	400
Metribuzin	10	50	200
Tetrachloro-*m*-xylene	5	25	100

Calibration Group 3

M-1656-03-CAL-SET $ 60 / **3 x 1 mL**
All solutions in Isooctane 10 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
γ-BHC	5	25	100
γ-Chlordane	5	25	100
Decachlorobiphenyl	10	50	200
Endrin ketone	10	50	200
Heptachlor epoxide	5	25	100
Isopropalin	20	100	400
Nitrofen	20	100	400
PCNB	5	25	100
Tetrachloro-*m*-xylene	5	25	100
Trifluralin	10	50	200

Calibration Group 4

M-1656-04-CAL-SET $ 60 / **3 x 1 mL**
All solutions in Isooctane 10 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
Benfluralin	20	100	400
Chlorobenzilate	50	250	1,000
Decachlorobiphenyl	10	50	200
Dieldrin	5	25	100
Endosulfan I	10	50	200
Mirex	20	100	400
Terbacil	200	1,000	4,000
Terbuthylazine	500	2,500	10,000
Tetrachloro-*m*-xylene	5	25	100
Triadimefon	100	500	2,000

Calibration Group 5

M-1656-05-CAL-SET $ 60 / **3 x 1 mL**
All solutions in Isooctane 8 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
Benfluralin	20	100	400
Captan	100	500	2,000
Chlorothalonil	20	100	400
4,4'-DDD	20	100	400
Decachlorobiphenyl	10	50	200
Norflurazon	100	500	2,000
Simazine	800	4,000	16,000
Tetrachloro-*m*-xylene	5	25	100

Calibration Group 6

M-1656-06-CAL-SET $ 60 / **3 x 1 mL**
All solutions in Isooctane 9 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
Aldrin	20	100	400
δ-BHC	5	25	100
Bromacil	100	500	2,000
Butachlor	50	250	1,000
Decachlorobiphenyl	10	50	200
Endosulfan II	10	50	200
Heptachlor	10	50	200
Kepone	100	500	2,000
Tetrachloro-*m*-xylene	5	25	100

Calibration Group 7

M-1656-07-CAL-SET $ 75 / **3 x 1 mL**
All solutions in Isooctane 13 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
Carbophenothion	80	400	1,600
Chloroneb	300	1,500	6,000
Chloropropylate	200	1,000	4,000
DBCP	25	125	500
Decachlorobiphenyl	10	50	200
Dicofol	300	1,500	6,000
Endrin aldehyde	80	400	1,600
Etridiazole	80	400	1,600
Perthane	1,000	5,000	20,000
Propachlor	500	2,500	10,000
Propanil	200	1,000	4,000
Propazine	1,000	5,000	20,000
Tetrachloro-*m*-xylene	5	25	100

Working Level Standards & Continuing Calibration Check (CCC)

Method 1657 Organo-Phosphorus Pesticides in Municipal & Industrial Wastewater by FPD

Method 1657 is a consolidation of several EPA wastewater methods used to determine the organo-phosphorus pesticides associated with the Clean Water Act, the Resource and Conservation and Recovery Act, & the Comprehensive Environmental Response, Compensation and Liability Act; and other compounds amenable to extraction and analysis by wide-bore capillary column gas chromatography with a flame photometric detector (FPD).

GPC Calibration Solution

M-1600-GPC-5ML $ 35 / **1 x 5 mL**
At stated conc. in CH_2Cl_2 5 comps.

Corn oil	(300 mg/mL)
bis(2-Ethylhexyl)phthalate	(15 mg/mL)
Pentachlorophenol	(1.4 mg/mL)
Perylene	(0.1 mg/mL)
Sulfur	(0.5 mg/mL)

Solid-phase Extraction Cartridge Calibration Solution

M-1600-SPE $ 10 / **1 x 1 mL**
0.1 mg/mL in Acetone

2,4,6-Trichlorophenol

Surrogate Spiking Solution

M-1657-SS $ 20 / **1 x 1 mL**
0.2 mg/mL each in Acetone 2 comps.

Tributyl phosphate
Triphenyl phosphate

Method 1657 Calibration Solutions & Suggested Calibration Groups

M-1657-CAL-SET $ 195 / **4 x (3 x 1 mL)**
Contains all 4 calibration groups at the respective Low, Medium and High Ranges

Calibration Group 1

M-1657-01-R1-CAL-SET $ 60 / **3 x 1 mL**
All solutions in Isooctane 9 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
Azinphos methyl	100	500	2,000
Dichlorvos	500	2,500	10,000
Disulfoton	200	1,000	4,000
Fenthion	200	1,000	4,000
Merphos (A + B)	400	2,000	8,000
Ronnel	200	1,000	4,000
Sulprofos	200	1,000	4,000
Tributyl phosphate	200	1,000	4,000
Triphenyl phosphate	200	1,000	4,000

Calibration Group 2

M-1657-02-CAL-SET $ 60 / **3 x 1 mL**
All solutions in Isooctane 12 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
Chlorfevinphos	200	1,000	4,000
Chlorpyrifos	200	1,000	4,000
Demeton (O + S)	400	2,000	8,000
Dichlofenthion	200	1,000	4,000
Dimethoate	100	500	2,000
Famphur	500	2,500	10,000
Leptophos	200	1,000	4,000
Methyl parathion	200	1,000	4,000
Tributyl phosphate	200	1,000	4,000
Trichlorofon	500	2,500	10,000
Tricresylphosphate	100	500	2,000
Triphenyl phosphate	200	1,000	4,000

Calibration Group 3

M-1657-03-CAL-SET $ 65 / **3 x 1 mL**
All solutions in Isooctane 14 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
Azinphos ethyl	200	1,000	4,000
Crotoxyphos	500	2,500	10,000
DEF	200	1,000	4,000
Fensulfothion	500	2,500	10,000
Methyl chlorpyrifos	200	1,000	4,000
Mevinphos	500	2,500	10,000
Naled	500	2,500	10,000
Parathion	200	1,000	4,000
Phosmet	500	2,500	10,000
Phosphamidon (E + Z)	100	500	2,000
Sulfotepp	200	1,000	4,000
Terbufos	200	1,000	4,000
Tributyl phosphate	200	1,000	4,000
Triphenyl phosphate	200	1,000	4,000

Calibration Group 4

M-1657-04-CAL-SET $ 60 / **3 x 1 mL**
All solutions in Isooctane 11 comps.

Components (units in ng/mL)	Low (1X)	Medium (5X)	High (20X)
Coumaphos	500	2,500	10,000
Diazinon	200	1,000	4,000
EPN	200	1,000	4,000
Ethion	200	1,000	4,000
Ethoprop	200	1,000	4,000
Malathion	200	1,000	4,000
Phorate	200	1,000	4,000
Tetrachlorvinphos	200	1,000	4,000
Tributyl phosphate	200	1,000	4,000
Trichloronate	200	1,000	4,000
Triphenyl phosphate	200	1,000	4,000

Method 1658 Phenoxy-Acid Herbicides

Method 1658 consolidates several EPA wastewater methods used to determine Phenoxy-Acid Herbicides & Herbicide esters associated with the CWA, RCRA, & CERCLA; & other compounds amenable to extraction & analysis by wide-bore capillary column GC/ECD.

M-1658-CAL-SET $ 75 / **3 x 1 mL**
All solutions in Isooctane 12 comps.

Components (units in ng/mL)	Low (1X)	Medium (10X)	High (100X)
2,4-D	100	1,000	10,000
Dalapon	50	500	5,000
2,4-DB	200	2,000	20,000
2,4-Dichlorphenylacetic acid *(Surrogate)*	10	100	1,000
Dicamba	20	200	2,000
Dichlorprop	100	1,000	10,000
Dinoseb	50	500	5,000
MCPA	5,000	50,000	500,000
MCPP	5,000	50,000	500,000
Picloram	50	500	5,000
2,4,5-T	20	200	2,000
2,4,5-TP	20	200	2,000

Method 1659 Dazomet in Municipal & Industrial Wastewater by NPD

Method 1659 is used to determine Dazomet by base hydrolysis to Methyl Isothiocyanate (MITC) and subsequent determination of MITC by wide-bore fused-silica capillary column gas chromatography with a Nitrogen Phophorus Detector (NPD).

Recovery & Precision Solution

M-1659-RPS $ 10 / **1 x 1 mL**
25 µg/mL in Acetone

Methyl isothiocyanate *(MITC)*

Matrix Spiking Solution

M-1659-MS $ 10 / **1 x 1 mL**
25 µg/mL in Acetone

Dazomet

Calibration Solutions

M-1659-CAL-SET		$ 25 / **3 x 1 mL**
M-1659-CAL-1X	0.2 mg/mL in Acetone	**1 mL**
M-1659-CAL-5X	1.0 mg/mL in Acetone	**1 mL**
M-1659-CAL-25X	5.0 mg/mL in Acetone	**1 mL**

Methyl isothiocyanate *(MITC)*

Method 1664 See Petrochemical or Inorganic Sections

Method 1665 Semi-Volatile Organic Compounds Specific to the PMI by Isotope Dilution GC/MS

The following method series is designed to meet PMI (Pharmaceutical Manufacturing Industry) methods promulgated in 40 CFR part 136. It is used to monitor the discharge of pollutants into surface waters. It can also be used to identify and measure purgeable and non-purgeable volatiles, semi-volatiles, and certain organic pollutants specific to PMI discharge in water, soils, and municipal sludges.

PMI Semi-Volatile Set

M-1665-SET $ 320 / **5 x 1 mL**
(M-1618-GP-5ML, M-1653-TS, M-625-07-10X, M-1665, M-1665-LAB)

GPC Calibration Solution

M-1618-GP-5ML $ 35 / **1 x 5 mL**
At stated conc. in Acetone 5 comps.

Corn oil	(300.0 mg/mL)	Perylene	(0.1 mg/mL)
bis(2-Ethylhexyl)phthalate	(15.0 mg/mL)	Sulfur	(0.5 mg/mL)
Pentachlorophenol	(1.4 mg/mL)		

Instrument Performance Check Solution

M-1653-TS $ 20 / **1 x 1 mL**
50 µg/mL in Acetone

DFTPP

PMI Internal Standard

M-625-07-10X $ 20 / **1 x 1 mL**
2.0 mg/mL in CH_2Cl_2

2,2'-Difluorobiphenyl

PMI Stock Standard

M-1665 $ 60 / **1 x 1 mL**
2000 µg/mL each in CH_2Cl_2 6 comps.

Aniline	Dimethylformamide
N,N-Dimethylacetamide	2-Picoline
N,N-Dimethylaniline	Pyridine

PMI Labeled Stock Standard (Not for individual sale)

M-1665-LAB **1 x 1 mL**
500 µg/mL each in CH_2Cl_2 5 comps.

Aniline-d_7	2-Picoline-d_7
N,N-Dimethylaniline-d_{11}	Pyridine-d_5
Dimethylformamide-d_7	

Method 1666A (Rev. July 1998) Volatile Organic Compounds Specific to the PMI by Isotope Dilution GC/MS

PMI Purgeable Analytes

M-1666A-R2-SET $ 240 / **5 x 1 mL**
M-1666A-SSA-ADD, M-1666A-SSA-R2, M-1666A-SSB M-1666A-SSC, M-1666A-LAB

M-1666A-SSA-ADD $ 20 / **1 x 1 mL**
1000 µg/mL in MeOH

Isopropyl ether

PMI Stock Standard A

M-1666A-SSA-R2 $ 60 / **1 x 1 mL**
At stated conc. in Water 7 comps.

1-Butanol	(2500 µg/mL)	Isopropanol	(1000 µg/mL)
t-Butanol	(2500 µg/mL)	4-Methyl-2-pentanone	(1000 µg/mL)
2-Furaldehyde	(2500 µg/mL)	1-Pentanol	(2500 µg/mL)
Isobutyraldehyde	(2500 µg/mL)		

PMI Stock Standard B

M-1666A-SSB $ 60 / **1 x 1 mL**
At stated conc. in MeOH 9 comps.

Cyclohexane	(1000 µg/mL)	Trifluoromethane	(1000 µg/mL)
N-Heptane	(1000 µg/mL)	*m*-Xylene	(1000 µg/mL)
n-Hexane	(1000 µg/mL)	*o*-Xylene	(1000 µg/mL)
Methyl formate	(2500 µg/mL)	*p*-Xylene	(1000 µg/mL)
Tetrahydrofuran	(1000 µg/mL)		

PMI Stock Standard C

M-1666A-SSC $ 35 / **1 x 1 mL**
1000 µg/mL each in MeOH 4 comps.

Butyl acetate	Isopropyl acetate
Ethyl acetate	Pentyl acetate

PMI Labeled Stock Standard

M-1666A-LAB $ 200 / **1 x 1 mL**
At stated conc. in MeOH 8 comps.

L-Butanol-d_{10}	(500 µg/mL)	*n*-Hexane-d_{14}	(50 µg/mL)
Cyclohexane-d_{12}	(50 µg/mL)	Tetrahydrofuran-d_8	(50 µg/mL)
Ethyl Acetate-c_{13}	(50 µg/mL)	*o*-Xylene-d_{10}	(50 µg/mL)
N-Heptane-d^{16}	(50 µg/mL)	*m*-Xylene-d_{10}	(50 µg/mL)

PMI Direct Injection Analytes

M-1666A-DI-R1-SET $ 155 / **4 x 1 mL**
Set includes 4 products listed below

PMI Standard Direct Injection

M-1666A-DI-R1 $ 70 / **1 x 1 mL**
At stated conc. in Water 10 comps.

Acetonitrile	(1000 µg/mL)	Ethylene glycol	(2500 µg/mL)
Diethylamine	(2500 µg/mL)	Methanol	(1000 µg/mL)
Dimethylamine	(1000 µg/mL)	2-Methoxyethanol	(1000 µg/mL)
Dimethyl sulfoxide	(1000 µg/mL)	1-Propanol	(1000 µg/mL)
Ethanol	(1000 µg/mL)	Triethylamine	(2500 µg/mL)

M-1666A-DI-R-ADD1 $ 30 / **1 x 1 mL**
2500 µg/mL in Water

Methylamine

M-1666A-DI-R-ADD2 $ 30 / **1 x 1 mL**
5000 µg/mL in Water

Formamide

PMI Labeled Standard Direct Injection

M-1666A-DI-LAB $ 100 / **1 x 1 mL**
1000 µg/mL each in Water 6 comps.

Acetonitrile-d_3	Methanol-d_3
Dimethyl sulfoxide-d_6	*n*-Propanol-1-d_1
Ethanol-d_6	Tetrahydrofuran-d_8

PMI Instrument Performance

Purgeable Internal Standard

CLP-PI $ 25 / **1 x 1 mL**
CLP-PI-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
1.0 mg/mL each in MeOH 3 comps.

Bromochloromethane	1,4-Difluorobenzene
Chlorobenzene-d_5	

PMI Resolution Standard

M-1666A-RES $ 30 / **1 x 1 mL**
M-1666A-RES-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
100 µg/mL each in MeOH 2 comps.

o-Xylene	*o*-Xylene-d_{10}

Instrument Performance Check Solution

CLP-004-10X $ 10 / **1 x 1 mL**
CLP-004-10X-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
250 µg/mL in MeOH

p-Bromofluorobenzene

Method 1667A Formaldehyde, Isobutylaldehyde & Furfural by Derivatization followed by HPLC for PMI pollutants

PMI Carbonyl Set

M-1667A-SET $ 40 / **3 x 1 mL**

Each at 1.0 mg/mL in AcCN

	Cat. No.	Price / 1 mL
Formaldehyde	M-1667A-01	$ 20
2-Furaldehyde	M-1667A-02	20
Isobutyraldehyde	M-1667A-03	25

PMI Carbonyl DNPH Set

M-1667A-DNPH-SET $ 65 / **3 x 1 mL**

Each at 1.0 mg/mL in AcCN

	Cat. No.	Price / 1 mL
Formaldehyde-DNPH	M-1667A-DNPH-01	$ 35
2-Furaldehyde-DNPH	M-1667A-DNPH-02	35
Isobutyraldehyde-DNPH	M-1667A-DNPH-03	35

PMI QA/QC Carbonyl Mixture

M-1667A-M $ 35 / **1 x 1 mL**

M-1667A-M-PAK *SAVE 20%* $ 140 / **5 x 1 mL**

250 µg/mL each in AcCN 3 comps.

Formaldehyde
2-Furaldehyde
Isobutyraldehyde

PMI QA/QC Carbonyl Derivative DNPH Mixture

M-1667A-DNPH $ 60 / **1 x 1 mL**

M-1667A-DNPH-PAK *SAVE 20%* $ 240 / **5 x 1 mL**

250 µg/mL each in AcCN 3 comps.

Formaldehyde-DNPH
2-Furaldehyde-DNPH
Isobutyraldehyde-DNPH

PMI Derivatization Reagent

M-1667A-DERV-10ML $ 13 / **10 mL**

M-1667A-DERV-10ML-PAK *SAVE 20%* $ 50 / **5 x 10 mL**

1.0 mg/mL in AcCN

2,4-Dinitrophenylhydrazine (DNPH)

Method 1668 Congener Set - 209 Chlorinated Biphenyl Congeners by HRGC/HRMS

Congener specific determination of all 209 PCB congeners for calibration on a SPB-Octyl capillary column.

M-1668A-0.01X-SET $ 700 / **5 x 1 mL (M-1668A-1-0.01X, M-1668A-2-0.01X, M-1668A-3-0.01X, M-1668A-4-0.01X, M-1668A-5-0.01X)**

PCB Congener Mix #1

M-1668A-1-0.01X **1 x 1 mL**
At stated conc. in Isooctane 83 comps.

3-Chlorobiphenyl	(2.5 µg/mL)	2,3',4,5,5'-Pentachlorobiphenyl	(5.0 µg/mL)
2,6-Dichlorobiphenyl	(2.5 µg/mL)	2',3,4,5,5'-Pentachlorobiphenyl	(5.0 µg/mL)
2,5-Dichlorobiphenyl	(2.5 µg/mL)	2,3,3',4,5-Pentachlorobiphenyl	(5.0 µg/mL)
2,3'-Dichlorobiphenyl	(2.5 µg/mL)	2',3,3',4,5-Pentachlorobiphenyl	(5.0 µg/mL)
2,4'-Dichlorobiphenyl	(2.5 µg/mL)	2,3,3',4,4'-Pentachlorobiphenyl	(5.0 µg/mL)
3,5-Dichlorobiphenyl	(2.5 µg/mL)	3,3',4,5,5'-Pentachlorobiphenyl	(5.0 µg/mL)
3,3'-Dichlorobiphenyl	(2.5 µg/mL)	2,2',3,5,6,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,4,6-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,3',6,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3',6-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,4',5,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,4',6-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,5,5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2',3,5-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,4,5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2,3',5-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,4,5,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,4',5-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,4,5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2',3,4-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,3',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
3,3',5-Trichlorobiphenyl	(2.5 µg/mL)	2,3,3',4,5',6-Hexachlorobiphenyl	(5.0 µg/mL)
3,4,5-Trichlorobiphenyl	(2.5 µg/mL)	2,2',4,4',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
3,3',4-Trichlorobiphenyl	(2.5 µg/mL)	2,2',3,3',4,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',4,6-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,6-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3,4,4',5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',5,5'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3,3',4,5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',4,5'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3',4,4',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,4,4',6-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3,3',4,4',5-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',5,6,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,3',5,5'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,6,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,3,3',5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',5,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,3,4',5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,3',4,4'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4,4',5',6-Heptachlorobiphenyl	(5.0 µg/mL)
3,3',4,5'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4',5,6-Heptachlorobiphenyl	(5.0 µg/mL)
3,3',4,5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',6-Heptachlorobiphenyl	(5.0 µg/mL)
3,4,4',5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5,5'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,6,6'-Pentachlorobiphenyl	(5.0 µg/mL)	2,3,3',4,4',5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',4,5',6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',5-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,5',6-Pentachlorobiphenyl	(5.0 µg/mL)	2,3,3',4,4',5,6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5',6,6'-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,4,6'-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,4,4',5,6,6'-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,5,5'-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5,6,6'-Octachlorobiphenyl	(7.5 µg/mL)
2,3,3',5',6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5,5',6-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,3',5-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',5',6-Octachlorobiphenyl	(7.5 µg/mL)
2,3',4,4',6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',5,6-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,4,5'-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',5,5'-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,4,4'-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	(7.5 µg/mL)
2,2',3,3',4-Pentachlorobiphenyl	(5.0 µg/mL)		

PCB Congener Mix #2

M-1668A-2-0.01X **1 x 1 mL**
At stated conc. in Isooctane 54 comps.

2,4-Dichlorobiphenyl	(2.5 µg/mL)
2,3-Dichlorobiphenyl	(2.5 µg/mL)
3,4-Dichlorobiphenyl	(2.5 µg/mL)
2,2',5-Trichlorobiphenyl	(2.5 µg/mL)
2,3,6-Trichlorobiphenyl	(2.5 µg/mL)
2,3,5-Trichlorobiphenyl	(2.5 µg/mL)
2,4,4'-Trichlorobiphenyl	(2.5 µg/mL)
2,3,4'-Trichlorobiphenyl	(2.5 µg/mL)
3,4',5-Trichlorobiphenyl	(2.5 µg/mL)
2,2',5,6'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',4,6'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3',5',6-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',4,5-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,4,6-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3',4',6-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3',4,5'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,3',5'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,4,5-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,3',4-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,4,4'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',3,5,6'-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',4,4',6-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',6-Pentachlorobiphenyl	(5.0 µg/mL)
2,3',4,5',6-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',4,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,6-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,4',5,6-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,3',5,5'-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,5'-Pentachlorobiphenyl	(5.0 µg/mL)
2,3',4,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,4,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',6,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,6,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',5,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',4,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',5,5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2,3',4,4',5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',5-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',4,4'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',4',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,4',5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',6,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,5,6,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',5,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,5,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',5,6-Heptachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,5,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',4,4',6,6'-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,4,4',5,5',6-Octachlorobiphenyl	(7.5 µg/mL)

PCB Congener Mix #3

M-1668A-3-0.01X **1 x 1 mL**
At stated conc. in Isooctane 29 comps.

3,4'-Dichlorobiphenyl	(2.5 µg/mL)	2,2',3,4,5-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',4-Trichlorobiphenyl	(2.5 µg/mL)	2,3,4,5,6-Pentachlorobiphenyl	(5.0 µg/mL)
2,4,5-Trichlorobiphenyl	(2.5 µg/mL)	2,3,3',4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,3'-Trichlorobiphenyl	(2.5 µg/mL)	2,2',4,4',5,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,6'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4',5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,5,6-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4,4',6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',6-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,3'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4,5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,3',4,5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3,3',4',5',6-Hexachlorobiphenyl	(5.0 µg/mL)
2',3,4,5-Tetrachlorobiphenyl	(5.0 µg/mL)	2,3,3',4,4',6-Hexachlorobiphenyl	(5.0 µg/mL)
3,3',5,5'-Tetrachlorobiphenyl	(5.0 µg/mL)	2,2',3,4,4',5,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,5,6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',6-Pentachlorobiphenyl	(5.0 µg/mL)	2,2',3,3',4,5,6-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',4,5,5'-Pentachlorobiphenyl	(5.0 µg/mL)	2,3,3',4',5,5',6-Heptachlorobiphenyl	(5.0 µg/mL)
2,3,3',5,6-Pentachlorobiphenyl	(5.0 µg/mL)		

All 209 Individual PCB Congeners are listed in PCB Section.

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Method 1668 (Continued) Congener Set - 209 Chlorinated Biphenyl Congeners by HRGC/HRMS

PCB Congener Mix #4

M-1668A-4-0.01X **1 x 1 mL**
At stated conc. in Isooctane 15 comps.

2,3',4-Trichlorobiphenyl	(2.5 µg/mL)
2,3,4-Trichlorobiphenyl	(2.5 µg/mL)
2,3',4,6-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',4,4'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',3,4'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,4',6-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3',4',5-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',4,5,6'-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3',4,5-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,4,4',6-Pentachlorobiphenyl	(5.0 µg/mL)
2',3,4,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',4,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,3,3',4',5,6-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',5,5'-Heptachlorobiphenyl	(5.0 µg/mL)

PCB Congener Mix #5

M-1668A-5-0.01X **1 x 1 mL**
At stated conc. in Isooctane 28 comps.

2-Chlorobiphenyl	(2.5 µg/mL)
4-Chlorobiphenyl	(2.5 µg/mL)
2,2'-Dichlorobiphenyl	(2.5 µg/mL)
4,4'-Dichlorobiphenyl	(2.5 µg/mL)
2,2',6-Trichlorobiphenyl	(2.5 µg/mL)
2,2',3-Trichlorobiphenyl	(2.5 µg/mL)
3,4,4'-Trichlorobiphenyl	(2.5 µg/mL)
2,2',6,6'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',3,5-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',3,5'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,4,4',5-Tetrachlorobiphenyl	(5.0 µg/mL)
2,3,3',4'-Tetrachlorobiphenyl	(5.0 µg/mL)
3,3',4,4'-Tetrachlorobiphenyl	(5.0 µg/mL)
2,2',4,6,6'-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,6-Pentachlorobiphenyl	(5.0 µg/mL)
2',3,4,5,6'-Pentachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,6-Pentachlorobiphenyl	(5.0 µg/mL)
3,3',4,4',5-Pentachlorobiphenyl	(5.0 µg/mL)
2,2',4,4',6,6'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4,4',5'-Hexachlorobiphenyl	(5.0 µg/mL)
3,3',4,4',5,5'-Hexachlorobiphenyl	(5.0 µg/mL)
2,2',3,4',5,6,6'-Heptachlorobiphenyl	(5.0 µg/mL)
2,3,3',4,4',5,5'-Heptachlorobiphenyl	(5.0 µg/mL)
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	(7.5 µg/mL)
2,3,3',4,4',5,5',6-Octachlorobiphenyl	(7.5 µg/mL)
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	(7.5 µg/mL)
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	(7.5 µg/mL)
Decachlorobiphenyl	(7.5 µg/mL)

Method 1668 Level of Chlorination Calibration / Spike

Level of Chlorination Calibration / Spike Set

M-1668A-LOC-SET $ 150 / **2 x 1 mL (M-1668A-NAT, M-1668A-PAR)**

Native PCB Calibration Mix

M-1668A-NAT **1 x 1 mL**
At stated conc. in Isooctane 19 comps.

4-Chlorobiphenyl	(5 µg/mL)
4,4'-Dichlorobiphenyl	(5 µg/mL)
2,4,4'-Trichlorobiphenyl	(5 µg/mL)
3,3',4,4'-Tetrachlorobiphenyl	(1 µg/mL)
2,3,3',4,4'-Pentachlorobiphenyl	(5 µg/mL)
2,3,4,4',5-Pentachlorobiphenyl	(5 µg/mL)
2,3',4,4',5-Pentachlorobiphenyl	(5 µg/mL)
2',3,4,4',5-Pentachlorobiphenyl	(5 µg/mL)
3,3',4,4',5-Pentachlorobiphenyl	(5 µg/mL)
2,3,3',4,4',5-Hexachlorobiphenyl	(10 µg/mL)
2,3,3',4,4',5'-Hexachlorobiphenyl	(10 µg/mL)
2,3',4,4',5,5'-Hexachlorobiphenyl	(10 µg/mL)
3,3',4,4',5,5'-Hexachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5-Heptachlorobiphenyl	(10 µg/mL)
2,2',3,4,4',5,5'-Heptachlorobiphenyl	(10 µg/mL)
2,3,3',4,4',5,5'-Heptachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	(20 µg/mL)

PAR PCB Spike Mix

M-1668A-PAR **1 x 1 mL**
At stated conc. in Isooctane 19 comps.

4-Chlorobiphenyl	(10 µg/mL)
4,4'-Dichlorobiphenyl	(10 µg/mL)
2,4,4'-Trichlorobiphenyl	(10 µg/mL)
3,3',4,4'-Tetrachlorobiphenyl	(0.2 µg/mL)
2,3,3',4,4'-Pentachlorobiphenyl	(10 µg/mL)
2,3,4,4',5-Pentachlorobiphenyl	(10 µg/mL)
2,3',4,4',5-Pentachlorobiphenyl	(10 µg/mL)
2',3,4,4',5-Pentachlorobiphenyl	(10 µg/mL)
3,3',4,4',5-Pentachlorobiphenyl	(1 µg/mL)
2,3,3',4,4',5-Hexachlorobiphenyl	(10 µg/mL)
2,3,3',4,4',5'-Hexachlorobiphenyl	(10 µg/mL)
2,3',4,4',5,5'-Hexachlorobiphenyl	(10 µg/mL)
3,3',4,4',5,5'-Hexachlorobiphenyl	(2 µg/mL)
2,2',3,3',4,4',5-Heptachlorobiphenyl	(2 µg/mL)
2,2',3,4,4',5,5'-Heptachlorobiphenyl	(10 µg/mL)
2,3,3',4,4',5,5'-Heptachlorobiphenyl	(2 µg/mL)
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	(10 µg/mL)
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	(20 µg/mL)

Method 1668A - Combined Congener Standard

M-1668A-C-NT-LOC-WD $ 150 / **1 x 1 mL**
20 µg/mL each in Isooctane 33 comps.

2-Chlorobiphenyl	2,2',4,4',6,6'-Hexachlorobiphenyl
4-Chlorobiphenyl	2,3,3',4,4',5-Hexachlorobiphenyl
2,2'-Dichlorobiphenyl	2,3,3',4,4',5'-Hexachlorobiphenyl
4,4'-Dichlorobiphenyl	2,3',4,4',5,5'-Hexachlorobiphenyl
2,2',6-Trichlorobiphenyl	3,3',4,4',5,5'-Hexachlorobiphenyl
2,3,5-Trichlorobiphenyl	2,2',3,3',4,4',5-Heptachlorobiphenyl
2',3,5-Trichlorobiphenyl	2,2',3,4,4',5,5'-Heptachlorobiphenyl
3,4,4'-Trichlorobiphenyl	2,2',3,4,4',5,6'-Heptachlorobiphenyl
2,2',6,6'-Tetrachlorobiphenyl	2,2',3,4',5,5',6-Heptachlorobiphenyl
3,3',4,4'-Tetrachlorobiphenyl	2,2',3,4',5,6,6'-Heptachlorobiphenyl
3,4,4',5-Tetrachlorobiphenyl	2,3,3',4,4',5,5'-Heptachlorobiphenyl
2,2',4,6,6'-Pentachlorobiphenyl	2,2',3,3',5,5',6,6'-Octachlorobiphenyl
2,3,3',4,4'-Pentachlorobiphenyl	2,3,3',4,4',5,5',6-Octachlorobiphenyl
2,3,4,4',5-Pentachlorobiphenyl	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl
2,3',4,4',5-Pentachlorobiphenyl	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl
2',3,4,4',5-Pentachlorobiphenyl	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl
3,3',4,4',5-Pentachlorobiphenyl	

Method 1668A - QC Standard

M-1668A-QC $ 80 / **1 x 1 mL**
M-1668A-QC-PAK ***SAVE 20%*** $ 320 / **5 x 1 mL**
At stated conc. in Isooctane 13 comps.

3,3',4,4'-Tetrachlorobiphenyl	(0.2 µg/mL)
2,3,3',4,4'-Pentachlorobiphenyl	(10 µg/mL)
2,3,4,4',5-Pentachlorobiphenyl	(10 µg/mL)
2,3',4,4',5-Pentachlorobiphenyl	(10 µg/mL)
2',3,4,4',5-Pentachlorobiphenyl	(10 µg/mL)
3,3',4,4',5-Pentachlorobiphenyl	(1 µg/mL)
2,3,3',4,4',5-Hexachlorobiphenyl	(10 µg/mL)
2,3,3',4,4',5'-Hexachlorobiphenyl	(10 µg/mL)
2,3',4,4',5,5'-Hexachlorobiphenyl	(10 µg/mL)
3,3',4,4',5,5'-Hexachlorobiphenyl	(2 µg/mL)
2,2',3,3',4,4',5-Heptachlorobiphenyl	(2 µg/mL)
2,2',3,4,4',5,5'-Heptachlorobiphenyl	(10 µg/mL)
2,3,3',4,4',5,5'-Heptachlorobiphenyl	(2 µg/mL)

Method 1671 VOCs Specific to PMI by GC/FID

PMI Internal Standard

M-1671A-IS $ 20 / **1 x 1 mL**
M-1671A-IS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
1.0 mg/mL in Water

Tetrahydrofuran

Custom Formulations

Contact our Technical Service Department for different composition PEG materials. AccuStandard can obtain PEG with different mixtures of oligomers having molecular weights centered around 200, 300, 400, 550, 1000, 1450, 3350, 8000, 10,000 ca.

Method 1673 Polyethylene glycol-600 by Derivative & HPLC

Poly(ethylene glycol)-600

M-1673 $ 35 / **1 x 1 mL**
M-1673-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
2.5 mg/mL in Tetrahydrofuran

Polyethylene glycol-600

Surrogate Standard

M-1673-SS $ 25 / **1 x 1 mL**
M-1673-SS-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
1.0 mg/mL in Tetrahydrofuran

Diethylene glycol monohexyl ether

Derivatization Reagent

M-1673-DERV-5ML $ 30 / **1 x 5 mL**
10 mg/mL in Tetrahydrofuran

3,5-Dinitrobenzyl chloride

Buy AccuPaks™
Save 20-40% 5 x 1 mL

Method 5041 VOCs from Stack Gas Effuents

VOCs From Stack Gas Effluents of Hazardous Waste Incinerators Using Volatile Organic Sampling Train (VOST) Methodology by Wide-Bore Capillary Column Technique

M-5041 $ 80 / **1 x 1 mL**
0.2 mg/mL each in MeOH 37 comps.

Acetone
Acrylonitrile
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Chloromethane
Dibromomethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
cis-1,3-Dichloropropene *
trans-1,3-Dichloropropene **
Ethylbenzene
Iodomethane
Methylene chloride
Stryrene
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
1,2,3-Trichloropropane
Vinyl chloride
o-Xylenes
m-Xylenes
p-Xylenes

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Internal/Surrogate Standard

CLP-PIPS $ 40 / **1 x 1 mL**
CLP-PIPS-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2.5 mg/mL each in MeOH 6 comps.

Bromochloromethane
p-Bromofluorobenzene
Chlorobenzene-d_5
1,2-Dichloroethane-d_4
1,4-Difluorobenzene
Toluene-d_8

Calibration Check Compounds (CCC)

CLP-020-10X $ 30 / **1 x 1 mL**
CLP-020-10X-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH 6 comps.

Chloroform
1,1-Dichloroethene
1,2-Dichloropropane
Ethylbenzene
Toluene
Vinyl chloride

System Performance Check Compounds (SPCC)

CLP-021-10X $ 30 / **1 x 1 mL**
CLP-021-10X-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH 5 comps.

Bromoform
Chlorobenzene
Chloromethane
1,1-Dichloroethane
1,1,2,2-Tetrachloroethane

Instrument Performance Check Solution

CLP-004-100X $ 10 / **1 x 1 mL**
CLP-004-100X-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
2500 µg/mL in MeOH

p-Bromofluorobenzene

Standard Mixtures for EPA Method 8000 Series

For Solid Waste

Background Information

The analytical methods used to identify and quantify organic compounds in solid waste are provided in US EPA SW-846, also known as the 8000 series methods.

These methods were developed in response to environmental problem areas such as Love Canal, N.Y. and Times Beach, MO. A historical perspective of the evolution of this series includes the Resource and Conservation Recovery Act (RCRA), which was amended by the Hazardous and Solid Waste Act (HSWA). HSWA also addressed previously exempted underground storage tanks containing petroleum and some hazardous substances.

The 8000 Series product line contains standards used in the proposed and promulgated methods for the identification and quantitation of organic compounds on the EPA's Appendix VIII and Appendix IX lists in ground water, waste water, and solids at hazardous waste treatment, storage, and disposal sites. An additional method Toxicity Characteristic Leaching Procedure (TCLP) Method 1311 is used with 8000 series methods to estimate the toxicity of solid waste materials under the leaching conditions found in a landfill.

The organic compounds listed in these methods include volatile organic compounds (VOCs), pesticides, synthetic organic compounds (SOCs), and disinfection by-products.

Detectors

Analytical techniques used in identification and quantification include gas chromatography with selective detectors (AED, PID, ELCD, ECD, FID, FTIR, NPD, FPD, TEA, TCD) gas chromatography /mass spectrometry, and high performance liquid chromatography.

Comprehensive

Complete analysis of target compounds by these 8000 Series Methods can be accomplished using the series of standards formulated by AccuStandard for each method along with the required internal and surrogate standards. Formulations for 8000 series methods have been developed as easy-to-use large core mixes containing target compounds and as high concentration sub mixes for combination with other formulations to meet laboratory specific analyte detection requirements.

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* These Methods can be found in the SW-846 update II, Nov. 1992, rev. 2

EPA Method 8000 Series

Appendix IX Compounds

AccuStandard has assembled the compounds appearing below to aid the analyst in identifying all the contaminants the EPA has regulated for groundwater monitoring. This list (214 compounds), commonly called the Appendix IX list, was first published in July 1987. Federal Register Vol. 52, No. 131.

The entire list of compounds can be purchased as a complete set as:
APP-9-SET $ 1,450 / **214 x 1 mL**

Appendix IX Compounds All solutions are in 100 µg/mL in 1 mL

Compound	CAS No.	Solv.	Cat. No.	Price
Acenaphthene	83-32-9	MeOH	APP-9-001	$ 15
Acenaphthylene	208-96-8	MeOH	APP-9-002	15
Acetone ‡	67-64-1	MeOH	APP-9-003	12
Acetonitrile	75-05-8	MeOH	APP-9-005	12
Acetophenone	98-86-2	CH_2Cl_2	APP-9-004	12
2-Acetylaminofluorene	53-96-3	CH_2Cl_2	APP-9-006	20
Acrolein ‡	107-02-8	M:W	APP-9-007	12
Acrylonitrile	107-13-1	MeOH	APP-9-008	12
Aldrin	309-00-2	MeOH	APP-9-009	12
Allyl chloride	107-05-1	MeOH	APP-9-010	12
4-Aminobiphenyl	92-67-1	CH_2Cl_2	APP-9-011	20
Aniline	62-53-3	MeOH	APP-9-012	12
Anthracene	120-12-7	MeOH	APP-9-013	15
Aramite	140-57-8	MeOH	APP-9-014	22
Benz[a]anthracene	56-55-3	MeOH	APP-9-016	15
Benzene	71-43-2	MeOH	APP-9-015	12
Benzo[b]fluoranthene	205-99-2	MeOH	APP-9-017	20
Benzo[k]fluoranthene	2070-08-9	MeOH	APP-9-018	20
Benzo[g,h,i]perylene	191-24-2	CH_2Cl_2	APP-9-019	20
Benzo[a]pyrene	50-32-8	MeOH	APP-9-020	20
Benzyl alcohol	100-51-6	MeOH	APP-9-021	12
α-BHC	319-84-6	MeOH	APP-9-022	22
β-BHC	319-85-7	MeOH	APP-9-023	22
δ-BHC	319-86-8	MeOH	APP-9-024	42
γ-BHC (Lindane)	58-89-9	MeOH	APP-9-025	12
bis(2-Chloroethoxy)methane	111-91-1	CH_2Cl_2	APP-9-026	20
bis(2-Chloroethyl)ether	111-44-4	MeOH	APP-9-027	20
bis(2-Chloro-1-methylethyl)ether (2,2-Dichlorodiisopropyl ether)	108-60-1	CH_2Cl_2	APP-9-028	20
bis(2-Ethylhexyl)phthalate	117-81-7	MeOH	APP-9-029	12
Bromodichloromethane	75-27-4	MeOH	APP-9-030	12
Bromoform	75-25-2	MeOH	APP-9-031	12
Bromomethane	74-83-9	MeOH	APP-9-032	12
4-Bromophenyl phenyl ether	101-55-3	MeOH	APP-9-033	15
Butyl benzyl phthalate	85-68-7	MeOH	APP-9-034	20
Carbon disulfide	75-15-0	MeOH	APP-9-035	12
Carbon tetrachloride	56-23-5	MeOH	APP-9-036	12
Chlordane	57-74-9	MeOH	APP-9-037	12
p-Chloroaniline	106-47-8	MeOH	APP-9-038	12
Chlorobenzene	108-90-7	MeOH	APP-9-039	12
Chlorobenzilate	510-15-6	CH_2Cl_2	APP-9-040	12
p-Chloro-*m*-cresol	59-50-7	MeOH	APP-9-041	12
Chloroethane	75-00-3	MeOH	APP-9-042	12
Chloroform	67-66-3	MeOH	APP-9-043	12
Chloromethane	74-87-3	MeOH	APP-9-044	12
2-Chloronaphthalene	91-58-7	MeOH	APP-9-045	12
2-Chlorophenol	95-57-8	MeOH	APP-9-046	12
4-Chlorophenyl phenyl ether	7005-72-3	MeOH	APP-9-047	20
Chloroprene (Xylene-Free)	126-99-8	MeOH	APP-9-048-R1	12
Chrysene	218-01-9	MeOH	APP-9-049	15
m-Cresol	108-39-4	CH_2Cl_2	APP-9-050	12
o-Cresol	95-48-7	CH_2Cl_2	APP-9-051	12
p-Cresol	106-44-5	CH_2Cl_2	APP-9-052	12
2,4-D	94-75-7	MeOH	APP-9-053	12
4,4'-DDD	72-54-8	MeOH	APP-9-054	12
4,4'-DDE	72-55-9	MeOH	APP-9-055	12
4,4'-DDT	50-29-3	MeOH	P-029S	12
Diallate	2303-16-4	MeOH	APP-9-057	42
Dibenz[a,h]anthracene	53-70-3	MeOH	APP-9-058	15
Dibenzofuran	132-64-9	MeOH	APP-9-059	12
Dibromochloromethane	124-48-1	MeOH	APP-9-060	12
1,2-Dibromo-3-chloropropane	96-12-8	MeOH	APP-9-061	12
Dibromomethane	74-95-3	MeOH	APP-9-062	12
1,2-Dibromoethane, EDB	107-06-2	MeOH	APP-9-214	12
Di-*n*-butyl phthalate	84-74-2	MeOH	APP-9-063	12
o-Dichlorobenzene	95-50-1	MeOH	APP-9-064	12
m-Dichlorobenzene	541-73-1	MeOH	APP-9-065	12
p-Dichlorobenzene	106-46-7	MeOH	APP-9-066	12
3,3'-Dichlorobenzidine	91-94-1	MeOH	APP-9-067	20
trans-1,4-Dichloro-2-butene	110-57-6	MeOH	APP-9-068	12
Dichlorodifluoromethane	75-71-8	MeOH	APP-9-069	12

Compound	CAS No.	Solv.	Cat. No.	Price
1,1-Dichloroethane	75-34-3	MeOH	APP-9-070	$ 12
1,2-Dichloroethane	107-06-2	MeOH	APP-9-071	12
1,1-Dichloroethylene	75-34-2	MeOH	APP-9-072	12
trans-1-2-Dichloroethylene	156-60-5	MeOH	APP-9-073	12
Dichloromethane	75-09-2	MeOH	APP-9-074	12
2,4-Dichlorophenol	120-83-2	MeOH	APP-9-075	12
2,6-Dichlorophenol	87-65-0	CH_2Cl_2	APP-9-076	12
1,2-Dichloropropane	78-87-5	MeOH	APP-9-077	12
cis-1,3-Dichloropropene	10061-01-5	MeOH	APP-9-078	12
trans-1,3-Dichloropropene	10061-02-6	MeOH	APP-9-079	12
Dieldrin	60-57-1	MeOH	APP-9-080	22
Diethyl phthalate	84-66-2	MeOH	APP-9-081	12
Dimethoate	60-51-5	MeOH	APP-9-082	22
p-(Dimethylamino)azobenzene	60-11-7	CH_2Cl_2	APP-9-083	20
7,12-Dimethylbenz[a]anthracene	57-97-6	CH_2Cl_2	APP-9-084	20
3,3'-Dimethylbenzidine	119-93-7	CH_2Cl_2	APP-9-085	20
a,a-Dimethylphenethylamine	122-09-8	CH_2Cl_2	APP-9-086	20
2,4-Dimethylphenol	105-67-9	MeOH	APP-9-087	12
Dimethyl phthalate	131-11-3	MeOH	APP-9-088	12
m-Dinitrobenzene	99-65-0	CH_2Cl_2	APP-9-089	20
4,6-Dinitro-*o*-cresol	534-52-1	MeOH	APP-9-090	12
2,4-Dinitrophenol	51-28-5	MeOH	APP-9-091	12
2,4-Dinitrotoluene	121-14-2	MeOH	APP-9-092	12
2,6-Dinitrotoluene	606-20-2	MeOH	APP-9-093	12
Dinoseb	88-85-7	MeOH	APP-9-094	12
Di-*n*-octyl phthalate	117-84-0	MeOH	APP-9-095	12
1,4-Dioxane	123-91-1	MeOH	APP-9-096	12
Diphenylamine	122-39-4	CH_2Cl_2	APP-9-097	12
Disulfoton	298-04-4	MeOH	APP-9-098	12
Endosulfan I	959-98-8	MeOH	APP-9-099	22
Endosulfan II	33213-65-9	MeOH	APP-9-100	22
Endosulfan sulfate	1031-07-8	MeOH	APP-9-101	22
Endrin	72-20-8	MeOH	APP-9-102	22
Endrin aldehyde	7421-93-4	MeOH	APP-9-103	22
Ethylbenzene	100-41-4	MeOH	APP-9-104	12
Ethyl methacrylate	97-63-2	MeOH	APP-9-105	12
Ethylmethanesulfonate	62-50-0	CH_2Cl_2	APP-9-106	20
Famphur	52-85-7	MeOH	APP-9-107	12
Fluoranthene	206-44-0	MeOH	APP-9-108	15
Fluorene	86-73-7	MeOH	APP-9-109	15
Heptachlor	76-44-8	MeOH	APP-9-110	12
Heptachlor epoxide [Isomer B]	1024-57-3	MeOH	APP-9-111	22
Hexachlorobenzene	118-74-1	MeOH	APP-9-112	12
Hexachlorobutadiene	87-68-3	MeOH	APP-9-113	12
Hexachlorocyclopentadiene	77-47-4	MeOH	APP-9-114	12
Hexachloroethane	67-72-1	MeOH	APP-9-115	12
Hexachlorophene	70-30-4	MeOH	APP-9-116	12
Hexachloropropene	1888-71-7	MeOH	APP-9-117	12
2-Hexanone ‡	591-78-6	MeOH	APP-9-118	12
Indeno[1,2,3-cd]pyrene	193-39-5	MeOH	APP-9-119	20
Isobutyl alcohol	78-83-1	MeOH	APP-9-120	12
Isodrin	465-73-6	MeOH	APP-9-121	12
Isophorone	78-59-1	MeOH	APP-9-122	12
Isosafrole	120-58-1	CH_2Cl_2	APP-9-123	20
Kepone	143-50-0	MeOH	APP-9-124	12
Methacrylonitrile	126-98-7	MeOH	APP-9-125	20
Methapyrilene	91-80-5	CH_2Cl_2	APP-9-126	20
Methoxychlor	72-43-5	MeOH	APP-9-127	12
3-Methylcholanthrene	56-49-5	CH_2Cl_2	APP-9-128	20
Methyl ethyl ketone; MEK ‡	78-93-3	MeOH	APP-9-129	12
Methyl iodide: Iodomethane	74-88-4	MeOH	APP-9-130	12
Methyl methacrylate	80-62-6	MeOH	APP-9-131	12
Methyl methanesulfonate	66-27-3	CH_2Cl_2	APP-9-132	20
2-Methylnaphthalene	91-57-6	CH_2Cl_2	APP-9-133	12
Methyl parathion	298-00-0	MeOH	APP-9-134	32
4-Methyl-2-pentanone *(MIBK)*	108-10-1	MeOH	APP-9-135	12
Naphthalene	91-20-3	CH_2Cl_2	APP-9-136	15
1,4-Naphthoquinone	130-15-4	CH_2Cl_2	APP-9-137	20
1-Naphthylamine	134-32-7	CH_2Cl_2	APP-9-138	20
2-Naphthylamine	91-59-8	CH_2Cl_2	APP-9-139	20
o-Nitroaniline	88-74-4	CH_2Cl_2	APP-9-140	12

‡ To delay premature breakdown of thermally labile products in transit we suggest requesting a "**Cold Pack**"

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Custom Appendix IX formulations are available. Please use our Custom Quotation Request on our website or fax us for any custom mixture you may need.

The entire list of compounds can be purchased as a complete set as:
APP-9-SET $ 1,450 / **214 x 1 mL**

Appendix IX Compounds

All solutions are in 100 µg/mL in 1 mL

Compound	CAS No.	Solv.	Cat. No.	Price
m-Nitroaniline	99-09-2	CH_2Cl_2	APP-9-141	$ 12
p-Nitroaniline	100-01-6	CH_2Cl_2	APP-9-142	12
Nitrobenzene	98-95-3	MeOH	APP-9-143	12
o-Nitrophenol	88-75-5	MeOH	APP-9-144	12
p-Nitrophenol	100-02-7	MeOH	APP-9-145	12
4-Nitroquinoline-1-oxide	56-57-5	CH_2Cl_2	APP-9-146	20
N-Nitrosodi-*n*-butylamine	924-16-3	CH_2Cl_2	APP-9-147	20
N-Nitrosodiethylamine	55-18-5	CH_2Cl_2	APP-9-148	20
N-Nitrosodimethylamine	62-75-9	CH_2Cl_2	APP-9-149	20
N-Nitrosodiphenylamine	86-30-6	CH_2Cl_2	APP-9-150	20
N-Nitrosodipropylamine	621-64-7	CH_2Cl_2	APP-9-151	20
N-Nitrosomethylethylamine	10595-95-6	CH_2Cl_2	APP-9-152	20
N-Nitrosomorpholine	59-89-2	CH_2Cl_2	APP-9-153	20
N-Nitrosopiperidine	100-75-4	CH_2Cl_2	APP-9-154	20
N-Nitrosopyrrolidine	930-55-2	CH_2Cl_2	APP-9-155	20
5-Nitro-*o*-toluidine	99-55-8	CH_2Cl_2	APP-9-156	20
Parathion	56-38-2	MeOH	APP-9-157	12
Polychlorinated biphenyls:				
Aroclor® 1016	12674-11-2	MeOH	APP-9-158	12
Aroclor 1221	11104-28-2	MeOH	APP-9-159	12
Aroclor 1232	11141-16-5	MeOH	APP-9-160	12
Aroclor 1242	53469-21-9	MeOH	APP-9-161	15
Aroclor 1248	12672-29-6	MeOH	APP-9-162	12
Aroclor 1254	11097-69-1	MeOH	APP-9-163	12
Aroclor 1260	11096-82-5	MeOH	APP-9-164	12
Aroclor 1262	37324-23-5	MeOH	APP-9-165	12
Aroclor 1268	11100-14-4	MeOH	APP-9-166	12
	0.5 mg/mL in	MeOH	APP-9-166-5X	15
Dioxins:				
2,3,7,8-TCDD (5 µg/mL)	1746-01-6	Toluene	APP-9-167	50
1,2,3,7,8-PCCD (5 µg/mL)	40321-76-4	Toluene	APP-9-168	50
1,2,3,4,7,8-HCDD (5 µg/mL)	39227-28-6	Toluene	APP-9-169	50
Polychlorinated dibenzofurans:				
2,3,7,8-TCDF (5 µg/mL)	51207-31-9	Toluene	APP-9-170	75
1,2,3,7,8-PCDF (5 µg/mL)	57117-41-6	Toluene	APP-9-171	75
1,2,3,4,7,8-HCDF (5 µg/mL)	55684-94-1	Toluene	APP-9-172	75

Compound	CAS No.	Solv.	Cat. No.	Price
Pentachlorobenzene	608-93-5	MeOH	APP-9-173	$ 12
Pentachloroethane	76-01-7	MeOH	APP-9-174	12
Pentachloronitrobenzene	82-68-8	MeOH	APP-9-175	12
Pentachlorophenol	87-86-5	MeOH	APP-9-176	12
Phenacetin	62-44-2	CH_2Cl_2	APP-9-177	20
Phenanthrene	85-01-8	MeOH	APP-9-178	15
Phenol	108-95-2	CH_2Cl_2	APP-9-179	12
p-Phenylenediamine	106-50-3	MeOH	APP-9-180	20
Phorate	298-02-2	MeOH	APP-9-181	12
2-Picoline	109-06-8	MeOH	APP-9-182	20
Pronamide	23950-58-5	MeOH	APP-9-183	12
Propionitrile	107-12-0	MeOH	APP-9-184	12
Pyrene	129-00-0	MeOH	APP-9-185	15
Pyridine	110-86-1	CH_2Cl_2	APP-9-186	12
Safrole	94-59-7	MeOH	APP-9-187	20
Silvex *(2,4,5-TP)*	93-72-1	MeOH	APP-9-188	12
Styrene	100-42-5	MeOH	APP-9-189	12
2,4,5-Trichlorophenoxy acetic acid	93-76-5	MeOH	APP-9-190	12
1,2,4,5-Tetrachlorobenzene	95-94-3	MeOH	APP-9-191	12
1,1,1,2-Tetrachloroethane	630-20-6	MeOH	APP-9-192	12
1,1,2,2-Tetrachloroethane	79-34-5	MeOH	APP-9-193	12
Tetrachloroethylene	127-18-4	MeOH	APP-9-194	12
2,3,4,6-Tetrachlorophenol	58-90-2	MeOH	APP-9-195	20
Tetraethyl dithiopyrophosphate *(Sulfotep)*	3689-24-5	MeOH	APP-9-196	22
Thionazin	297-97-2	MeOH	APP-9-197	42
Toluene	108-88-3	MeOH	APP-9-198	12
o-Toluidine	95-53-4	MeOH	APP-9-199	12
Toxaphene	8001-35-2	MeOH	APP-9-200	12
1,2,4-Trichlorobenzene	120-82-1	MeOH	APP-9-201	12
1,1,1-Trichloroethane	71-55-6	MeOH	APP-9-202	12
1,1,2-Trichloroethane	79-00-5	MeOH	APP-9-203	12
Trichloroethylene	79-01-6	MeOH	APP-9-204	12
Trichlorofluoromethane	75-69-4	MeOH	APP-9-205	12
2,4,5-Trichlorophenol	95-95-4	MeOH	APP-9-206	12
2,4,6-Trichlorophenol	88-06-2	MeOH	APP-9-207	12
1,2,3-Trichloropropane	96-18-4	MeOH	APP-9-208	12
O,O,O-Triethyl phosphorothioate	126-68-1	MeOH	APP-9-209	12
sym-Trinitrobenzene	99-35-4	MeOH	APP-9-210	12
Vinyl acetate †	108-05-4	MeOH	APP-9-211	12
Vinyl chloride	75-01-4	MeOH	APP-9-212	12
Xylene (total)	1330-20-7	MeOH	APP-9-213	12

Volatile Appendix IX Mixtures

M-8240A ‡ $ 70 / **1 x 1 mL**
0.2 mg/mL each in MeOH 41 comps.

Acetone
Acrolein
Acrylonitrile
Benzene
Bromodichloromethane
Bromoform
2-Butanone
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroform
Dibromochloromethane
cis-1,4-Dichloro-2-butene +
trans-1,4-Dichloro-2-butene ++
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
cis-1,3-Dichloropropene *
trans-1,3-Dichloropropene **
Ethanol
Ethylbenzene
2-Hexanone
Iodomethane
4-Methyl-2-pentanone
Methylene chloride
Styrene
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Vinyl acetate
o-Xylene
m-Xylene
p-Xylene

* cis (1.06 x conc.)
** trans (0.94 x conc.)

\+ cis (0.1 mg/mL)
++ trans (0.1 mg/mL)

M-502B $ 25 / **1 x 1 mL**
M-502B-PAK ***SAVE 20%*** $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH 6 comps.

Bromomethane
Chloromethane
Chloroethane
Dichlorodifluoromethane
Trichlorofluoromethane
Vinyl chloride

M-8240C $ 35 / **1 x 1 mL**
0.2 mg/mL each in MeOH 17 comps.

Acetonitrile
Allyl chloride
1,2-Dibromo-3-chloropropane
Dibromomethane
1,2-Dibromoethane
1,4-Dioxane
Ethyl methacrylate
Isobutyl alcohol
Methacrylonitrile
Methyl methacrylate
Nitrobenzene
Pentachloroethane
Propionitrile
Pyridine
1,1,1,2-Tetrachloroethane
1,2,4-Trichlorobenzene
1,2,3-Trichloropropane

Special Mixtures for Laboratories Testing Appendix IX Analytes

Laboratories analyzing Appendix IX analytes have requested that we prepare particular mixtures for them. You can benefit from these custom formulation mixtures that are available from our stock inventory.

Volatile Mixtures

S-168A — $ 30 / **1 x 1 mL**
0.5 mg/mL each in MeOH — 14 comps.

- Acetonitrile
- Acrolein
- Acrylonitrile
- Allyl chloride
- 1,2-Dibromoethane *(Ethylene dibromide)*
- 1,2-Dibromo-3-chloropropane *(Fumazone)*
- Dibromomethane
- 1,4-Dioxane
- Ethyl cyanide *(Propionitrile)*
- Iodomethane
- Isobutanol
- Methacrylonitrile
- 1,1,1,2-Tetrachloroethane
- 1,2,3-Trichloropropane

S-181M — $ 20 / **1 x 1 mL**
0.1 mg/mL each in MeOH — 6 comps.

- bis(2-Chloro-1-methylethyl)ether
- Dichlorodifluoromethane
- Ethyl methacrylate
- Methyl methacrylate
- Pentachloroethane
- Pyridine

Semi-Volatile Mixtures

S-168-SET — NEW — $ 150 / **2 x 1 mL**
(S-168-MIXA, S-168-MIXB)

Mix 1

S-168-MIXA — **1 x 1 mL**
500 µg/mL each in CH_2Cl_2 — 5 comps.

- 3,3'-Dimethylbenzidine
- α,α-Dimethylphenethylamine
- 1,4-Naphthoquinone
- 4-Nitroquinoline-1-oxide
- *p*-Phenylenediamine

Mix 2

S-168-MIXB — **1 x 1 mL**
500 µg/mL each in CH_2Cl_2 — 38 comps.

- Acetophenone
- 2-Acetylaminofluorene
- 4-Aminobiphenyl
- Aramite
- 2-sec-Butyl-4,6-dinitrophenol
- *m*-Cresol
- 2,6-Dichlorophenol
- *p*-Dimethylamino azobenzene *(Methyl Yellow)*
- 7,12-Dimethylbenz[a]anthracene
- *m*-Dinitrobenzene
- Ethyl methacrylate
- Ethyl methanesulfonate
- Hexachlorophene
- Hexachloropropene
- Isosafrole
- Methapyrilene
- 3-Methylcholanthrene
- Methyl methacrylate
- Methyl methanesulfonate
- 1-Naphthylamine
- 2-Naphthylamine
- N-Nitrosodi-*n*-butylamine
- N-Nitrosodiethylamine
- N-Nitrosomethylethylamine
- N-Nitrosomorpholine
- N-Nitrosopyrrolidine
- 5-Nitro-*o*-toluidine
- Pentachlorobenzene
- Pentachloroethane
- Pentachloronitrobenzene
- Phenacetin
- 2-Picoline
- Pronamide
- Pyridine
- Safrole
- 1,2,4,5-Tetrachlorobenzene
- 2,3,4,6-Tetrachlorophenol
- *o*-Toluidine

S-184 — $ 65 / **1 x 1 mL**
0.1 mg/mL each in CH_2Cl_2 — 19 comps.

- 2-Acetylaminofluorene
- 4-Aminobiphenyl
- *p*-(Dimethylamino)azobenzene
- α,α-Dimethylphenethylamine
- Diphenylamine
- 1,4-Naphthoquinone
- 1-Napthylamine
- 2-Napthylamine
- *o*-Nitroaniline
- *m*-Nitroaniline
- *p*-Nitroaniline
- 4-Nitroquinoline-1-oxide
- N-Nitrosodimethylamine
- N-Nitrosomethylethylamine
- N-Nitrosomorpholine
- N-Nitrosopiperidine
- N-Nitrosopyrrolidine
- 5-Nitro-*o*-toluidine
- *p*-Phenylenediamine

S-183-PAK — $ 240 / **5 x 1 mL**
0.1 mg/mL each in CH_2Cl_2 — 18 comps.

- Acetophenone
- Chlorobenzilate
- 7,12-Dimethylbenz[a]anthracene
- 3,3'-Dimethylbenzidine
- *m*-Dinitrobenzene
- Ethyl methanesulfonate
- 1,2,4,5-Tetrachlorobenzene
- Isosafrole
- Methapyrilene
- 3-Methylcholanthrene
- Methyl methanesulfonate
- 2-Methylnaphthalene
- Pentachlorobenzene
- Pentachloronitrobenzene
- Phenacetin
- 2-Picoline
- Safrole
- O,O,O-Triethyl phosphorothioate

S-182-PAK — $ 100 / **5 x 1 mL**
0.1 mg/mL each in CH_2Cl_2 — 6 comps.

- *o*-Cresol
- *m*-Cresol
- *p*-Cresol
- 2,6-Dichlorophenol
- 2,3,4,6-Tetrachlorophenol
- 2,4,5-Trichlorophenol

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EPA Method 8000 Series

Volatile Internal (ISTD) / Surrogate(SS) Standards

With more proposed and promulgated methods available, analytical chemists are trying to combine analyte lists and shorten run times while still demonstrating method equivalence. AccuStandard has formulated a core evaluation deuterated solution and a second conventional internal/ surrogate evaluation solution. Use of these formulations allow the analyst to quickly evaluate ISTD/SS combinations for PID, Hall, FID or GC/MS applications.

Popular Internal Standards

M-502-IS — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

1-Chloro-2-bromopropane
Fluorobenzene

M-524-IS-2 — $ 12 / **1 x 1 mL**
2.0 mg/mL in MeOH

Fluorobenzene

M-524-IS — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

1,2-Dichlorobenzene-d_4
Fluorobenzene

M-502-IS-2 — $ 30 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 3 comps.

1-Chloro-2-bromopropane
Fluorobenzene
Methylene chloride-d_2

M-001R — $ 15 / **1 x 1 mL**
20 mg/mL each in MeOH — 3 comps.

Bromochloromethane
1,4-Dichlorobutane
2-Bromo-1-chloropropane

M-8020-IS — $ 25 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 2 comps.

4-Bromofluorobenzene
α,α,α-Trifluorotoluene

M-8240/60-IS — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 5 comps.

Bromochloromethane
Chlorobenzene-d_5
1,4-Dichlorobenzene-d_4
1,4-Difluorobenzene
Pentafluorobenzene

M-8260-IS-R — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 4 comps.

2-Bromo-1-chloropropane
1,4-Difluorobenzene
1,4-Dichlorobenzene-d_4
Pentafluorobenzene

M-8260-IS — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 4 comps.

Chlorobenzene-d_5
1,4-Difluorobenzene
1,4-Dichlorobenzene-d_4
Pentafluorobenzene

M-8260A/B-IS — $ 20 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 3 comps.

Chlorobenzene-d_5
1,4-Dichlorobenzene-d_4
Fluorobenzene

ISTD/SS Evaluation Mixtures

Conventional ISTD/SS Evaluation MIx

M-CONV-IS/SS — $ 60 / **1 x 1 mL**
200 µg/mL each in MeOH — 15 comps.

2-Bromochlorobenzene
4-Bromochlorobenzene
Bromochloromethane
p-Bromofluorobenzene
2-Bromo-1-chloropropane
1-Chloro-2-fluorobenzene
1-Chloro-3-fluorobenzene
1-Chloro-4-fluorobenzene
2-Chloropropane
Dibromofluoromethane
1,4-Dichlorobutane
1,4-Difluorobenzene
Fluorobenzene
Pentafluorobenzene
α,α,α-Trifluorotoluene

Deuterated ISTD/SS Evaluation MIx

M-DEUT-IS/SS — $ 60 / **1 x 1 mL**
200 µg/mL each in MeOH — 8 comps.

Benzene-d_6
Chlorobenzene-d_5
1,2-Dichlorobenzene-d_4
1,4-Dichlorobenzene-d_4
1,2-Dichlorobethane-d_4
Ethylbenzene-d_{10}
Methylene chloride-d_2
Toluene-d_8

Popular Surrogate Standards

M-502-IS-ASL — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

2-Bromo-1-chloropropane
1-Chloro-2-fluorobenzene

M-524-SS — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

4-Bromofluorobenzene
1,2-Dichlorobenzene-d_4

M-624-SS-M — $ 25 / **1 x 1 mL**
20 mg/mL each in MeOH — 3 comps.

4-Bromofluorobenzene
Fluorobenzene
Pentafluorobenzene

M-8020-SS — $ 30 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 3 comps.

4-Bromochlorobenzene
1,4-Difluorobenzene
Fluorobenzene

M-8021-SS — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

4-Bromochlorobenzene
1,4-Dichlorobutane

M-8021-SS-M — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

Bromochloromethane
1,4-Dichlorobutane

M-8021A-SS — $ 20 / **1 x 1 mL**
20 mg/mL each in MeOH — 4 comps.

4-Bromochlorobenzene
Bromochloromethane
1,4-Dichlorobutane
2-Bromo-1-chloropropane

M-8240/60-SS — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 4 comps.

p-Bromofluorobenzene
Dibromofluoromethane
1,2-Dichloroethane-d_4
Toluene-d_8

Popular ISTD/SS Standards

M-502-IS/SS — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 4 comps.

1-Chloro-3-fluorobenzene
2-Chloropropane
Fluorobenzene
α,α,α-Trifluorotoluene

M-524-FS — $ 25 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 3 comps.

4-Bromofluorobenzene
1,2-Dichlorobenzene-d_4
Fluorobenzene

M-8010-IS/SS — $ 25 / **1 x 1 mL**
150 µg/mL each in MeOH — 3 comps.

4-Bromochlorobenzene
Bromochloromethane
4-Bromofluorobenzene

M-8020-IS/SS-ASL — $ 35 / **1 x 1 mL**
1.5 mg/mL each in MeOH — 5 comps.

4-Bromochlorobenzene
p-Bromofluorobenzene
1,4-Difluorobenzene
Fluorobenzene
α,α,α-Trifluorotoluene

M-8240/60-IS/SS — $ 45 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 9 comps.

Bromochloromethane
p-Bromofluorobenzene
Chlorobenzene-d_5
Dibromofluoromethane
1,4-Dichlorobenzene-d_4
1,2-Dichloroethane-d_4
1,4-Difluorobenzene
Pentafluorobenzene
Toluene-d_8

M-8260A/B-IS/SS — $ 40 / **1 x 1 mL**
200 µg/mL each in MeOH — 7 comps.

p-Bromofluorobenzene
Chlorobenzene-d_5
Dibromofluoromethane
1,4-Dichlorobenzene-d_4
1,2-Dichloroethane-d_4
Fluorobenzene
Toluene-d_8

Method 8010 Halogenated VOCs by GC/ELCD (Hall)

Method 8010 Purgeable Halocarbon Set

M-601-SET — $ 50 / **4 x 1 mL**
0.2 mg/mL in MeOH — **(M-601A, M-502B, M-601C, M-501)**
M-601-10X-SET — $ 75 / **4 x 1 mL**
2.0 mg/mL in MeOH — **(M-601A-10X, M-502B-10X, M-601C-10X, M-501-10X)**

Liquids

M-601A — $ 35 / **1 x 1 mL**
M-601A-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-601A-10X — $ 35 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 18 comps.

Carbon tetrachloride
Chlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropylene *
trans-1,3-Dichloropropylene **
Methylene chloride
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Gases

M-502B — $ 25 / **1 x 1 mL**
M-502B-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-502B-10X — $ 35 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 6 comps.

Bromomethane
Chloromethane
Chloroethane
Dichlorodifluoromethane
Trichlorofluoromethane
Vinyl chloride

Liquid Component

M-601C — $ 10 / **1 x 1 mL**
M-601C-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
0.2 mg/mL in MeOH
M-601C-10X — $ 10 / **1 x 1 mL**
2.0 mg/mL in MeOH

2-Chloroethylvinyl ether

Trihalomethanes

M-501 — $ 17 / **1 x 1 mL**
M-501-PAK — *SAVE 20%* $ 68 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-501-10X — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 4 comps.

Bromoform
Chloroform
Dichlorobromomethane
Dibromochloromethane

Method 8010 Additional Analytes

M-8010R-1 — $ 25 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 9 comps.

Benzylchloride
Bromobenzene
bis(2-Chloroethoxy)methane
1-Chlorohexane
Chloromethylmethyl ether
4-Chlorotoluene
Dibromomethane
1,1,1,2-Tetrachloroethane
1,2,3-Trichloropropane

Surrogate Standard

M-001R — $ 15 / **1 x 1 mL**
M-001R-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
20 mg/mL each in MeOH — 3 comps.

Bromochloromethane
1,4-Dichlorobutane
2-Bromo-1-chloropropane

Halogenated VOCs by GC/ECLD (Hall)

M-8010A-SET — $ 55 / **2 x 1 mL**
(M-8010A-M, M-601C)

Method 8010A (Methanol Version)

M-8010A-M — $ 55 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 33 comps.

Benzylchloride
Bromobenzene
Bromoform
Bromomethane
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
Dibromochloromethane
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorobromomethane
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropylene *
trans-1,3-Dichloropropylene **
Methylene chloride
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Trichlorofluoromethane
1,2,3-Trichloropropane
Vinyl chloride

* 1.06 times conc.
** 0.94 times conc.

M-601C — $ 10 / **1 x 1 mL**
0.2 mg/mL in MeOH

2-Chloroethylvinyl ether

Method 8010A Acetonitrile Version

Method 8010A (Acetonitrile Version)

M-8010A — $ 55 / **1 x 1 mL**
0.2 mg/mL each in AcCN — 34 comps.

Benzylchloride
Bromobenzene
Bromoform
Bromomethane
Carbon tetrachloride
Chlorobenzene
Chloroethane
2-Chloroethylvinyl ether
Chloroform
Chloromethane
Dibromochloromethane
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorobromomethane
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropylene *
trans-1,3-Dichloropropylene **
Methylene chloride
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Trichlorofluoromethane
1,2,3-Trichloropropane
Vinyl chloride

*1.06 times conc.
**0.94 times conc.

Internal & Surrogate Standard

M-8010-IS/SS — $ 25 / **1 x 1 mL**
M-8010-IS/SS-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
150 µg/mL each in MeOH — 3 comps.

4-Bromochlorobenzene
4-Bromofluorobenzene
Bromochloromethane

Method 8010B Halogenated VOCs by GC/ELCD (Hall)

Halogenated Volatiles (Acetonitrile Version)

M-8010A — $ 55 / **1 x 1 mL**
0.2 mg/mL each in AcCN — 34 comps.

Benzylchloride
Bromobenzene
Bromoform
Bromomethane
Carbon tetrachloride
Chlorobenzene
Chloroethane
2-Chloroethylvinyl ether
Chloroform
Chloromethane
Dibromochloromethane
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorobromomethane
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropylene *
trans-1,3-Dichloropropylene **
Methylene chloride
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Trichlorofluoromethane
1,2,3-Trichloropropane
Vinyl chloride

* 1.06 times conc.
** 0.94 times conc.

Halogenated Volatiles (Methanol Versions)

Mix #1

M-8010B — $ 45 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 40 comps.

Allyl chloride
Bromobenzene
Bromoform
Bromomethane
Carbon tetrachloride
Chlorobenzene
Chloroethane
2-Chloroethanol
Chloroform
1-Chlorohexane
Chloromethane
4-Chlorotoluene
Dibromochloromethane
1,2-Dibromo-3-chloropropane
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorobromomethane
1,4-Dichloro-2-butene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
1,3-Dichloro-2-propanol
cis-1,3-Dichloropropene *
trans-1,3-Dichloropropene **
Ethylene dibromide
Methylene chloride
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
1,2,3-Trichloropropane
Vinyl chloride

* 1.06 times conc.
** 0.94 times conc.

Mix #2

M-8021B-X1 — $ 35 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 5 comps.

Benzyl chloride
bis(2-Chloroethoxy)methane
2-Chloroethylvinyl ether
bis(2-Chloro-1-methylethyl)ether
Epichlorohydrin

Internal and Surrogate Standard

M-8010-IS/SS — $ 25 / **1 x 1 mL**
M-8010-IS/SS-PAK — ***SAVE 20%*** $ 100 / **5 x 1 mL**
150 µg/mL each in MeOH — 3 comps.

4-Bromochlorobenzene
Bromochloromethane
4-Bromofluorobenzene

Surrogate Standard

M-001R — $ 15 / **1 x 1 mL**
M-001R-PAK — ***SAVE 20%*** $ 60 / **5 x 1 mL**
20 mg/mL each in MeOH — 3 comps

Bromochloromethane
1,4-Dichlorobutane
2-Bromo-1-chloropropane

Halogenated Volatiles

M-8021B-X2 — $ 35 / **1 x 1 mL**
0.2 mg/mL each in Pentane — 2 comps.

Bromoacetone
Chloromethylmethyl ether

APP-9-030 — $ 12 / **1 x 1 mL**
100 µg/mL in MeOH

Bromodichloromethane

APP-9-130 — $ 12 / **1 x 1 mL**
100 µg/mL in MeOH

Methyl iodide

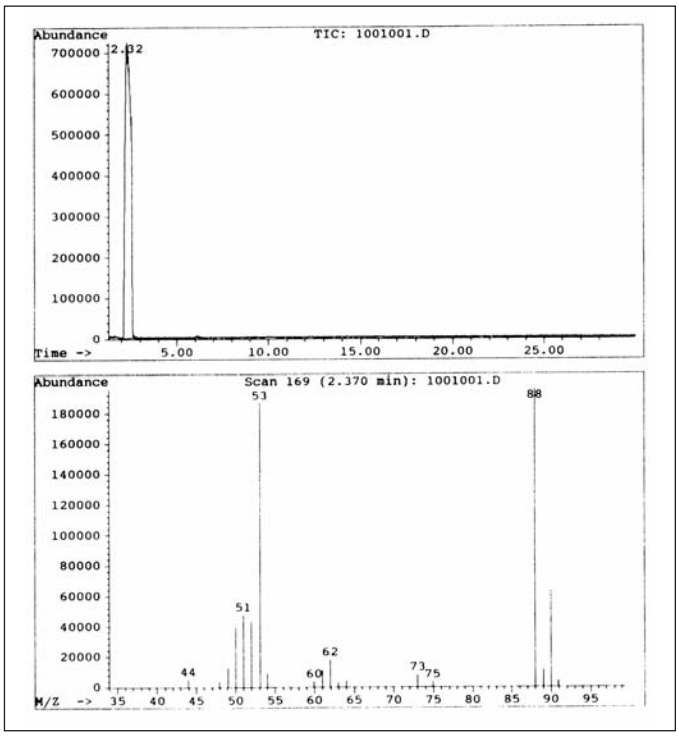
Chloroprene (Xylene-Free)

APP-9-048-R1 — $ 12 / **1 x 1 mL**
100 µg/mL in MeOH
APP-9-048-R1-2X — $ 12 / **1 x 1 mL**
200 µg/mL in MeOH
APP-9-048-R1-20X — $ 30 / **1 x 1 mL**
2000 µg/mL in MeOH

Chloroprene

We have synthesized Pure Chloroprene !!

Unlike traditional sources, this Chloroprene does not contain any xylenes and is not contaminated with extraneous solvents and by-products of commercial Chloroprene. It will facilitate quantification of analytes by **EPA Methods 524.2, 502.2, 8010, 8021 and 8240/8260** without interference from the xylenes previously present.



Method 8011 DBCP & EDB by GC/MS

M-504-10X — $ 15 / **1 x 1 mL**
M-504-10X-PAK — ***SAVE 20%*** $ 60 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

1,2-Dibromo-3-chloropropane *(DBCP)*
1,2-Dibromoethane *(EDB)*

Method 8015A (Rev 1, July 1992) Non-Halogenated Volatile Organics by GC/FID

M-8015A — $ 20 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 4 comps.
M-8015A-10X — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 4 comps.

Diethyl ether
Ethanol
Methyl ethyl ketone
Methyl isobutyl ketone

Non-Halogenated Volatile Organics

M-8015-ASL — $ 40 / **1 x 1 mL**
100 µg/mL each in MeOH — Alternate Source — 12 comps.

Acetonitrile
Acrylamide
2-Butanone
Diethyl ether
1,4-Dioxane
Ethanol
Ethyl methacrylate
Isobutyl alcohol
Methacrylonitrile
Methyl methacrylate
4-Methyl-2-pentanone
Propionitrile

Internal Standard

M-8015B-IS-10X — $ 30 / **1 x 1 mL**
2.0 mg/mL each in Water — 3 comps.

2-Chloroacrylonitrile
Hexafluoro-2-methyl-2-propanol
Hexafluoro-2-propanol

Method 8015B Non-Halogenated Organics by GC/FID

M-8015B/5031-R-SET — $ 300 / **set of 27 x 1 mL**
Each at 10 mg/mL in H_2O

Compound	Cat. No.	Price / 1 mL
Acetone	M-8015B/5031-01	$ 25
Acetonitrile	M-8015B/5031-02	25
Acrolein	M-8015B/5031-03	25
Acrylonitrile	M-8015B/5031-04	25
Allyl alcohol	M-8015B/5031-05	25
1-Butanol	M-8015B/5031-06	25
t-Butanol	M-8015B/5031-07	25
Crotonaldehyde	M-8015B/5031-08	25
Diethyl ether	M-8015B/5031-09	25
p-Dioxane	M-8015B/5031-10	25
Ethanol	M-8015B/5031-11	25
Ethyl acetate	M-8015B/5031-12	25
Ethylene glycol	M-8015B/5031-13	25
Ethylene oxide (5.0 mg/mL)	M-8015B/5031-14-R1	20
Isobutyl alcohol	M-8015B/5031-15	25
Isopropanol	M-8015B/5031-16	25
Methanol	M-8015B/5031-17	20
Methyl ethyl ketone	M-8015B/5031-18	25
4-Methyl-2-pentanone	M-8015B/5031-19	25
N-Nitrosodi-*n*-butylamine (0.5 mg/mL)	M-8015B/5031-20	25
Paraldehyde	M-8015B/5031-21	25
2-Pentanone	M-8015B/5031-22	25
2-Picoline	M-8015B/5031-23	25
1-Propanol	M-8015B/5031-24	25
Propionitrile	M-8015B/5031-25	25
Pyridine	M-8015B/5031-26	25
o-Toluidine	M-8015B/5031-27	25

Method 5031 GC/FID Internal Standards for Method 8015B/5031 Azeotropic Distillation

M-8260/5031-IS-FID — $ 30 / **1 x 1 mL**
5.0 mg/mL each in H_2O — 3 comps.

2-Chloroacetonitrile
Hexafluoro-2-methyl-2-propanol
Hexafluoro-2-propanol

Technical Note

Method 5031 describes the separation procedures for non-purgeable, water-soluble and volatile organic compounds in aqueous samples of leachates from solid matrices using azeotropic distillation.
Method 8015B is the GC/FID analytical method of analysis. Fuels referenced for analysis by method 8015B can be found in LUFT/LUST.

Method 8020 Aromatic Volatiles by PID

Aromatic Volatile Analytes

M-8020 *NEW* — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 10 comps
.M-8020-10X — $ 30 / **1 x 1 mL**
M-8020-10X-PAK — SAVE 20% $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 10 comps.

Benzene
Chlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Ethylbenzene
Toluene
o-Xylene
m-Xylene
p-Xylene

M-8020B-R1 — $ 40 / **1 x 1 mL**
M-8020B-R1-PAK — SAVE 20% $ 160 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 13 comps.

Benzene
Chlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Ethylbenzene
2-Picoline
Pyridine
Thiophenol
Toluene
o-Xylene
m-Xylene
p-Xylene

Performance Check Solution

M-8020-QC — $ 12 / **1 x 1 mL**
M-8020-QC-PAK — SAVE 20% $ 48 / **5 x 1 mL**
2.0 mg/mL in MeOH

Methyl *t*-butyl ether

Internal Standards

M-8020-IS — $ 25 / **1 x 1 mL**
M-8020-IS-PAK — SAVE 20% $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 2 comps.
M-8020-IS-10X — $ 25 / **1 x 1 mL**
M-8020-IS-10X-PAK — SAVE 20% $ 100 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

4-Bromofluorobenzene
α,α,α-Trifluorotoluene

Surrogate Standards

M-8020-SS — $ 30 / **1 x 1 mL**
M-8020-SS-PAK — SAVE 20% $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 3 comps.

4-Bromochlorobenzene
1,4-Difluorobenzene
Fluorobenzene

M-8020-SS-1 — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH

4-Bromochlorobenzene

Combined ISTD/SS Solution

M-8020-IS/SS-ASL — $ 35 / **1 x 1 mL**
M-8020-IS/SS-ASL-PAK — SAVE 20% $ 140 / **5 x 1 mL**
1.5 mg/mL each in MeOH — 5 comps.

4-Bromochlorobenzene
p-Bromofluorobenzene
1,4-Difluorobenzene
Fluorobenzene
α,α,α-Trifluorotoluene

Method 8021B Purgeable Volatiles by PID/ELCD in Series

Method 8021 is used to determine volatile organic compounds in a variety of solid waste matrices using PID/ELCD detectors in series. AccuStandard segregated the analyte list into formulations that provide the widest adaptability to various types of samples and appropriate sample introduction techniques mentioned in the method.

54 Liquid Components

Benzene (01)
Bromobenzene (02)
Bromochloromethane (03)
Bromodichloromethane (04)
Bromoform (05)
n-Butylbenzene (07)
sec-Butylbenzene (08)
tert-Butylbenzene (09)
Carbon tetrachloride (10)
Chlorobenzene (11)
Chloroform (13)
2-Chlorotoluene (15)
4-Chlorotoluene (16)
Dibromochloromethane (17)
1,2-Dibromo-3-chloropropane (18)
1,2-Dibromoethane (19)
Dibromomethane (20)
1,2-Dichlorobenzene (21)
1,3-Dichlorobenzene (22)
1,4-Dichlorobenzene (23)
1,1-Dichloroethane (25)
1,2-Dichloroethane (26)
1,1-Dichloroethene (27)
cis-1,2-Dichloroethene (28)
trans-1,2-Dichloroethene (29)
1,2-Dichloropropane (30)
1,3-Dichloropropane (31)
2,2-Dichloropropane (32)
1,1-Dichloropropene (33)
cis-1,3-Dichloropropene (34A) *
trans-1,3-Dichloropropene (34B) **
Ethylbenzene (35)
Hexachlorobutadiene (36)
Isopropylbenzene *(Cumene)* (37)
p-Isopropyltoluene *(p-Cymene)* (38)
Methylene chloride (39)
Naphthalene (40)
n-Propylbenzene (41)
Styrene (42)
1,1,1,2-Tetrachloroethane (43)
1,1,2,2-Tetrachloroethane (44)
Tetrachloroethene (45)
Toluene (46)
1,2,3-Trichlorobenzene (47)
1,2,4-Trichlorobenzene (48)
1,1,1-Trichloroethane (49)
1,1,2-Trichloroethane (50)
Trichloroethene (51)
1,2,3-Trichloropropane (53)
1,2,4-Trimethylbenzene (54)
1,3,5-Trimethylbenzene (55)
o-Xylene (57)
m-Xylene (58)
p-Xylene (59)

* cis (1.06 x conc.)
** trans (0.94 x conc.)

6 Gas Components

Bromomethane (06)
Chloroethane (12)
Chloromethane (14)
Dichlorodifluoromethane (24)
Trichlorofluoromethane (52)
Vinyl chloride (56)

All 60 liquid & gas components in One Solution

Liquids (54 comps.) and Gases (6 comps.)

M-502 — $ 75 / **1 x 1 mL**
M-502-PAK — *SAVE 20%* $ 300 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-502-10X — $ 100 / **1 x 1 mL**
M-502-10X-PAK — *SAVE 20%* $ 400 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 60 comps.

59 Component Set

As a complete set of each component in individual ampules.

M-502-SET	0.2 mg/mL in MeOH	$ 300 / **59 x 1 mL**
M-502-10X-SET	2.0 mg/mL in MeOH	$ 350 / **59 x 1 mL**

Individual Component Solutions

To order, specify identity (#) and conc. (0.2 or 2.0 mg/mL)

M-502-#	0.2 mg/mL in MeOH	$ 10 / **1 x 1 mL**
M-502-#-10X	2.0 mg/mL in MeOH	$ 14 / **1 x 1 mL**

M-502-34A & M-502-34B only available as mixture: M-502-34R
M-502-34-R — $ 10 / **1 x 1 mL**
0.4 mg/mL each in MeOH
M-502-34-R-10X — $ 15 / **1 x 1 mL**
4.0 mg/mL each in MeOH — 2 comps.

cis-1,3-Dichloropropene
trans-1,3-Dichloropropene

Individual Component Neats

To order, specify identity

M-502-#N — $ 20 / **1 x 1 gram**

except M-502-32N & M-502-43N — $ 30 / **1 x 1 gram**

Halogenated Non-Aromatic Volatiles Solution #1

M-8021B-NAV — $ 50 / **1 x 1 mL**
M-8021B-NAV-PAK — *SAVE 20%* $ 200 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 35 comps.

Bromochloromethane
Bromodichloromethane
Bromoform
Bromomethane
Carbon tetrachloride
Chloroethane
Chloroform
Chlorodibromomethane
Chloromethane
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
Dibromomethane
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
Dichloromethane
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dichloropropane
1,1-Dichloropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Hexachlorobutadiene
Tetrachloroethene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Trichloroethene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichlorofluoromethane
1,2,3-Trichloropropane
Vinyl chloride

Aromatic Volatiles Solution #2

M-8021B-AV — $ 30 / **1 x 1 mL**
M-8021B-AV-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 25 comps.

Benzene
Bromobenzene
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Chlorobenzene
2-Chlorotoluene
4-Chlorotoluene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Ethylbenzene
Isopropylbenzene
p-Isopropyltoluene
Naphthalene
n-Propylbenzene
Styrene
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
o-Xylene
m-Xylene
p-Xylene

Halogenated Volatiles Solution #3

M-8021B-X1 — $ 20 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 8 comps.

Allyl chloride
Benzyl chloride
2-Chloroethanol
2-Chloroethylvinyl ether
bis(2-Chloroisopropyl)ether
Chloroprene (Xylene-free)
1,3-Dichloro-2-propanol
Epichlorohydrin

Halogenated Volatiles Solution #4

M-8021B-X2 — $ 35 / **1 x 1 mL**
0.2 mg/mL each in Pentane — 2 comps.

Bromoacetone
Chloromethyl methyl ether

Method 8021B Purgeable Volatiles by PID/ELCD (Hall)

Internal Standard Solutions

M-8021B-IS — $ 15 / **1 x 1 mL**
M-8021B-IS-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
5 µg/mL each in MeOH

M-8021B-IS-10X — $ 15 / **1 x 1 mL**
M-8021B-IS-10X-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
50 µg/mL each in MeOH

M-8021B-IS-100X — $ 15 / **1 x 1 mL**
M-8021B-IS-100X-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
500 µg/mL each in MeOH — 2 comps.

2-Bromo-1-chloropropane, Fluorobenzene

Purgeable Internal Standards

M-001R-0.75X — $ 15 / **1 x 1 mL**
M-001R-0.75X-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
15 mg/mL each in MeOH

M-001R-0.075X — $ 15 / **1 x 1 mL**
M-001R-0.075X-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
1.5 mg/mL each in MeOH

M-001R-0.0075X — $ 15 / **1 x 1 mL**
M-001R-0.0075X-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
150 µg/mL each in MeOH — 3 comps.

Bromochloromethane, 2-Bromo-1-chloropropane, 1,4-Dichlorobutane

Surrogate Standard Solutions

M-8021B-SS — $ 15 / **1 x 1 mL**
M-8021B-SS-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
15 µg/mL each in MeOH

M-8021B-SS-10X — $ 15 / **1 x 1 mL**
M-8021B-SS-10X-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
150 µg/mL each in MeOH

M-8021B-SS-100X — $ 15 / **1 x 1 mL**
M-8021B-SS-100X-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
1,500 µg/mL each in MeOH — 2 comps.

4-Bromochlorobenzene, 1,4-Dichlorobutane

Surrogate Standards

M-8021-SS — $ 20 / **1 x 1 mL**
M-8021-SS-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

4-Bromochlorobenzene, 1,4-Dichlorobutane

M-8021-SS-M — $ 20 / **1 x 1 mL**
M-8021-SS-M-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

Bromochloromethane, 1,4-Dichlorobutane

M-001R — $ 15 / **1 x 1 mL**
M-001R-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
20 mg/mL each in MeOH — 3 comps.

Bromochloromethane, 2-Bromo-1-chloropropane, 1,4-Dichlorobutane

M-8021A-SS — $ 20 / **1 x 1 mL**
M-8021A-SS-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
20 mg/mL each in MeOH — 4 comps.

4-Bromochlorobenzene, 1,4-Dichlorobutane, Bromochloromethane, 2-Bromo-1-chloropropane

Chloroprene Solution (Xylene-Free)

APP-9-048-R1-2X — $ 14 / **1 x 1 mL**
0.2 mg/mL in MeOH

Chloroprene

Method 8030A Acrolein & Acrylonitrile by GC/FID

M-603-10X — $ 17 / **1 x 1 mL**
10 mg/mL each in Water — 2 comps.

Acrolein, Acrylonitrile

Method 8031 Acrylonitrile by GC/NPD

APP-9-008-10X — $ 20 / **1 x 1 mL**
APP-9-008-10X-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
1.0 mg/mL in MeOH

Acrylonitrile

Method 8032/8032A Acrylamide by GC/ECD

Acrylamide

M-8032 — $ 10 / **1 x 1 mL**
M-8032-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in MeOH

Acrylamide

Brominated Analyte

M-8032B — $ 20 / **1 x 1 mL**
M-8032B-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
0.1 mg/mL in Ethyl acetate

2,3-Dibromopropionamide

Internal Standard

M-8032-IS — $ 10 / **1 x 1 mL**
M-8032-IS-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 mg/mL in Ethyl acetate

Dimethyl phthalate

Method 8033 Acrylonitrile by GC/NPD

Acrylonitrile

M-8033 — $ 12 / **1 x 1 mL**
M-8033-PAK — *SAVE 20%* $ 48 / **5 x 1 mL**
1,000 µg/mL in H_2O

Acrylonitrile

Buy AccuPaks™
Save 20-40% 5 x 1 mL

Technical Note

AccuStandard's R & D dept. synthesized Xylene-free Chloroprene. Since it contains no significant chemical impurities, the APP-9-048-R1-2X can be combined with any of the other formulations.

Method 8040 Phenols, PFB Derivatives by GC/ECD

Phenols, PFB Derivatives Set

M-8040-PFB-SET — $ 300 / **19 x 1 mL**
Each at 0.2 mg/mL in Isopropyl alcohol

(01) 4-Chloro-3-cresol
(02) *o*-Chlorophenol
(03) *m*-Cresol
(04) *o*-Cresol
(05) *p*-Cresol
(06) 2-Cyclohexyl-4,6-dinitrophenol *(Dinex)*
(07) 2,4-Dichlorophenol
(08) 2,6-Dichlorophenol
(09) 2,4-Dimethylphenol
(10) 2,4-Dinitrophenol
(11) Dinoseb
(12) 2-Methyl-4,6-dinitrophenol
(13) *o*-Nitrophenol
(14) *p*-Nitrophenol
(15) Pentachlorophenol
(16) Phenol
(17) 2,3,4,6-Tetrachlorophenol
(18) 2,4,5-Trichlorophenol
(19) 2,4,6-Trichlorophenol

Phenols, PFB Derivatives - Mix A

M-8040A-R-PFB — $ 80 / **1 x 1 mL**
M-8040A-R-PFB-PAK — *SAVE 20%* $ 320 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 10 comps.

4-Chloro-3-cresol
o-Cresol
2-Cyclohexyl-4,6-dinitrophenol *(Dinex)*
2,4-Dichlorophenol
2-Methyl-4,6-dinitrophenol
o-Nitrophenol
p-Nitrophenol
2,4,6-Trichlorophenol
Pentachlorophenol
Phenol

Phenols, PFB Derivatives - Mix B

M-8040B-R-PFB — $ 80 / **1 x 1 mL**
M-8040B-R-PFB-PAK — *SAVE 20%* $ 320 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 9 comps.

o-Chlorophenol
m-Cresol
p-Cresol
2,6-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
Dinoseb
2,3,4,6-Tetrachlorophenol
2,4,5-Trichlorophenol

Technical Note

With our synthesis capabilities, AccuStandard is the first standards manufacturing company to also offer the PFB derivatives. We provide the largest selection of certified standards, which allows your laboratory to optimize instrumentation efficiency.

Surrogate Standard

M-8040-SS — $ 10 / **1 x 1 mL**
M-8040-SS-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
2.0 mg/mL each in Isopropyl alcohol — 2 comps.

2-Fluorophenol
2,4,6-Tribromophenol

Surrogate Standard, PFB Derivatives

M-8040-SS-PFB — $ 30 / **1 x 1 mL**
M-8040-SS-PFB-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

2-Fluorophenol
2,4,6-Tribromophenol

Method 8040A Phenols by GC/FID

Phenol Set

M-8040-SET — $ 200 / **19 x 1 mL**
Each at 1.0 mg/mL in MeOH

(01) 4-Chloro-3-cresol
(02) *o*-Chlorophenol
(03) *m*-Cresol
(04) *o*-Cresol
(05) *p*-Cresol
(06) 2-Cyclohexyl-4,6-dinitrophenol *(Dinex)*
(07) 2,4-Dichlorophenol
(08) 2,6-Dichlorophenol
(09) 2,4-Dimethylphenol
(10) 2,4-Dinitrophenol
(11) Dinoseb
(12) 2-Methyl-4,6-dinitrophenol
(13) *o*-Nitrophenol
(14) *p*-Nitrophenol
(15) Pentachlorophenol
(16) Phenol
(17) 2,3,4,6-Tetrachlorophenol
(18) 2,4,5-Trichlorophenol
(19) 2,4,6-Trichlorophenol

Mix A

M-8040A-R — $ 40 / **1 x 1 mL**
M-8040A-R-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
2.0 mg/mL each in Isopropyl alcohol — 10 comps.

4-Chloro-3-cresol
o-Cresol
2-Cyclohexyl-4,6-dinitrophenol *(Dinex)*
2,4-Dichlorophenol
2-Methyl-4,6-dinitrophenol
o-Nitrophenol
p-Nitrophenol
2,4,6-Trichlorophenol
Pentachlorophenol
Phenol

Mix B

M-8040B-R — $ 35 / **1 x 1 mL**
M-8040B-R-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in Isopropyl alcohol — 9 comps.

o-Chlorophenol
m-Cresol
p-Cresol
2,6-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
Dinoseb
2,3,4,6-Tetrachlorophenol
2,4,5-Trichlorophenol

Phenols QC Check Standard

Alternate Source

M-8040A-ASL — $ 40 / **1 x 1 mL**
M-8040A-ASL-PAK — *SAVE 20%* $ 160 / **1 x 1 mL**
100 µg/mL each in Isopropyl alcohol
M-8040A-ASL-20X — $ 70 / **1 x 1 mL**
2000 µg/mL each in Isopropyl alcohol — 19 comps.

Dinoseb
4-Chloro-3-methylphenol
2-Chlorophenol
o-Cresol
m-Cresol
p-Cresol
2-Cyclohexyl-4,6-dinitrophenol
2,4-Dichlorophenol
2,6-Dichlorophenol
2,4-Dimethylphenol
4,6-Dinitro-*o*-cresol
2,4-Dinitrophenol
2-Nitrophenol
4-Nitrophenol
Pentachlorophenol
Phenol
2,3,4,6-Tetrachlorophenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol

Method 8040/8040A Bromo Phenols and Anisoles

Bromo Phenols

NEW

Each at 100 µg/mL in Toluene

Compound	Cat. No.	Price / 1 mL
3-Bromophenol	BP-003S	$ 15
4-Bromophenol	BP-004S	15
2,3-Dibromophenol	BP-023S	75
2,4-Dibromophenol	BP-024S	15
2,5-Dibromophenol	BP-025S	75
2,6-Dibromophenol	BP-026S	25
2,3,4-Tribromophenol	BP-234S	75
3,5-Dibromophenol	BP-035S	75
2,4,5-Tribromophenol	BP-245S	$ 75
2,4,6-Tribromophenol	BP-246S	15
3,4,5-Tribromophenol	BP-345S	75
2,3,4,5-Tetrabromophenol	BP-2345S	75
2,3,4,6-Tetrabromophenol	BP-2346S	75
2,3,5,6-Tetrabromophenol	BP-2356S	75
Pentabromophenol	BP-23456S	15

Bromo Anisoles (Methyl Esters)

Each at 50 µg/mL in Methanol

Compound	Cat. No.	Price 1 mL
2-Bromoanisole	BAN-01	$ 45
3-Bromoanisole	BAN-02	45
4-Bromoanisole	BAN-03	45
2,3-Dibromoanisole	BAN-04	75
2,4-Dibromoanisole	BAN-05	45
2,5-Dibromoanisole	BAN-06	75
2,6-Dibromoanisole	BAN-07	45
3,5-Dibromoanisole	BAN-08	45
2,4,5-Tribromoanisole	BAN-09	95
2,4,6-Tribromoanisole	BAN-10	45

Method 8041 Phenols by GC-FID or ECD as the Derivatives

RCRA Target Phenols Solution

M-8041 $ 70 / **1 x 1 mL**
M-8041-PAK *SAVE 20%* $ 280 / **5 x 1 mL**
1.0 mg/mL each in Isopropanol 21 comps.

4-Chloro-3-methylphenol
2-Chlorophenol
2-Cyclohexyl-4,6-dinitrophenol
2,4-Dichlorophenol
2,6-Dichlorophenol
2,4-Dimethylphenol
Dinoseb *(DNBP)*
2,4-Dinitrophenol
2-Methyl-4,6-dinitrophenol
2-Methylphenol *(o-Cresol)*
3-Methylphenol *(m-Cresol)*
4-Methylphenol *(p-Cresol)*
2-Nitrophenol
4-Nitrophenol
Pentachlorophenol
Phenol
2,3,4,5-Tetrachlorophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol

Technical Note

The method analytes were formulated into two distinct solutions to meet the needs of laboratories analyzing only the RCRA analytes or the combined RCRA/non-RCRA analytes.

Non-RCRA Target Phenols Solution

M-8041-X1 $ 60 / **1 x 1 mL**
M-8041-X1-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
1.0 mg/mL each in Isopropanol 18 comps.

2-Chloro-5-methylphenol
4-Chloro-2-methylphenol
3-Chlorophenol
4-Chlorophenol
2,3-Dichlorophenol
2,5-Dichlorophenol
3,4-Dichlorophenol
3,5-Dichlorophenol
2,3-Dimethylphenol
2,5-Dimethylphenol
2,6-Dimethylphenol
3,4-Dimethylphenol
2,5-Dinitrophenol
3-Nitrophenol
2,3,4-Trichlorophenol
2,3,5-Trichlorophenol
2,3,6-Trichlorophenol
3,4,5-Trichlorophenol

Internal Standards

M-8041-IS $ 15 / **1 x 1 mL**
M-8041-IS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
50 µg/mL each in Isopropanol
M-8041-IS-10X $ 30 / **1 x 1 mL**
M-8041-IS-10X-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.5 mg/mL each in Isopropanol
M-8041-IS-20X $ 40 / **1 x 1 mL**
M-8041-IS-20X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
1.0 mg/mL each in Isopropanol 2 comps.

2,5-Dibromotoluene
2,2',5,5'-Tetrabromobiphenyl

Surrogate Standards

M-8041-SS $ 10 / **1 x 1 mL**
M-8041-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
1.6 µg/mL in Isopropanol
M-8041-SS-10X $ 10 / **1 x 1 mL**
M-8041-SS-10X-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
16 µg/mL in Isopropanol
M-8041-SS-100X $ 10 / **1 x 1 mL**
M-8041-SS-100X-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
160 µg/mL in Isopropanol
M-8041-SS-625X $ 10 / **1 x 1 mL**
M-8041-SS-625X-PAK *SAVE20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in Isopropanol

2,4-Dibromophenol

Method 8060 Phthalate Esters by GC/ECD

Phthalate Esters

M-8060 $ 25 / **1 x 1 mL**
M-8060-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2.0 mg/mL each in Isooctane 6 comps.

Benzyl butyl phthalate
Diethyl phthalate
Dimethyl phthalate
Di-*n*-butyl phthalate
Di-*n*-octyl phthalate
bis(2-Ethylhexyl)phthalate

M-8060-QC $ 25 / **1 x 1 mL**
M-8060-QC-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in MeOH 6 comps.

Benzyl butyl phthalate	(0.1 mg/mL)	Di-*n*-butyl phthalate	(0.25 mg/mL)
Diethyl phthalate	(0.25 mg/mL)	Di-*n*-octyl phthalate	(0.5 mg/mL)
Dimethyl phthalate	(0.25 mg/mL)	bis(2-Ethylhexyl)phthalate	(0.5 mg/mL)

Method 8061A Phthalate Esters by GC/ECD

Phthalate Esters

M-8061-R1 $ 60 / **1 x 1 mL**
M-8061-R1-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
1.0 mg/mL each in Hexane 15 comps.

bis(2-*n*-Butoxyethyl)phthalate
Butyl benzyl phthalate
Diamyl phthalate
Di-n-butyl phthalate
Dicyclohexyl phthalate
Diethyl phthalate
Dihexyl phthalate
Diisobutyl phthalate
Dimethyl phthalate
Dinonyl phthalate
Di-*n*-octyl phthalate
bis(2-Ethoxyethyl)phthalate
bis(2-Ethylhexyl)phthalate
bis(2-Methoxyethyl)phthalate
bis(4-Methyl-2-pentyl)phthalate

M-8061A $ 25 / **1 x 1 mL**
M-8061A-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
1.0 mg/mL each in Hexane 6 comps.

Butyl benzyl phthalate
bis(2-Ethylhexyl)phthalate
Di-*n*-butyl phthalate
Diethyl phthalate
Dimethyl phthalate
Di-*n*-octyl phthalate

Matrix Spike Solution

M-8061A-MS $ 15 / **1 x 1 mL**
M-8061A-MS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
2.0 mg/mL each in Acetone 2 comps.

Butyl benzyl phthalate
bis(2-Ethylhexyl)phthalate

Internal Standard

M-8061-IS $ 10 / **1 x 1 mL**
M-8061-IS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
5.0 mg/mL in Hexane

Benzyl benzoate

Surrogate Standards

M-8061-SS $ 20 / **1 x 1 mL**
M-8061-SS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
50 µg/mL each in Acetone
M-8061-SS-10X $ 20 / **1 x 1 mL**
M-8061-SS-10X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
500 µg/mL each in Acetone 3 comps.

Dibenzyl phthalate
Diphenyl isophthalate
Diphenyl phthalate

Method 8070A Nitrosamines by NPD/Reductive Hall or TEA

Nitrosamines

M-8070 $ 25 / **1 x 1 mL**
M-8070-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2.0 mg/mL each in MeOH 3 comps.

N-Nitrosodimethylamine
N-Nitrosodiphenylamine
N-Nitrosodi-*n*-propylamine

Nitrosamines Mix

Alternate Source

M-8270-03-ASL $ 60 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 9 comps.

N-Nitrosodi-*n*-butylamine
N-Nitrosodiethylamine
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
N-Nitrosodi-*n*-propylamine
N-Nitrosomethylethylamine
N-Nitrosomorpholine
N-Nitrosopiperidine
N-Nitrosopyrrolidine

Standards of Interest

Additional Nitrosamines
AccuStandard offers over 20 individual Nitrosamine analytes in various solutions, plus a number of multi-component formulations designed for specific customer applications.

Technical Note

Each ampule contains at least 120% of the stated volume of a solution, allowing easy transfer. Transfer the required amount using a clean calibration syringe. Excess solution can be stored in a tightly capped vial, but this is not recommended. AccuStandard cannot guarantee the integrity of the solution once the ampule has been opened. See the EPA method protocol for storage instructions

Method 8080A Organochlorine Pesticides and PCBs by GC/ECD

Organochlorine Pesticides

M-8080 $ 60 / **1 x 1 mL**
M-8080-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
2.0 mg/mL each in Acetone 17 comps.

Aldrin
α-BHC
β-BHC
δ-BHC
γ-BHC
4,4'-DDD
4,4'-DDE
4,4'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Methoxychlor

Organochlorine Pesticide QC Standard

M-8080-QC-R $ 50 / **1 x 1 mL**
M-8080-QC-R-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
At stated conc. in Acetone 17 comps.

Aldrin	(0.02 mg/mL)	Endosulfan I	(0.02 mg/mL)
α-BHC	(0.02 mg/mL)	Endosulfan II	(0.1 mg/mL)
β-BHC	(0.02 mg/mL)	Endosulfan sulfate	(0.1 mg/mL)
δ-BHC	(0.02 mg/mL)	Endrin	(0.1 mg/mL)
γ-BHC	(0.02 mg/mL)	Endrin aldehyde	(0.02 mg/mL)
4,4'-DDD	(0.1 mg/mL)	Heptachlor	(0.02 mg/mL)
4,4'-DDE	(0.02 mg/mL)	Heptachlor epoxide	(0.02 mg/mL)
4,4'-DDT	(0.1 mg/mL)	Methoxychlor	(0.02 mg/mL)
Dieldrin	(0.02 mg/mL)		

Internal Standard

M-508-IS $ 10 / **1 x 1 mL**
M-508-IS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 mg/mL in MtBE

Pentachloronitrobenzene

Surrogate Standard

CLP-032-R $ 15 / **1 x 1 mL**
CLP-032-R-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
0.2 mg/mL each in Acetone 2 comps.

Decachlorobiphenyl
Tetrachloro-*m*-xylene

Multi-Component Analytes
Polychlorinated Biphenyls, Chlordane & Toxaphene

Each at 1,000 µg/mL in Hexane **AccuPAK™ *(5 x 1 mL)***

Aroclors® #	Cat. No.	1 mL	SAVE 20% Cat. No.	PAK
Aroclor 1016	C-216S-H-10X	$ 20	C-216S-H-10X-PAK	$ 80
Aroclor 1221	C-221S-H-10X	20	C-221S-H-10X-PAK	80
Aroclor 1232	C-232S-H-10X	20	C-232S-H-10X-PAK	80
Aroclor 1242	C-242S-H-10X	20	C-242S-H-10X-PAK	80
Aroclor 1248	C-248S-H-10X	20	C-248S-H-10X-PAK	80
Aroclor 1254	C-254S-H-10X	20	C-254S-H-10X-PAK	80
Aroclor 1260	C-260S-H-10X	20	C-260S-H-10X-PAK	80
Aroclor 1262	C-262S-H-10X	20	C-262S-H-10X-PAK	80
Aroclor 1268	C-268S-H-10X	20	C-268S-H-10X-PAK	80
Pesticides				
Chlordane	P-017S-H-10X	$ 15	P-017S-H-10X-PAK	$ 60
Toxaphene	P-093S-H-10X	15	P-093S-H-10X-PAK	60

Decomposition Solution

M-1618D $ 15 / **1 x 1 mL**
M-1618D-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
At stated conc. in Acetone 2 comps.

p,p'-DDT (2 µg/mL)
Endrin (1 µg/mL)

o,p-DDT and Metabolites

M-8080-OP $ 30 / **1 x 1 mL**
M-8080-OP-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.25 mg/mL each in Hexane : Toluene (1:1) 3 comps.

o,p-DDD
o,p-DDE
o,p-DDT

Organochlorine Pesticide Mixture

Alternate Source

M-8080A-ASL $ 50 / **1 x 1 mL**
M-8080A-ASL-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
250 µg/mL each in Hexane : Toluene (1:1) 17 comps.

Aldrin
α-BHC
β-BHC
δ-BHC
γ-BHC
p,p'-DDD
p,p'-DDE
p,p'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide (Isomer B)
Methoxychlor (1000 µg/mL)

Method 8080/8081 Matrix Spike Solutions & Surrogates at Working Level

Matrix Spiking Solutions

For Water Samples

CLP-014-5ML $ 35 / **1 x 5 mL**
CLP-014-25ML $ 50 / **1 x 25 mL**
At stated conc. in MeOH 6 comps.

Aldrin	(200 ng/mL)	Endrin	(500 ng/mL)
4,4'-DDT	(500 ng/mL)	Heptachlor	(200 ng/mL)
Dieldrin	(500 ng/mL)	Lindane	(200 ng/mL)

For Waste Samples

CLP-014-5X-5ML $ 55 / **1 x 5 mL**
CLP-014-5X-25ML $ 75 / **1 x 25 mL**
At stated conc. in MeOH 6 comps.

Aldrin	(1,000 ng/mL)	Endrin	(2,500 ng/mL)
4,4'-DDT	(2,500 ng/mL)	Heptachlor	(1,000 ng/mL)
Dieldrin	(2,500 ng/mL)	Lindane	(1,000 ng/mL)

Surrogate Solutions

For Water Samples

CLP-032R-WL-10ML $ 20 / **1 x 10 mL**
CLP-032R-WL-50ML $ 45 / **1 x 50 mL**
CLP-032R-WL-100ML $ 75 / **1 x 100 mL**
1 µg/mL each in Acetone 2 comps.

Decachlorobiphenyl
Tetrachloro-*m*-xylene

For Waste Samples

CLP-032R-WL-5X-10ML $ 20 / **1 x 10 mL**
CLP-032R-WL-5X-50ML $ 45 / **1 x 50 mL**
CLP-032R-WL-5X-100ML $ 75 / **1 x 100 mL**
5 µg/mL each in Acetone 2 comps.

Decachlorobiphenyl
Tetrachloro-*m*-xylene

Method 8080/8081 7 Point Working Level Pesticide Curves

AccuStandard has expanded the existing organo-halide pesticide standard line to include the working level **C**ontinuing **C**alibration **C**heck Standard Line for Method 8080/8081. The working level **CCC Line** revolutionizes the way the analytical chemist prepares standards for pesticide analysis.

M-8080-CAL-SET — $ 70 / **7 x 1 mL**
All solutions in Isooctane — 21 comps.

Components (units in ng/mL)	Level 1	Level 2 (2.5X)	Level 3 (5X)	Level 4 (10X)	Level 5 (25X)	Level 6 (50X)	Level 7 (100X)
Aldrin	2	5	10	20	50	100	200
α-BHC	2	5	10	20	50	100	200
β-BHC	2	5	10	20	50	100	200
γ-BHC	2	5	10	20	50	100	200
δ-BHC	2	5	10	20	50	100	200
α-Chlordane	2	5	10	20	50	100	200
γ-Chlordane	2	5	10	20	50	100	200
4,4'-DDD	4	10	20	40	100	200	400
4,4'-DDE	4	10	20	40	100	200	400
4,4'-DDT	4	10	20	40	100	200	400
Dieldrin	4	10	20	40	100	200	400
Endosulfan I	2	5	10	20	50	100	200
Endosulfan II	4	10	20	40	100	200	400
Endosulfan sulfate	4	10	20	40	100	200	400
Endrin	4	10	20	40	100	200	400
Endrin aldehyde	4	10	20	40	100	200	400
Heptachlor	2	5	10	20	50	100	200
Heptachlor epoxide	2	5	10	20	50	100	200
Methoxychlor	20	50	100	200	500	1,000	2,000
Tetrachloro-*m*-xylene	2	5	10	20	50	100	200
Decachlorobiphenyl	4	10	20	40	100	200	400

Level 3 Daily QC Working Level
CCC (for low level curves)

M-8080-WL-5X-10ML	$ 50 / **1 x 10 mL**
M-8080-WL-5X-25ML	$ 75 / **1 x 25 mL**
M-8080-WL-5X-50ML	$ 100 / **1 x 50 mL**

At stated conc. in Isooctane

Level 4 Daily QC Working Level
CCC (for higher level curves)

M-8080-WL-10X-10ML	$ 50 / **1 x 10 mL**
M-8080-WL-10X-25ML	$ 75 / **1 x 25 mL**
M-8080-WL-10X-50ML	$ 100 / **1 x 50 mL**

At stated conc. in Isooctane

Level 5 Daily QC Working Level
CCC (for higher level curves)

M-8080-WL-25X-10ML	$ 50 / **1 x 10 mL**
M-8080-WL-25X-25ML	$ 75 / **1 x 25 mL**
M-8080-WL-25X-50ML	$ 100 / **1 x 50 mL**

At stated conc. in Isooctane

M-8080-R2-CAL-SET — $ 80 / **7 x 1 mL**
All solutions in Isooctane — 23 comps.

Components (units in ng/mL)	Level 1	Level 2 (2.5X)	Level 3 (5X)	Level 4 (10X)	Level 5 (25X)	Level 6 (50X)	Level 7 (100X)
Aldrin	2	5	10	20	50	100	200
α-BHC	2	5	10	20	50	100	200
β-BHC	2	5	10	20	50	100	200
γ-BHC	2	5	10	20	50	100	200
δ-BHC	2	5	10	20	50	100	200
α-Chlordane	2	5	10	20	50	100	200
γ-Chlordane	2	5	10	20	50	100	200
4,4'-DDD	4	10	20	40	100	200	400
4,4'-DDE	4	10	20	40	100	200	400
4,4'-DDT	4	10	20	40	100	200	400
Dieldrin	4	10	20	40	100	200	400
Endosulfan I	2	5	10	20	50	100	200
Endosulfan II	4	10	20	40	100	200	400
Endosulfan sulfate	4	10	20	40	100	200	400
Endrin	4	10	20	40	100	200	400
Endrin aldehyde	4	10	20	40	100	200	400
Endrin ketone	4	10	20	40	100	200	400
Heptachlor	2	5	10	20	50	100	200
Heptachlor epoxide	2	5	10	20	50	100	200
Isodrin	2	5	10	20	50	100	200
Methoxychlor	20	50	100	200	500	1,000	2,000
Tetrachloro-*m*-xylene	2	5	10	20	50	100	200
Decachlorobiphenyl	4	10	20	40	100	200	400

Level 3 Daily QC Working Level
CCC (for low level curves)

M-8080-R2-WL-5X-10ML	$ 60 / **1 x 10 mL**
M-8080-R2-WL-5X-25ML	$ 85 / **1 x 25 mL**
M-8080-R2-WL-5X-50ML	$ 115 / **1 x 50 mL**

At stated conc. in Isooctane

Level 4 Daily QC Working Level
CCC (for higher level curves)

M-8080-R2-WL-10X-10ML	$ 60 / **1 x 10 mL**
M-8080-R2-WL-10X-25ML	$ 85 / **1 x 25 mL**
M-8080-R2-WL-10X-50ML	$ 115 / **1 x 50 mL**

At stated conc. in Isooctane

Level 5 Daily QC Working Level
CCC (for higher level curves)

M-8080-R2-WL-25X-10ML	$ 60 / **1 x 10 mL**
M-8080-R2-WL-25X-25ML	$ 85 / **1 x 25 mL**
M-8080-R2-WL-25X-50ML	$ 115 / **1 x 50 mL**

At stated conc. in Isooctane

The AccuStandard CCC Product Line Improves Efficiency:

Load the calibration curve Standards at the end of the day with your samples and working level check, and review a verified curve with your sample results the next day.

No time wasted on Standard dilutions and less worry about your CCC meeting data quality objectives (DQOs).

Working Level Standards & Continuing Calibration Check (CCC)

Method 8080/8081 Aroclor Calibration Curves

Aroclor 1016/1260 Calibration Curve

C-216/260-CAL-SET — $ 40 / **6 x 1 mL**
All solutions in Isooctane — 4 comps.

Components (units in ng/mL)	Level 1	Level 2 (2X)	Level 3 (5X)	Level 4 (10X)	Level 5 (15X)	Level 6 (20X)
Aroclor 1016	50	100	250	500	750	1000
Aroclor 1260	50	100	250	500	750	1000
Decachlorobiphenyl	10	20	50	100	150	200
Tetrachloro-*m*-xylene	10	20	50	100	150	200

Level 3 Daily Working Level **CCC (for low level curves)**
C-216/260-WL-5X-5ML — $ 15 / **1 x 5 mL**
C-216/260-WL-5X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Level 4 Daily Working Level **CCC (for higher level curves)**
C-216/260-WL-10X-5ML — $ 15 / **1 x 5 mL**
C-216/260-WL-10X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Aroclor 1221 Calibration Curve

C-221-CAL-SET — $ 40 / **6 x 1 mL**
All solutions in Isooctane — 3 comps.

Components (units in ng/mL)	Level 1	Level 2 (2X)	Level 3 (5X)	Level 4 (10X)	Level 5 (15X)	Level 6 (20X)
Aroclor 1221	50	100	250	500	750	1000
Decachlorobiphenyl	10	20	50	100	150	200
Tetrachloro-*m*-xylene	10	20	50	100	150	200

Level 3 Daily Working Level **CCC (for low level curves)**
C-221-WL-5X-5ML — $ 15 / **1 x 5 mL**
C-221-WL-5X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Level 4 Daily Working Level **CCC (for higher level curves)**
C-221-WL-10X-5ML — $ 15 / **1 x 5 mL**
C-221-WL-10X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Aroclor 1232 Calibration Curve

C-232-CAL-SET — $ 40 / **6 x 1 mL**
All solutions in Isooctane — 3 comps.

Components (units in ng/mL)	Level 1	Level 2 (2X)	Level 3 (5X)	Level 4 (10X)	Level 5 (15X)	Level 6 (20X)
Aroclor 1232	50	100	250	500	750	1000
Decachlorobiphenyl	10	20	50	100	150	200
Tetrachloro-*m*-xylene	10	20	50	100	150	200

Level 3 Daily Working Level **CCC (for low level curves)**
C-232-WL-5X-5ML — $ 15 / **1 x 5 mL**
C-232-WL-5X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Level 4 Daily Working Level **CCC (for higher level curves)**
C-232-WL-10X-5ML — $ 15 / **1 x 5 mL**
C-232-WL-10X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Aroclor 1242 Calibration Curve

C-242-CAL-SET — $ 40 / **6 x 1 mL**
All solutions in Isooctane — 3 comps.

Components (units in ng/mL)	Level 1	Level 2 (2X)	Level 3 (5X)	Level 4 (10X)	Level 5 (15X)	Level 6 (20X)
Aroclor 1242	50	100	250	500	750	1000
Decachlorobiphenyl	10	20	50	100	150	200
Tetrachloro-*m*-xylene	10	20	50	100	150	200

Level 3 Daily Working Level **CCC (for low level curves)**
C-242-WL-5X-5ML — $ 15 / **1 x 5 mL**
C-242-WL-5X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Level 4 Daily Working Level **CCC (for higher level curves)**
C-242-WL-10X-5ML — $ 15 / **1 x 5 mL**
C-242-WL-10X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Aroclor 1248 Calibration Curve

C-248-CAL-SET — $ 40 / **6 x 1 mL**
All solutions in Isooctane — 3 comps.

Components (units in ng/mL)	Level 1	Level 2 (2X)	Level 3 (5X)	Level 4 (10X)	Level 5 (15X)	Level 6 (20X)
Aroclor 1248	50	100	250	500	750	1000
Decachlorobiphenyl	10	20	50	100	150	200
Tetrachloro-*m*-xylene	10	20	50	100	150	200

Level 3 Daily Working Level **CCC (for low level curves)**
C-248-WL-5X-5ML — $ 15 / **1 x 5 mL**
C-248-WL-5X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Level 4 Daily Working Level **CCC (for higher level curves)**
C-248-WL-10X-5ML — $ 15 / **1 x 5 mL**
C-248-WL-10X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Method 8080/8081 Aroclor Calibration Curves (Continued)

Aroclor 1254 Calibration Curve

C-254-CAL-SET — $ 40 / **6 x 1 mL**
All solutions in Isooctane — 3 comps.

Components (units in ng/mL)	Level 1	Level 2 (2X)	Level 3 (5X)	Level 4 (10X)	Level 5 (15X)	Level 6 (20X)
Aroclor 1254	50	100	250	500	750	1000
Decachlorobiphenyl	10	20	50	100	150	200
Tetrachloro-*m*-xylene	10	20	50	100	150	200

Level 3 Daily Working Level
CCC (for low level curves)
C-254-WL-5X-5ML — $ 15 / **1 x 5 mL**
C-254-WL-5X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Level 4 Daily Working Level
CCC (for higher level curves)
C-254-WL-10X-5ML — $ 15 / **1 x 5 mL**
C-254-WL-10X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Toxaphene Calibration Curve

P-093-CAL-SET — $ 40 / **6 x 1 mL**
All solutions in Isooctane — 3 comps.

Components (units in ng/mL)	Level 1	Level 2 (2X)	Level 3 (5X)	Level 4 (10X)	Level 5 (15X)	Level 6 (20X)
Toxaphene	50	100	250	500	750	1000
Decachlorobiphenyl	2	4	10	20	30	40
Tetrachloro-*m*-xylene	2	4	10	20	30	40

Level 3 Daily Working Level
CCC (for low level curves)
P-093-WL-5X-5ML — $ 15 / **1 x 5 mL**
P-093-WL-5X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Level 4 Daily Working Level
CCC (for higher level curves)
P-093-WL-10X-5ML — $ 15 / **1 x 5 mL**
P-093-WL-10X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Chlordane Calibration Curve

P-017-CAL-SET — $ 40 / **6 x 1 mL**
All solutions in Isooctane — 3 comps.

Components (units in ng/mL)	Level 1	Level 2 (2X)	Level 3 (5X)	Level 4 (10X)	Level 5 (15X)	Level 6 (20X)
Chlordane	50	100	250	500	750	1000
Decachlorobiphenyl	20	40	70	100	150	200
Tetrachloro-*m*-xylene	20	40	70	100	150	200

Level 3 Daily Working Level
CCC (for low level curves)
P-017R-WL-5X-5ML — $ 15 / **1 x 5 mL**
P-017R-WL-5X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Level 4 Daily Working Level
CCC (for higher level curves)
P-017R-WL-10X-5ML — $ 15 / **1 x 5 mL**
P-017R-WL-10X-10ML — $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Additional 8080/8081 formulations - Continued on Next Page

GPC Standards Sample Clean-up Solutions at Working Level

GPC Calibration Solution

CLP-027-WL-10ML — $ 30 / **1 x 10 mL**
At stated conc. in CH_2Cl_2 — 5 comps.

Corn Oil	(25 mg/mL)	Perylene	(0.02 mg/mL)
bis(2-Ethylhexyl)phthalate	(1.0 mg/mL)	Sulfur	(0.08 mg/mL)
Methoxychlor	(0.2 mg/mL)		

GPC Calibration Solution for 8/94 SOW OLM03.1

CLP-027-R2-WL-10ML — $ 25 / **1 x 10 mL**
At stated conc. in CH_2Cl_2 — 5 comps.

Corn Oil	(25 mg/mL)	Perylene	(0.02 mg/mL)
bis(2-Ethylhexyl)phthalate	(0.5 mg/mL)	Sulfur	(0.08 mg/mL)
Methoxychlor	(0.1 mg/mL)		

Florisil Cartridge Check Solution

CLP-FC-WL-10ML — $ 20 / **1 x 10 mL**
0.1 µg/mL in Acetone

2,4,5-Trichlorophenol

GPC Calibration Check Solutions

GPC-CC-A-WL-10ML — $ 20 / **1 x 10 mL**
At stated conc. in CH_2Cl_2 — 6 comps.

Aldrin	(0.1 µg/mL)	Dieldrin	(0.2 µg/mL)
γ-BHC *(Lindane)*	(0.1 µg/mL)	Endrin	(0.2 µg/mL)
4,4'-DDT	(0.2 µg/mL)	Heptachlor	(0.1 µg/mL)

GPC-CC-B-WL-10ML — $ 10 / **1 x 10 mL**
0.2 µg/mL each in CH_2Cl_2 — 2 comps.

Aroclor 1016 — Aroclor 1260

Method 8080/8081A/8081B Organochlorine Pesticides by Capillary Column GC/ECD

Single/Dual Column Organochlorine Pesticides

M-8081-SC $ 75 / **1 x 1 mL**
M-8081-SC-PAK *SAVE 20%* $ 300 / **5 x 1 mL**
1.0 mg/mL each in Toluene : Hexane (1:1) 20 comps.

Aldrin	Dieldrin
α-BHC	Endosulfan I
β-BHC	Endosulfan II
γ-BHC	Endosulfan sulfate
δ-BHC	Endrin
α-Chlordane	Endrin aldehyde
γ-Chlordane	Endrin ketone
4,4'-DDD	Heptachlor
4,4'-DDE	Heptachlor epoxide
4,4'-DDT	Methoxychlor

Technical Note

M-8081A-SC was formulated for use in combination with M-8081-SC when performing single or dual column pesticide analysis. These two product formulations provide the typically analyzed pesticides in one core mixture (M-8081-SC) with the additional 7 analytes (M-8081A-SC) to meet the 27 analytes listed in Method 8081 (January 1995).

Organochlorine Pesticide Mixtures

M-8081A-SC $ 25 / **1 x 1 mL**
M-8081A-SC-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
1.0 mg/mL each in Hexane:Toluene (1:1) 7 comps.

Chlorobenzilate	Hexachlorocyclopentadiene
DBCP	Isodrin
Diallate	Kepone
Hexachlorobenzene	

M-8081A-SC-R $ 25 / **1 x 1 mL**
M-8081A-SC-R-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
1.0 mg/mL each in Hexane : Toluene (1:1) 6 comps.

Chlorobenzilate	Hexachlorobenzene
1,2-Dibromo-3-chloropropane	Hexachlorocyclopentadiene
Diallate	Isodrin

Dual Column Organochlorine Pesticides

M-8081-DC $ 75 / **1 x 1 mL**
1.0 mg/mL each in Hexane : Toluene (1:1) 22 comps.

Alachlor	Etridiazole
Captafol	Hexachlorobenzene
Captan	Hexachlorocyclopentadiene
Chlorobenzilate	Isodrin
Chloroneb	Mirex
Chloropropylate	*trans*-Nonachlor
Chlorothalonil	PCNB
DBCP	Perthane
DCPA	Propachlor
Diallate	Permethrin * *(cis & trans)*
Dicofol	Trifluralin

* isomer concentration as stated on certificate of product data

Tailing Test Standard

M-8081-T $ 25 / **1 x 1 mL**
1.0 mg/mL each in Hexane : Toluene (1:1) 4 comps.

Carbophenothion	Kepone
Dichlone	Nitrofen

M-8081-T-R $ 25 / **1 x 1 mL**
1.0 mg/mL each in Hexane : Toluene (1:1) 3 comps.

Carbophenothion	Nitrofen
Dichlone	

Surrogate Standards

CLP-032-R $ 15 / **1 x 1 mL**
CLP-032-R-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
0.2 mg/mL each in Acetone 2 comps.

Decachlorobiphenyl	Tetrachloro-*m*-xylene

CLP-034 $ 15 / **1 x 1 mL**
CLP-034-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
0.2 mg/mL each in Acetone 2 comps.

Dibutylchlorendate	Tetrachloro-*m*-xylene

M-8081-SS-X $ 10 / **1 x 1 mL**
M-8081-SS-X-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in Acetone

2-Bromobiphenyl

For Dual Column

M-8081-SS-DC $ 20 / **1 x 1 mL**
M-8081-SS-DC-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
1.0 mg/mL in Acetone

4-Chloro-3-nitrobenzotrifluoride

Internal Standards

M-8081-IS $ 10 / **1 x 1 mL**
M-8081-IS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in Acetone

Pentachloronitrobenzene *(PCNB)*

M-8081-IS-X $ 10 / **1 x 1 mL**
M-8081-IS-X-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in Acetone

α,α-Dibromo-*m*-xylene

For Dual Column

M-8081-IS-DC $ 10 / **1 x 1 mL**
M-8081-IS-DC-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in Acetone

1-Bromo-2-nitrobenzene

Decomposition Standard

M-8081-DS $ 25 / **1 x 1 mL**
M-8081-DS-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
0.2 mg/mL each in Hexane 2 comps.

4,4'-DDT	Endrin

Method 8082/8082A PCBs by Capillary Column GC by ECD or ELCD

PCB Congeners Mixture

M-8082 $ 120 / **1 x 1 mL**
M-8082-PAK *SAVE 20%* $ 480 / **5 x 1 mL**
100 µg/mL each in Hexane 19 comps.

No.		No.	
1	2-Chlorobiphenyl	137	2,2',3,4,4',5-Hexachlorobiphenyl
5	2,3-Dichlorobiphenyl	141	2,2',3,4,5,5'-Hexachlorobiphenyl
18	2,2',5-Trichlorobiphenyl	151	2,2',3,5,5',6-Hexachlorobiphenyl
31	2,4',5-Trichlorobiphenyl	153	2,2',4,4',5,5'-Hexachlorobiphenyl
44	2,2',3,5'-Tetrachlorobiphenyl	170	2,2',3,3',4,4',5-Heptachlorobiphenyl
52	2,2',5,5'-Tetrachlorobiphenyl	180	2,2',3,4,4',5,5'-Heptachlorobiphenyl
66	2,3',4,4'-Tetrachlorobiphenyl	183	2,2',3,4,4',5',6-Heptachlorobiphenyl
87	2,2',3,4,5'-Pentachlorobiphenyl	187	2,2',3,4',5,5',6-Heptachlorobiphenyl
101	2,2',4,5,5'-Pentachlorobiphenyl	206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl
110	2,3,3',4',6-Pentachlorobiphenyl		

Reformulated PCB Congeners Mixture

M-8082A $ 120 / **1 x 1 mL**
M-8082A-PAK *SAVE 20%* $ 480 / **5 x 1 mL**
100 µg/mL each in Hexane 19 comps.

No.		No.	
1	2-Chlorobiphenyl	138	2,2',3,4,4',5'-Hexachlorobiphenyl
5	2,3-Dichlorobiphenyl	141	2,2',3,4,5,5'-Hexachlorobiphenyl
18	2,2',5-Trichlorobiphenyl	151	2,2',3,5,5',6-Hexachlorobiphenyl
31	2,4',5-Trichlorobiphenyl	153	2,2',4,4',5,5'-Hexachlorobiphenyl
44	2,2',3,5'-Tetrachlorobiphenyl	170	2,2',3,3',4,4',5-Heptachlorobiphenyl
52	2,2',5,5'-Tetrachlorobiphenyl	180	2,2',3,4,4',5,5'-Heptachlorobiphenyl
66	2,3',4,4'-Tetrachlorobiphenyl	183	2,2',3,4,4',5',6-Heptachlorobiphenyl
87	2,2',3,4,5'-Pentachlorobiphenyl	187	2,2',3,4',5,5',6-Heptachlorobiphenyl
101	2,2',4,5,5'-Pentachlorobiphenyl	206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl
110	2,3,3',4',6-Pentachlorobiphenyl		

Technical Note

AccuStandard has formulated these standards for use in determining the concentrations of Aroclors (Industrial PCBs), specific PCB congeners, or "total PCBs". Additional Aroclor stock solutions are available at higher concentrations and in other solvents.

Internal & Surrogate Standard

CLP-032-H-5X $ 20 / **1 x 1 mL**
1.0 mg/mL each in Hexane 2 comps.

Decachlorobiphenyl Tetrachloro-*m*-xylene

Surrogate Standards

M-8082-SSA-WL-10ML $ 20 / **1 x 10 mL**
M-8082-SSA-WL-10ML-PAK *SAVE 20%* $ 80 / **5 x 10 mL**
5 µg/mL in Acetone

Decachlorobiphenyl

M-8082-SS $ 20 / **1 x 1 mL**
100 µg/mL in Hexane
M-8082-SS-10X $ 20 / **1 x 1 mL**
1.0 mg/mL in Hexane

Tetrachloro-*m*-xylene

Internal Standards

M-8082-ISC-WL-10ML $ 20 / **1 x 10 mL**
M-8082-ISC-WL-10ML-PAK *SAVE 20%* $ 80 / **5 x 10 mL**
5 µg/mL in Hexane

Decachlorobiphenyl

M-8082-SSC-WL-10ML $ 20 / **1 x 10 mL**
M-8082-SSC-WL-10ML-PAK *SAVE 20%* $ 80 / **5 x 10 mL**
5 µg/mL in Acetone

Tetrachloro-*m*-xylene

Method 8082 Aroclor 1016/1260 Calibration Curve

Aroclor 1016/1260 Calibration Curve

C-216/260-CAL-SET $ 40 / **6 x 1 mL**
All solutions in Isooctane 4 comps.

Components *(units in ng/mL)*	Level 1	Level 2 *(2X)*	Level 3 *(5X)*	Level 4 *(10X)*	Level 5 *(15X)*	Level 6 *(20X)*
Aroclor 1016	50	100	250	500	750	1000
Aroclor 1260	50	100	250	500	750	1000
Decachlorobiphenyl	10	20	50	100	150	200
Tetrachloro-*m*-xylene	10	20	50	100	150	200

Level 3 Daily Working Level CCC (for low level curves)

C-216/260-WL-5X-5ML $ 15 / **1 x 5 mL**
C-216/260-WL-5X-10ML $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Level 4 Daily Working Level CCC (for higher level curves)

C-216/260-WL-10X-5ML $ 15 / **1 x 5 mL**
C-216/260-WL-10X-10ML $ 25 / **1 x 10 mL**
At stated conc. in Isooctane

Method 8082A Polychlorinated Biphenyl (PCBs) by GC/ECD

Individual PCB Congener Solutions

Congener	*35 µg/mL in Isooctane*	*100 µg/mL in Isooctane*	Price 1 mL
2-Chlorobiphenyl	C-001S	C-001S-TP	$ 15
2,3-Dichlorobiphenyl	C-005S	C-005S-TP	15
2,2',5-Trichlorobiphenyl	C-018S	C-018S-TP	15
2,4',5-Trichlorobiphenyl	C-031S	C-031S-TP	15
2,2',3,5'-Tetrachlorobiphenyl	C-044S	C-044S-TP	15
2,2',5,5'-Tetrachlorobiphenyl	C-052S	C-052S-TP	15
2,3',4,4'-Tetrachlorobiphenyl	C-066S	C-066S-TP	30
2,2',3,4,5'-Pentachlorobiphenyl	C-087S	C-087S-TP	30
2,2',4,5,5'-Pentachlorobiphenyl	C-101S	C-101S-TP	30
2,3,3',4',6-Pentachlorobiphenyl	C-110S	C-110S-TP	30
2,2',3,4,4',5-Hexachlorobiphenyl	C-137S	C-137S-TP	30
2,2',3,4,4',5'-Hexachlorobiphenyl	C-138S	C-138S-TP	30
2,2',3,4,5,5'-Hexachlorobiphenyl	C-141S	C-141S-TP	30
2,2',3,5,5',6-Hexachlorobiphenyl	C-151S	C-151S-TP	30
2,2',4,4',5,5'-Hexachlorobiphenyl	C-153S	C-153S-TP	15
2,2',3,3',4,4',5-Heptachlorobiphenyl	C-170S	C-170S-TP	30
2,2',3,4,4',5,5'-Heptachlorobiphenyl	C-180S	C-180S-TP	30
2,2',3,4,4',5',6-Heptachlorobiphenyl	C-183S	C-183S-TP	30
2,2',3,4',5,5',6-Heptachlorobiphenyl	C-187S	C-187S-TP	30
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	C-206S	C-206S-TP	30

Internal Standards

C-209S-H $ 15 / **1 x 1 mL**
100 µg/mL in Hexane
C-209S-H-10X $ 15 / **1 x 1 mL**
1.0 mg/mL in Hexane

Decachlorobiphenyl

Internal & Surrogate Standard

CLP-032-H-5X $ 20 / **1 x 1 mL**
1.0 mg/mL each in Hexane 2 comps.

Decachlorobiphenyl Tetrachloro-*m*-xylene

Surrogate Standard

M-8082-SS $ 20 / **1 x 1 mL**
100 µg/mL in Hexane
M-8082-SS-10X $ 20 / **1 x 1 mL**
1.0 mg/mL in Hexane

Tetrachloro-*m*-xylene

Method 8085 Pesticides by GC/AED

Nitrogen Containing Pesticides Mix #1

M-8085-N1 — $ 60 / **1 x 5 mL**
At stated conc. in MtBE — 20 comps.

Alachlor	(18 µg/mL)	Norflurazon	(10 µg/mL)
Atrazine	(5 µg/mL)	Oxyfluorfen	(20 µg/mL)
Bromacil	(20 µg/mL)	Pendimethalin	(7.5 µg/mL)
Dichlobenil	(10 µg/mL)	Prometryne	(5 µg/mL)
Diphenamid	(15 µg/mL)	Pronamide	(20 µg/mL)
Ethalfluralin	(7.5 µg/mL)	Propachlor	(12 µg/mL)
Fluridone	(30 µg/mL)	Simazine	(5 µg/mL)
Metolachlor	(20 µg/mL)	Tebuthiuron	(7.5 µg/mL)
Metribuzin	(5 µg/mL)	Terbacil	(15 µg/mL)
Napropamide	(15 µg/mL)	Trifluralin	(7.5 µg/mL)

Mix #2

M-8085-N2 — $ 50 / **1 x 5 mL**
At stated conc. in MtBE — 18 comps.

Ametryn	(5 µg/mL)	Molinate	(10 µg/mL)
Benfluralin	(7.5 µg/mL)	Prebane	(5 µg/mL)
Butylate	(10 µg/mL)	Profluoralin	(12 µg/mL)
Chlorpropham	(20 µg/mL)	Prometon	(5 µg/mL)
Chlorothalonil	(12 µg/mL)	Propargite	(10 µg/mL)
Cyanazine	(7.5 µg/mL)	Propazine	(5 µg/mL)
Cycloate	(10 µg/mL)	Tillam	(10 µg/mL)
EPTC	(10 µg/mL)	Triallate	(13 µg/mL)
Hexazinone	(7.5 µg/mL)	Vernolate	(10 µg/mL)

Mix #3

M-8085-N3 — $ 60 / **1 x 5 mL**
At stated conc. in MtBE — 15 comps.

Butachlor	(30 µg/mL)	Metalaxyl	(30 µg/mL)
Carboxin	(30 µg/mL)	MGK-264	(40 µg/mL)
Diallate	(35 µg/mL)	*cis*-Permethrin	(10 µg/mL)
Fenarimol	(15 µg/mL)	Resmethrin	(10 µg/mL)
Fenvalerate	(20 µg/mL)	Sumithrin	(10 µg/mL)
Gesatamine	(7.5 µg/mL)	Triadimefon	(13 µg/mL)
Hexazinone	(7.5 µg/mL)	Triallate	(15 µg/mL)
Karmex	(30 µg/mL)		

Technical Note

These standards are for those laboratories participating in the analysis of pesticides by EPA Method 8085 Pesticide Screening and Compound Independent Elemental Quantitation by Gas Chromatography with Atomic Emission Detection (AED).

Chlorinated Pesticides

Mix #1

M-8085-C1 — $ 75 / **1 x 5 mL**
2.5 µg/mL each in Hexane — 23 comps.

Aldrin	Endosulfan II
α-BHC	Endosulfan sulfate
β-BHC	Endrin
γ-BHC	Endrin aldehyde
δ-BHC	Endrin ketone
γ-Chlordane	Heptachlor
α-Chlordane	Heptachlor epoxide (Isomer B)
p,p'-DDD	Methoxychlor
p,p'-DDE	*cis*-nonachlor
p,p'-DDT	Oxychlordane
Dieldrin	Pentachloroanisole
Endosulfan I	

Mix #2

M-8085-C2 — $ 45 / **1 x 5 mL**
At stated conc. in Hexane — 9 comps.

Captan	(6.75 µg/mL)	Hexachlorobenzene	(2.5 µg/mL)
Captafol	(12.5 µg/mL)	Kelthane	(10 µg/mL)
o,p'-DDE	(2.5 µg/mL)	Mirex	(2.5 µg/mL)
o,p'-DDD	(2.5 µg/mL)	*trans*-Nonachlor	(2.5 µg/mL)
o,p'-DDT	(2.5 µg/mL)		

Organo Phosphorous Pesticides Mix #1

M-8085-P1 — $ 50 / **1 x 5 mL**
At stated conc. in MtBE — 14 comps.

Azinphos ethyl	(8 µg/mL)	EPN	(5 µg/mL)
Carbophenothion	(5 µg/mL)	Ethion	(3.5 µg/mL)
Chlorpyrifos methyl ester	(4 µg/mL)	Fenamiphos	(5 µg/mL)
Demeton (mixed isomers)	(7 µg/mL)	Fenitrothion	(3.5 µg/mL)
Disulfoton	(3 µg/mL)	Malathion	(4 µg/mL)
Dursban	(4 µg/mL)	Merphos	(6 µg/mL)
Dyfonate	(3 µg/mL)	Sulfotep	(3 µg/mL)

Mix #2

M-8085-P2 — $ 50 / **1 x 5 mL**
At stated conc. in MtBE — 12 comps.

Azinphos methyl	(8 µg/mL)	Fenthion	(3.5 µg/mL)
Bolstar	(3.5 µg/mL)	Imidan	(5.5 µg/mL)
Diazinon	(4 µg/mL)	Methyl parathion	(3.5 µg/mL)
Dimethoate	(4 µg/mL)	Parathion	(4 µg/mL)
Ethoprop	(4 µg/mL)	Phorate	(3.5 µg/mL)
Fensulfothion	(5 µg/mL)	Ronnel	(3.5 µg/mL)

Herbicides as Methyl Derivatives Mix #1

M-8085-H1-M — $ 75 / **1 x 5 mL**
At stated conc. in MtBE — 13 comps.

Acifluorfen methyl ester	(20 µg/mL)	4-Nitroanisole	(10 µg/mL)
Bentazon methyl ester	(7.5 µg/mL)	Pentachloroanisole	(2.5 µg/mL)
Bromoxynil methyl ether	(5 µg/mL)	2,3,4,5-Tetrachloroanisole	(2.75 µg/mL)
Chloramben methyl ester	(5 µg/mL)	2,3,4,6-Tetrachloroanisole	(2.75 µg/mL)
Dinoseb methyl ether	(7.5 µg/mL)	2,4,5-Trichloroanisole	(3 µg/mL)
MCPA methyl ester	(10 µg/mL)	2,4,6-Trichloroanisole	(3 µg/mL)
MCPP methyl ester	(10 µg/mL)		

Mix #2

M-8085-H2-M — $ 75 / **1 x 5 mL**
At stated conc. in MtBE — 13 comps.

Dalapon methyl ester	(4 µg/mL)	Ioxynil methyl ether	(5 µg/mL)
2,4-D methyl ester	(5 µg/mL)	Methyl 3,5-Dichlorobenzoate	(5 µg/mL)
2,4-DB methyl ester	(6 µg/mL)	Picloram methyl ester	(5 µg/mL)
DCPA methyl ester	(4 µg/mL)	Silvex methyl ester	(4 µg/mL)
Dicamba methyl ester	(5 µg/mL)	2,4,5-T methyl ester	(4 µg/mL)
Dichlorprop methyl ester	(5.5 µg/mL)	Triclopyr methyl ester	(4 µg/mL)
Diclofop methyl	(7.5 µg/mL)		

Surrogates

M-8085-PEST-SS — $ 25 / **1 x 5 mL**
At stated conc. in MtBE — 4 comps.

Decachlorobiphenyl	(10 µg/mL)	1,3-Dimethyl-2-nitrobenzene	(20 µg/mL)
4,4'-Dibromooctafluorobiphenyl	(20 µg/mL)	Triphenylphosphate	(20 µg/mL)

Method 8085 continued on next page

Method 8085 (Continued) Pesticides by GC/AED

Alternate Surrogates

M-8085-PEST-SS2 — $ 25 / **1 x 5 mL**
20 µg/mL each in MtBE — 2 comps.

Dibutylchlorendate
TCMX

Herbicide Surrogate

M-8085-HERB-SS — $ 20 / **1 x 5 mL**
20 µg/mL in MtBE

2,4,6-Tribromophenol

Compound Independent Calibration (CIC) Mix

M-8085-CIC — $ 50 / **1 x 5 mL**
At stated conc. in MtBE — 15 comps.

Decachlorobiphenyl	(492 ng/mL)	Pentachloronitrobenzene	(1690 ng/mL)
Diazinon	(9800 ng/mL)	Phorate	(2100 ng/mL)
4,4'-Dibromooctafluorobiphenyl	(1000 ng/mL)	Silvex methyl ester	(400 ng/mL)
Dichlobenil	(6140 ng/mL)	Terbufos	(7600 ng/mL)
Dursban	(5680 ng/mL)	2,4,6-Tribromoanisole	(2870 ng/mL)
Ethoprop	(391 ng/mL)	1,2,3-Trichlorobenzene	(6810 ng/mL)
Ioxynil methyl ether	(500 ng/mL)	Trifluralin	(16000 ng/mL)
Malathion	(1070 ng/mL)		

Method 8090 Nitroaromatics & Isophorone by GC/TCD or FID

Analyte Calibration Set (609)

M-609-10X-SET — $ 20 / **set of 2 x 1 mL**
(set includes **M-609A-10X** & **M-609B-10X**)

M-609A-10X — $ 15 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

Isophorone
Nitrobenzene

M-609B-10X — $ 15 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

2,4-Dinitrotoluene
2,6-Dinitrotoluene

M-609-QC — $ 20 / **1 x 1 mL**
At stated conc. in Acetone — 4 comps.

Isophorone	(100 µg/mL)	2,6-Dinitrotoluene	(20 µg/mL)
2,4-Dinitrotoluene	(20 µg/mL)	Nitrobenzene	(100 µg/mL)

Analyte Calibration Set (8090)

M-8090-10X-SET — $ 25 / **set of 2 x 1 mL**
(set includes **M-8090-10X** & **M-609B-10X**)

M-8090-10X — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 4 comps.

1,3-Dinitrobenzene
Isophorone
1,4-Naphthoquinone
Nitrobenzene

M-609B-10X — $ 15 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

2,4-Dinitrotoluene
2,6-Dinitrotoluene

M-8090-QC — $ 25 / **1 x 1 mL**
At stated conc. in Acetone — 6 comps.

1,3-Dinitrobenzene	(40 µg/mL)	Isophorone	(100 µg/mL)
2,4-Dinitrotoluene	(20 µg/mL)	1,4-Naphthaquinone	(40 µg/mL)
2,6-Dinitrotoluene	(20 µg/mL)	Nitrobenzene	(100 µg/mL)

Method 8091 Nitroaromatics & Cyclic Ketones by GC/ECD or NPD

RCRA Analytes

M-8091 — $ 25 / **1 x 1 mL**
1.0 mg/mL each in Isooctane : Toluene (1:1) — 6 comps.

1,4-Dinitrobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
1,4-Naphthoquinone
Nitrobenzene
Pentachloronitrobenzene

Chloronitroaromatics: non-RCRA Analytes

M-8091-X1 — $ 55 / **1 x 1 mL**
1.0 mg/mL each in Isooctane — 17 comps.

1-Chloro-2,4-dinitrobenzene
1-Chloro-3,4-dinitrobenzene
1-Chloro-2-nitrobenzene
1-Chloro-4-nitrobenzene
2-Chloro-6-nitrotoluene
4-Chloro-2-nitrotoluene
4-Chloro-3-nitrotoluene
2,3-Dichloronitrobenzene
2,4-Dichloronitrobenzene
3,5-Dichloronitrobenzene
3,4-Dichloronitrobenzene
2,5-Dichloronitrobenzene
2,3,5,6-Tetrachloronitrobenzene
2,3,4,5-Tetrachloronitrobenzene
1,2,3-Trichloro-4-nitrobenzene
1,2,4-Trichloro-5-nitrobenzene
2,4,6-Trichloronitrobenzene

Internal Standard

M-8091-IS-20X — $ 17 / **1 x 1 mL**
M-8091-IS-20X-PAK — *SAVE 20%* $ 68 / **5 x 1 mL**
1.0 mg/mL in Isooctane

Hexachlorobenzene

Surrogate Standard

M-8091-SS-100X — $ 10 / **1 x 1 mL**
M-8091-SS-100X-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
1.0 mg/mL in Isooctane

1-Chloro-3-nitrobenzene

Method 8095 Explosives by GC/ECD

This method is a companion to EPA Method 8330 found later in this section. Utilizing the sensitivity and selectivity of the ECD as well as the resolution capabilities of capillary columns allows the chemist to quantitatively analyze for the typical explosives. The method uses familiar extraction techniques which reduce sample preparation time.

Explosive Stock Solution A

M-8095-SSA-100X $ 55 / **1 x 1 mL**
M-8095-SSA-100X-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
100 µg/mL each in AcCN:MeOH (1:1) 10 comps.

- 2-Amino-4,6-dinitrotoluene
- 4-Amino-2,6-dinitrotoluene
- 1,3-Dinitrobenzene
- 2,6-Dinitrotoluene
- 2,4-Dinitrotoluene
- 1,3,5-Trinitrobenzene
- TNT
- RDX
- Tetryl
- HMX

Explosive Stock Solution B

M-8095-SSB-100X $ 55 / **1 x 1 mL**
M-8095-SSB-100X-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
At stated conc. in AcCN : MeOH (1:1) 7 comps.

Nitrobenzene	(500 µg/mL)	Nitroglycerin	(500 µg/mL)
3-Nitrotoluene	(500 µg/mL)	PETN	(500 µg/mL)
2-Nitrotoluene	(500 µg/mL)	3,5-Dinitroaniline	(100 µg/mL)
4-Nitrotoluene	(500 µg/mL)		

Explosive Surrogate Standards

M-8095-SS-01 $ 15 / **1 x 1 mL**
M-8095-SS-01-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
100 µg/mL in AcCN

- 3,4-Dinitrotoluene

M-8095-SS-02 $ 20 / **1 x 1 mL**
M-8095-SS-02-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
100 µg/mL in AcCN

- 2-Methyl-4-nitroaniline

M-8095-SS-03 $ 50 / **1 x 1 mL**
M-8095-SS-03-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
10 µg/mL in AcCN

- 2,5-Dinitrotoluene

Buy AccuPaks™
Save 20-40% 5 x 1 mL

Method 8100 PAHs by GC/FID

Polynuclear Aromatic Hydrocarbon Mix

Z-014G-R $ 60 / **1 x 1 mL**
Z-014G-R-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2: Benzene (1:1) 17 comps.

- Acenaphthene
- Acenaphthylene
- Anthracene
- Benz[a]anthracene
- Benzo[a]pyrene
- Benzo[b]fluoranthene
- Benzo[g,h,i]perylene
- Benzo[k]fluoranthene
- Carbazole
- Chrysene
- Dibenz[a,h]anthracene
- Fluoranthene
- Fluorene
- Indeno[1,2,3-cd]pyrene
- Naphthalene
- Phenanthrene
- Pyrene

PAH Additions to Method 8100 by GC/FID

M-8100-R $ 160 / **1 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 8 comps.

- Benzo[j]fluoranthene
- Dibenz[a,h]acridine
- Dibenz[a,j]acridine
- 7H-Dibenzo[c,g]carbazole
- Dibenzo[a,e]pyrene
- Dibenzo[a,h]pyrene
- Dibenzo[a,i]pyrene
- 3-Methylcholanthrene

PAH QC Mix

M-8100-QC $ 65 / **1 x 1 mL**
M-8100-QC-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
At stated conc. in AcCN 24 comps.

Acenaphthene	(100 µg/mL)	Dibenz[a,h]anthracene	(10 µg/mL)
Acenaphthylene	(100 µg/mL)	7H-Dibenzo[c,g]carbazole	(10 µg/mL)
Anthracene	(100 µg/mL)	Dibenzo[a,e]pyrene	(10 µg/mL)
Benz[a]anthracene	(10 µg/mL)	Dibenzo[a,h]pyrene	(10 µg/mL)
Benzo[b]fluoranthene	(10 µg/mL)	Dibenzo[a,i]pyrene	(10 µg/mL)
Benzo[j]fluoranthene	(10 µg/mL)	Fluoranthene	(10 µg/mL)
Benzo[k]fluoranthene	(5 µg/mL)	Fluorene	(100 µg/mL)
Benzo[g,h,i]perylene	(10 µg/mL)	Indeno[1,2,3-cd]pyrene	(10 µg/mL)
Benzo[a]pyrene	(10 µg/mL)	3-Methylcholanthrene	(10 µg/mL)
Chrysene	(10 µg/mL)	Naphthalene	(100 µg/mL)
Dibenz[a,h]acridine	(10 µg/mL)	Phenanthrene	(100 µg/mL)
Dibenz[a,j]acridine	(10 µg/mL)	Pyrene	(10 µg/mL)

Surrogate Standard

M-8100-SS $ 20 / **1 x 1 mL**
M-8100-SS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 2 comps.

- 2-Fluorobiphenyl
- 1-Fluoronaphthalene

Method 8110 Haloethers by GC/FID

Haloethers

M-611-10X $ 45 / **1 x 1 mL**
2.0 mg/mL each in MeOH 5 comps.

- 4-Bromophenyl phenyl ether
- bis(2-Chloroethoxy)methane
- bis(2-Chloroethyl)ether
- bis(2-Chloro-1-methylethyl)ether
- 4-Chlorophenyl phenyl ether

Method 8111 Haloethers Mix: non-RCRA Analytes

Haloethers Mix

M-8111-X1 — $ 300 / **1 x 1 mL**
1.0 mg/mL each in Isooctane — 19 comps.

Individual products each at 1.0 mg/mL in Isooctane

Compound	Cat.No.	Price / 1 mL
4-Bromophenyl phenyl ether	E-001S	$ 15
2-Chlorophenyl-4-nitrophenyl ether	E-005S	15
3-Chlorophenyl-4-nitrophenyl ether	E-006S	15
4-Chlorophenyl-4-nitrophenyl ether	E-007S	15
2,4-Dibromophenyl-4-nitrophenyl ether	E-004S	15
2,4-Dichlorophenyl-3-methyl-4-nitrophenyl ether	E-020S	15
2,6-Dichlorophenyl-4-nitrophenyl ether	E-011S	15
3,5-Dichlorophenyl-4-nitrophenyl ether	E-012S	15
2,5-Dichlorophenyl-4-nitrophenyl ether	E-010S	15
2,4-Dichlorophenyl-4-nitrophenyl ether	E-009S	15
2,3-Dichlorophenyl-4-nitrophenyl ether	E-008S	15
3,4-Dichlorophenyl-4-nitrophenyl ether	E-013S	15
4-Nitrophenyl phenyl ether	E-003S	15
2,4,6-Trichlorophenyl-4-nitrophenyl ether	E-018S	15
2,3,6-Trichlorophenyl-4-nitrophenyl ether	E-016S	15
2,3,5-Trichlorophenyl-4-nitrophenyl ether	E-015S	15
2,4,5-Trichlorophenyl-4-nitrophenyl ether	E-017S	15
3,4,5-Trichlorophenyl-4-nitrophenyl ether	E-019S	15
2,3,4-Trichlorophenyl-4-nitrophenyl ether	E-014S	15

Haloethers Mix: RCRA Analytes

M-8111 — $ 20 / **1 x 1 mL**
M-8111-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
1.0 mg/mL each in Isooctane — 4 comps.

bis(2-chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloro-1-methylethyl)ether
4-Chlorophenyl phenyl ether

Internal Standard

M-8111-IS-20X — $ 10 / **1 x 1 mL**
M-8111-IS-20X-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
1,000 µg/mL in Acetone

4,4'-Dibromobiphenyl

Surrogate Standard

M-8111-SS-50X — $ 10 / **1 x 1 mL**
1,000 µg/mL each in Acetone — 2 comps.

2,4-Dichlorophenyl phenyl ether
2,3,4-Trichlorophenyl phenyl ether

Method 8120 & 8120A Chlorinated Hydrocarbons by GC/ECD

Chlorinated Hydrocarbons

M-8120 — $ 25 / **1 x 1 mL**
2.0 mg/mL each in Hexane — 10 comps.

Individuals each in 2.0 mg/mL each in Hexane ***NEW***

Compound	Cat.No.	Price / 1 mL
2-Chloronaphthalene	M-8120-01	$ 25
1,2-Dichlorobenzene	M-8120-02	25
1,3-Dichlorobenzene	M-8120-03	25
1,4-Dichlorobenzene	M-8120-04	25
Hexachlorobenzene	M-8120-05	25
Hexachlorobutadiene	M-8120-06	25
Hexachlorocyclopentadiene	M-8120-07	25
Hexachloroethane	M-8120-08	25
1,2,4,5-Tetrachlorobenzene	M-8120-09	25
1,2,4-Trichlorobenzene	M-8120-10	25

Performance Check Solution

M-8120-QC — $ 25 / **1 x 1 mL**
At stated conc. in Acetone — 10 comps.

2-Chloronaphthalene	(1.0 mg/mL)	Hexachlorobutadiene	(0.1 mg/mL)
1,2-Dichlorobenzene	(1.0 mg/mL)	Hexachlorocyclopentadiene	(0.1 mg/mL)
1,3-Dichlorobenzene	(1.0 mg/mL)	Hexachloroethane	(0.1 mg/mL)
1,4-Dichlorobenzene	(1.0 mg/mL)	1,2,4,5-Tetrachlorobenzene	(1.0 mg/mL)
Hexachlorobenzene	(0.1 mg/mL)	1,2,4-Trichlorobenzene	(1.0 mg/mL)

Method 8121 Chlorinated Hydrocarbons by GC/ECD

Chlorinated Hydrocarbons

M-8121 — $ 55 / **1 x 1 mL**
1.0 mg/mL each in Hexane — 22 comps.

Benzal chloride
Benzotrichloride
Benzyl chloride
α-BHC
β-BHC
γ-BHC
δ-BHC
2-Chloronaphthalene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Pentachlorobenzene
1,2,3,4-Tetrachlorobenzene
1,2,3,5-Tetrachlorobenzene
1,2,4,5-Tetrachlorobenzene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,3,5-Trichlorobenzene

Internal Standards

M-8121-IS — $ 10 / **1 x 1 mL**
M-8121-IS-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
50 µg/mL in Acetone

1,3,5-Tribromobenzene

M-8121-IS-M — $ 20 / **1 x 1 mL**
M-8121-IS-M-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
50 µg/mL each in Acetone — 3 comps.

2,5-Dibromotoluene
α,α'-Dibromo-*m*-xylene
1,3,5-Tribromobenzene

Surrogate Standard

M-8121-SS — $ 25 / **1 x 1 mL**
M-8121-SS-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in Acetone — 3 comps.

1,4-Dichloronaphthalene	(1 µg/mL)	α,2,6-Trichlorotoluene	(10 µg/mL)
2,3,4,5,6-Pentachlorotoluene	(1 µg/mL)		

Varied Concentration QC Mix

M-8121-QC — $ 55 / **1 x 1 mL**
At stated conc. in Hexane — 22 comps.

Benzal chloride	(100 µg/mL)	Hexachlorobenzene	(10 µg/mL)
Benzotrichloride	(100 µg/mL)	Hexachlorobutadiene	(10 µg/mL)
Benzyl chloride	(100 µg/mL)	Hexachlorocyclopentadiene	(10 µg/mL)
α-BHC	(100 µg/mL)	Hexachloroethane	(10 µg/mL)
β-BHC	(100 µg/mL)	Pentachlorobenzene	(10 µg/mL)
γ-BHC	(100 µg/mL)	1,2,3,4-Tetrachlorobenzene	(100 µg/mL)
δ-BHC	(100 µg/mL)	1,2,3,5-Tetrachlorobenzene	(100 µg/mL)
2-Chloronaphthalene	(2,000 µg/mL)	1,2,4,5-Tetrachlorobenzene	(100 µg/mL)
1,2-Dichlorobenzene	(1,000 µg/mL)	1,2,3-Trichlorobenzene	(100 µg/mL)
1,3-Dichlorobenzene	(1,000 µg/mL)	1,2,4-Trichlorobenzene	(100 µg/mL)
1,4-Dichlorobenzene	(1,000 µg/mL)	1,3,5-Trichlorobenzene	(100 µg/mL)

Method 8131 Aniline & Selected Derivatives by GC/NPD, GC/AFD, GC/TSD

Aniline & Selected Derivatives

M-8131 — $ 60 / **1 x 1 mL**
1.0 mg/mL each in Toluene — 19 comps.

Aniline
4-Bromoaniline
2-Bromo-6-chloro-4-nitroaniline
2-Bromo-4,6-dinitroaniline
2-Chloroaniline
3-Chloroaniline
4-Chloroaniline
2-Chloro-4,6-dinitroaniline
2-Chloro-4-nitroaniline
4-Chloro-2-nitroaniline
2,6-Dibromo-4-nitroaniline
3,4-Dichloroaniline
2,6-Dichloro-4-nitroaniline
2,4-Dinitroaniline
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline
2,4,6-Trichloroaniline
2,4,5-Trichloroaniline

Method 8140 Organophosphorous Pesticides by GC/NPD/ELCD/FPD

Organophosphorous Pesticides

M-8140M $ 80 / **1 x 1 mL**
M-8140M-PAK *SAVE 20%* $ 320 / **5 x 1 mL**
0.04 mg/mL each in Hexane
M-8140M-5X $ 125 / **1 x 1 mL**
M-8140M-5X-PAK *SAVE 20%* $ 500 / **5 x 1 mL**
0.2 mg/mL each in Hexane:Acetone (19:1) 20 comps.

Azinphosmethyl *(Guthion)* (01)
Bolstar (02)
Chloropyrifos (03)
Coumaphos (04)
Demeton (05)
Diazinon (06)
Dichlorovos (07)
Disulfoton *(Di-Syston)* (08)
Ethoprop (09)
Fensulfothion (10)
Fenthion (11)
Merphos (12)
Methyl parathion (13)
Mevinphos *(Phosdrin)* (14)
Naled *(Dibrom)* (15)
Phorate *(Thimet)* (16)
Ronnel (17)
Stirophos (18)
Tokuthion (19)
Trichloronate *(Agritox)* (20)

Organophosphorous Pesticide Set

M-8140-SET $ 300 / **20 x 1 mL**
Individual solutions listed below, each at 1.0 mg/mL in Hexane

Method 8141A Additions to Method 8140 Organophosphorus Pesticides by GC/NPD

Mix #1

M-8141M $ 60 / **1 x 1 mL**
M-8141M-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
Mixture, *0.2 mg/mL each in Hexane* 7 comps.
M-8141-SET $ 90 / **7 x 1 mL**
Individual solutions, *Each at 1.0 mg/mL in Hexane, Dimethoate is in Hexane:Acetone (9:1)*

Compound	Cat. No.	Price / 1 mL
Dimethoate	M-8141-01	$ 20
EPN	M-8141-02	12
Malathion	M-8141-03	12
Monocrotophos	M-8141-04	12
Ethyl parathion	M-8141-05	12
Sulfotep	M-8141-06	50
TEPP	M-8141-07	12

Mix #2

M-8141A-1M $ 65 / **1 x 1 mL**
Mixture, *0.2 mg/mL each in Hexane* 10 comps.
M-8141A-1-SET $ 80 / **10 x 1 mL**
Individual solutions, *Each at 1.0 mg/mL in Hexane*

Compound	Cat. No.	Price / 1 mL
Azinphos ethyl	M-8141A-1-01	$ 20
Carbophenothion	M-8141A-1-02	20
Chlorfenvinphos	M-8141A-1-03	20
Dioxathion	P-129S-H-10X	54
Ethion	P-148S-H-10X	24
Famphur	M-8141A-1-06	20
Leptophos	P-206S-H-10X	20
Phosmet	M-8141A-1-08	20
Phosphamidon	M-8141A-1-09	20
Terbuphos	P-208S-H-10X	54

Mix #3

M-8141A-2M $ 70 / **1 x 1 mL**
Mixture, *0.2 mg/mL each in Hexane* 9 comps.
M-8141A-2-SET $ 90 / **9 x 1 mL**
Individual solutions, *Each at 1.0 mg/mL in Hexane*

Aspon (01)
Chlorpyrifos methyl ester (02)
Crotoxyphos (03)
Dichlofenthion (04)
Dicrotophos (05)
Fenitrothion (06)
Fonophos (07)
Thionazin (08)
Trichlorfon (09)

Internal Standard for NPD

M-8141A-IS $ 15 / **1 x 1 mL**
M-8141A-IS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in Acetone

1-Bromo-2-nitrobenzene

Industrial Chemicals & Triazine Herbicides

M-8141A-IC $ 20 / **1 x 1 mL**
0.2 mg/mL each in Hexane 2 comps.

Hexamethylphosphoramide *(HMPA)*
Tri-*o*-cresylphosphate *(TOCP)*

M-8141A-TH $ 20 / **1 x 1 mL**
M-8141A-TH-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.2 mg/mL each in Acetone 2 comps.

Atrazine
Simazine

M-8141B-HSD $ 60 / **1 x 1 mL**
M-8141B-HSD-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
0.2 mg/mL each in Hexane 9 comps.

Chlorpyrifos
Coumaphos
Dichlorvos
EPN
Naled
Ronnel
Stirophos
Trichloronate
Tokuthion

Technical Note

For use with a halogen-specific detector (i.e., electrolytic conductivity or microcoulometry). ECD should only be used when previous analyses have demonstrated that interferences do not adversely affect quantitation.

Surrogate Standard for NPD & FPD

M-8141A-SS $ 20 / **1 x 1 mL**
M-8141A-SS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
1.0 mg/mL each in Acetone 2 comps.

Tributylphosphate
Triphenylphosphate

Surrogate Standard for NPD only

M-8141A-SS-X $ 20 / **1 x 1 mL**
M-8141A-SS-X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
1.0 mg/mL in Acetone

4-Chloro-3-nitrobenzotrifluoride

Method 8150/8151 7 Point Working Level Phenoxy-Herbicide Methyl Derivative Curve

AccuStandard is the **first standard manufacturing** company to offer a 7 point calibration curve for Phenoxy-Acid Herbicide determination. The CCC Line for Herbicide analysis provides the necessary free acid and derivatized solutions to establish a calibration curve, perform the required daily QC checks and validate extraction efficiencies through the use of surrogates and matrix spikes.

M-8150/51-CAL-SET — $ 75 / **7 x 1 mL**
At stated conc. (ng/mL) in Isooctane — 11 comps.

Components	Level 1 M-8150/51-WL	Level 2 (-2X)	Level 3 (-4X)	Level 4 (-10X)	Level 5 (-25X)	Level 6 (-35X)	Level 7 (-50X)
2,4-D	20	40	80	200	500	700	1000
2,4-DB	20	40	80	200	500	700	1000
2,4,5-TP	5	10	20	50	125	175	250
2,4,5-T	5	10	20	50	125	175	250
Dalapon	10	20	40	100	250	350	500
Dicamba	10	20	40	100	250	350	500
Dichloroprop	20	40	80	200	500	700	1000
Dinoseb	5	10	20	50	125	175	250
MCPA	2000	4000	8,000	20,000	50,000	70,000	100,000
MCPP	2000	4000	8,000	20,000	50,000	70,000	100,000
DCAA	20	40	80	200	500	700	1000

Level 1	**M-8150/51-WL**	$ 25 / **1 mL**
Level 2	**M-8150/51-WL-2X**	25 / **1 mL**
Level 3	**M-8150/51-WL-4X**	25 / **1 mL**
Level 4	**M-8150/51-WL-10X**	25 / **1 mL**
Level 5	**M-8150/51-WL-25X**	25 / **1 mL**
Level 6	**M-8150/51-WL-35X**	25 / **1 mL**
Level 7	**M-8150/51-WL-50X**	25 / **1 mL**

Level 3 Daily QC Working Level CCC (for low level curves)

M-8150/51-WL-4X-10ML — $ 60 / **1 x 10 mL**
M-8150/51-WL-4X-25ML — $ 80 / **1 x 25 mL**
M-8150/51-WL-4X-50ML — $ 120 / **1 x 50 mL**
At stated conc. in Isooctane

Level 4 Daily QC Working Level CCC (for higher level curves)

M-8150/51-WL-10X-10ML — $ 60 / **1 x 10 mL**
M-8150/51-WL-10X-25ML — $ 80 / **1 x 25 mL**
M-8150/51-WL-10X-50ML — $ 120 / **1 x 50 mL**
At stated conc. in Isooctane

Level 5 Daily QC Working Level CCC (for higher level curves)

M-8150/51-WL-25X-10ML — $ 60 / **1 x 10 mL**
M-8150/51-WL-25X-25ML — $ 80 / **1 x 25 mL**
M-8150/51-WL-25X-50ML — $ 120 / **1 x 50 mL**
At stated conc. in Isooctane

The Certificate of Product Data for the Working Level Herbicide calibration curves and Daily QC check standards lists both the methyl derivative and acid equivalent concentrations. Since the EPA method for Herbicide analysis requires the final analytical results to be calculated and reported as the acid equivalent, AccuStandard provides both formats to ease calculations.

Equivalency conversion to the free acid:

$$\text{ng (free acid)} = \frac{\text{M.W. Herbicide acid}}{\text{M.W. methylated Herbicide}} \times \text{ng (methylated acid)}$$

Table I: Herbicide Molecular Weights

Herbicide	Free Acid M.W.	Methylated M.W.
2,4-D	221.04	235.07
Dalapon	143.97	157.00
2,4-DB	249.09	263.12
Dicamba	221.04	235.07
Dichlorprop	235.07	249.09
Dinoseb	240.22	254.24
MCPA	200.62	214.65
MCPP	214.65	228.67
Silvex *(2,4,5-TP)*	269.51	283.54
2,4,5-T	255.48	269.51

The molecular weights for conversion of methyl esters to the acid equivalent concentrations are provided above.

Method 8150/8151 Working Level Herbicide Standards

Prep Note

To validate instrument response, 10 µL of internal standard is added to a 10 mL herbicide sample extract.

Internal Standard - Herbicide Solution 1

M-8151-IS — $ 20 / **1 x 1 mL**
M-8151-IS-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
250 µg/mL in Acetone

4,4'-Dibromooctafluorobiphenyl

Internal Standard - Herbicide Solution 2

M-8151-IS-2 — $ 10 / **1 x 1 mL**
M-8151-IS-2-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
250 µg/mL in Acetone

1,4-Dichlorobenzene

Laboratory Performance Check Solution

M-8150/51-LPC-5ML — $ 20 / **1 x 5 mL**
At stated conc. in Isooctane — 5 comps.

3,5-Dichlorobenzoic acid	(600 ng/mL)
Dinoseb	(4 ng/mL)
4-Nitrophenol	(1600 ng/mL)
DCAA	(500 ng/mL)
DBOB	(250 ng/mL)

Prep Note

To verify extraction efficiency, 1 mL of surrogate is added to a herbicide sample.

Herbicide Surrogate Spiking Solution

M-8150/51-SS-WL-25ML — $ 25 / **1 x 25 mL**
M-8150/51-SS-WL-50ML — $ 45 / **1 x 50 mL**
2 µg/mL in MeOH

2,4-Dichlorophenylacetic acid *(DCAA)*

Prep Note

To verify QA/QC for the analytical batch, 1 mL of matrix spike is added to an herbicide sample.

Herbicide Matrix Spike (Components as Acids)

M-8150/51-MS-WL-10ML — $ 25 / **1 x 10 mL**
M-8150/51-MS-WL-25ML — $ 50 / **1 x 25 mL**
M-8150/51-MS-WL-50ML — $ 75 / **1 x 50 mL**
At stated conc. in MeOH — 5 comps.

2,4-D	(2 µg/mL)	Dalapon	(1 µg/mL)
2,4-DB	(2 µg/mL)	Dicamba	(1 µg/mL)
2,4,5-TP *(Silvex)*	(0.8 µg/mL)		

Method 8150A Chlorinated Herbicides by GC/ECD

Chlorinated Herbicides in Ground Water (Rev. 1, July 1992) & their Methyl Derivatives

Compound	(mg/mL) Conc.	Herbicides Acids (in MeOH) Cat. No.	Methyl Derivative (in Hexane) Cat. No.	1 mL Price
2,4-D	0.2	M-8150S-A-01	M-8150-01	$ 15
2,4-DB	0.2	M-8150S-A-02	M-8150-02	15
2,4,5-T	0.2	M-8150S-A-03	M-8150-03	15
2,4,5-TP	0.2	M-8150S-A-04	M-8150-04	15
Dalapon	0.2	M-8150S-A-05	M-8150-05	15
Dicamba	0.2	M-8150S-A-06	M-8150-06	15
Dichlorprop	0.2	M-8150S-A-07	M-8150-07	$ 15
Dinoseb	0.2	M-8150S-A-08	M-8150-08	15
MCPA	2.0	M-8150S-A-09	M-8150-09	15
MCPP	2.0	M-8150S-A-10	M-8150-10	15
Set of 10 x 1 mL		**M-8150A-SET**	**M-8150-SET**	$ 125

Underivatized Solution (Varied Concentration)

M-8150A — $ 40 / **1 x 1 mL**
M-8150A-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
0.1 mg/mL in MeOH, except MCPA and MCPP — 10 comps.

2,4-D
Dalapon
2,4-DB
Dicamba
Dichlorprop
Dinoseb
MCPA (10 mg/mL)
MCPP (10 mg/mL)
2,4,5-TP
2,4,5-T

Underivatized Solution (Equal Concentration)

M-8150M-A — $ 40 / **1 x 1 mL**
M-8150M-A-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
0.2 mg/mL each in MeOH — 10 comps.

2,4-D
Dalapon
2,4-DB
Dicamba
Dichlorprop
Dinoseb
MCPA
MCPP
2,4,5-TP
2,4,5-T

Underivatized Surrogate Standards

M-8150B-SS — $ 10 / **1 x 1 mL**
M-8150B-SS-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 mg/mL in Acetone
M-8150B-SS-10X — $ 20 / **1 x 1 mL**
1.0 mg/mL in Acetone

2,4-Dichlorophenylacetic acid

Internal Standard

M-8151-IS — $ 20 / **1 x 1 mL**
M-8151-IS-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
0.25 mg/mL in Acetone

4,4'-Dibromooctafluorobiphenyl

Methyl Derivatives Solutions (Varied Concentration)

M-8150 — $ 45 / **1 x 1 mL**
0.1 mg/mL in MeOH, except MCPA and MCPP — 10 comps.

2,4-D ME
Dalapon ME
2,4-DB ME
Dicamba ME
Dichlorprop ME
Dinoseb ME
MCPA ME (10 mg/mL)
MCPP ME (10 mg/mL)
2,4,5-TP ME
2,4,5-T ME

Methyl Derivatives Solutions (Equal Concentration)

M-8150M-SET — $ 6 / **2 x 1 mL** (M-8150M, M-8150M-2)
M-8150M — $ 40 / **1 x 1 mL**
M-8150M-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
20 µg/mL each in Hexane — 8 comps.

2,4-D ME
Dalapon ME
2,4-DB ME
Dicamba ME
Dichlorprop ME
Dinoseb ME
2,4,5-TP ME
2,4,5-T ME

M-8150M-2 — $ 15 / **1 x 1 mL**
M-8150M-2-PAK — $ 60 / **5 x 1 mL**
2,000 µg/mL each in Hexane — 2 comps.

MCPA ME
MCPP ME

Methyl Derivative Surrogate Standard

M-515-SS — $ 10 / **1 x 1 mL**
M-515-SS-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 mg/mL in MtBE

2,4-Dichlorophenylacetic acid methyl ester

Method 8151/8151A Chlorinated Herbicides by GC/ECD

Methyl Derivatives

M-8151 — $ 80 / **1 x 1 mL**
0.1 mg/mL each in MtBE, except MCPA & MCPP — 18 comps.

Acifluorfen	Dichlorprop
Bentazon	Dinoseb
Chloramben	MCPA (10 mg/mL)
2,4-D	MCPP (10 mg/mL)
Dalapon	4-Nitrophenol
2,4-DB	Pentachlorophenol
DCPA	Picloram
Dicamba	2,4,5-TP
3,5-Dichlorobenzoic acid	2,4,5-T

Underivatized

M-8151A — $ 80 / **1 x 1 mL**
M-8151A-PAK — *SAVE 20%* $ 320 / **5 x 1 mL**
0.1 mg/mL each in Acetone, except MCPA & MCPP — 18 comps.

Acifluorfen	Dichlorprop
Bentazon	Dinoseb
Chloramben	MCPA (10 mg/mL)
2,4-D	MCPP (10 mg/mL)
Dalapon	4-Nitrophenol
2,4-DB	Pentachlorophenol
DCPA diacid	Picloram
Dicamba	2,4,5-TP
3,5-Dichlorobenzoic acid	2,4,5-T

PFB Derivatized Chlorinated Herbicides

M-8150-02-PFB — $ 30 / **1 x 1 mL**
0.1 mg/mL in MtBE

2,4-D-PFB

M-8150-04-PFB — $ 30 / **1 x 1 mL**
0.1 mg/mL in MtBE

2,4,5-TP-PFB

Internal Standards

M-8151-IS — $ 20 / **1 x 1 mL**
M-8151-IS-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
0.25 mg/mL in Acetone

4,4'-Dibromooctafluorobiphenyl

M-8151-IS-2 — $ 10 / **1 x 1 mL**
M-8151-IS-2-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
0.25 mg/mL in Acetone

1,4-Dichlorobenzene

Surrogate Standards

M-515-SS — $ 10 / **1 x 1 mL**
M-515-SS-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 mg/mL in MtBE

2,4-Dichlorophenylacetic acid methyl ester

M-8150B-SS — $ 10 / **1 x 1 mL**
M-8150B-SS-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 mg/mL in Acetone
M-8150B-SS-10X — $ 20 / **1 x 1 mL**
1.0 mg/mL in Acetone

2,4-Dichlorophenylacetic acid

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Method 8240 Volatile Organics by GC/MS

M-8240A ‡ — $ 70 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 41 comps.

Acetone	1,2-Dichloropropane
Acrolein	*cis*-1,3-Dichloropropene *
Acrylonitrile	*trans*-1,3-Dichloropropene **
Benzene	Ethanol
Bromodichloromethane	Ethylbenzene
Bromoform	2-Hexanone
2-Butanone	Iodomethane
Carbon disulfide	4-Methyl-2-pentanone
Carbon tetrachloride	Methylene chloride
Chlorobenzene	Styrene
Chloroform	1,1,2,2-Tetrachloroethane
Dibromochloromethane	Tetrachloroethene
cis-1,4-Dichloro-2-butene +	Toluene
trans-1,4-Dichloro-2-butene ++	1,1,1-Trichloroethane
1,2-Dichlorobenzene	1,1,2-Trichloroethane
1,3-Dichlorobenzene	Trichloroethene
1,4-Dichlorobenzene	Vinyl acetate
1,1-Dichloroethane	*o*-Xylene
1,2-Dichloroethane	*m*-Xylene
1,1-Dichloroethene	*p*-Xylene
trans-1,2-Dichloroethene	

* cis (1.06 x conc.)
** trans (0.94 x conc.)
\+ cis (0.1 mg/mL)
++ trans (0.1 mg/mL)

Auxiliary Standards for all 8240 Methods (VOC analysis) see Catalog Number Index

Surrogate Standard	see CLP-PS-10X
Internal Standard	see CLP-PI-2.5X
Gases	see M-601B
Matrix Spiking Solution	see CLP-003R
Tuning Standard	see CLP-004
System Performance	see CLP-021
Calibration Check Compounds	see CLP-020

Method 8240A Volatiles by GC/MS

APP-9-048-R1-2X — $ 14 / **1 x 1 mL**
0.2 mg/mL in MeOH

Chloroprene (Xylene-free)

S-354-2 — $ 10 / **1 x 1 mL**
0.2 mg/mL in Isooctane

Ethylene oxide

Method 8240 & 8260 Volatile Organic Compounds by GC/MS

The following solutions can be used to construct a single calibration curve containing the volatile analytes in Appendix IX for analysis by either Method 8240 or Method 8260 by GC/MS.

Bromochloromethane is excluded in the calibration solutions since it is used as an internal standard in Method 8240. If Method 8260 methodology is used, the addition of bromochloromethane from the internal standard mix can serve as the source for bromochloromethane to complement the target compound list.

Liquids (53 components, **does not include Bromochloromethane**)

Benzene (01)
Bromobenzene (02)
Bromodichloromethane (04)
Bromoform (05)
n-Butylbenzene (07)
sec-Butylbenzene (08)
tert-Butylbenzene (09)
Carbon tetrachloride (10)
Chlorobenzene (11)
Chloroform (13)
2-Chlorotoluene (15)
4-Chlorotoluene (16)
Dibromochloromethane (17)
1,2-Dibromo-3-chloropropane (18)
1,2-Dibromoethane (19)
Dibromomethane (20)
1,2-Dichlorobenzene (21)
1,3-Dichlorobenzene (22)
1,4-Dichlorobenzene (23)
1,1-Dichloroethane (25)
1,2-Dichloroethane (26)
1,1-Dichloroethene (27)
cis-1,2-Dichloroethene (28)
trans-1,2-Dichloroethene (29)
1,2-Dichloropropane (30)
1,3-Dichloropropane (31)
2,2-Dichloropropane (32)
1,1-Dichloropropene (33)
cis-1,3-Dichloropropene (34A) *
trans-1,3-Dichloropropene (34B) **
Ethylbenzene (35)
Hexachlorobutadiene (36)
Isopropylbenzene (37)
p-Isopropyltoluene (38)
Methylene chloride (39)
Naphthalene (40)
n-Propylbenzene (41)
Styrene (42)
1,1,1,2-Tetrachloroethane (43)
1,1,2,2-Tetrachloroethane (44)
Tetrachloroethene (45)
Toluene (46)
1,2,3-Trichlorobenzene (47)
1,2,4-Trichlorobenzene (48)
1,1,1-Trichloroethane (49)
1,1,2-Trichloroethane (50)
Trichloroethene (51)
1,2,3-Trichloropropane (53)
1,2,4-Trimethylbenzene (54)
1,3,5-Trimethylbenzene (55)
o-Xylene (57)
m-Xylene (58)
p-Xylene (59)

* cis (1.06 x conc.)
** trans (0.94 x conc.)

6 Gas Components

Bromomethane (06)
Chloroethane (12)
Chloromethane (14)
Dichlorodifluoromethane (24)
Trichlorofluoromethane (52)
Vinyl chloride (56)

Liquids (53 components)

M-502A-R2 — $ 60 / **1 x 1 mL**
M-502A-R2-PAK — ***SAVE 20%*** $ 240 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-502A-R2-10X — $ 80 / **1 x 1 mL**
M-502A-R2-10X-PAK — ***SAVE 20%*** $ 320 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 53 comps.

Gases (6 components)

M-502B — $ 25 / **1 x 1 mL**
M-502B-PAK — ***SAVE 20%*** $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-502B-10X — $ 35 / **1 x 1 mL**
M-502B-10X-PAK — ***SAVE 20%*** $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 6 comps.

Liquid and Gas Sets

M-502A-R2/B-SET — $ 80 / **2 x 1 mL**
0.2 mg/mL each in MeOH — **(M-502A-R2, M-502B)**
M-502A-R2/B-10X-SET — $ 100 / **2 x 1 mL**
2.0 mg/mL each in MeOH — **(M-502A-R2-10X, M-502B-10X)**

All 60 liquid and gas components in One Solution

Liquids (54 comps.) and Gases (6 comps.)

M-502 — $ 75 / **1 x 1 mL**
M-502-PAK — ***SAVE 20%*** $ 300 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-502-10X — $ 100 / **1 x 1 mL**
M-502-10X-PAK — ***SAVE 20%*** $ 400 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 60 comps.

Appendix IX Volatiles

M-8240C-R3 — $ 40 / **1 x 1 mL**
At stated conc. in MeOH — 12 comps.

Acetonitrile	(2.0 mg/mL)	Ethyl methacrylate	(0.2 mg/mL)
Allyl chloride	(0.2 mg/mL)	Isobutyl alcohol	(4.0 mg/mL)
cis-1,4-Dichloro-2-butene	(0.2 mg/mL)	Methacrylonitrile	(2.0 mg/mL)
trans-1,4-Dichloro-2-butene	(0.2 mg/mL)	Methyl methacrylate	(0.2 mg/mL)
1,4-Dioxane	(4.0 mg/mL)	Pentachloroethane	(0.2 mg/mL)
Ethanol	(4.0 mg/mL)	Propionitrile	(2.0 mg/mL)

M-8240C-R3-10X — $ 45 / **1 x 1 mL**
At stated conc. in MeOH — 12 comps.

Acetonitrile	(20 mg/mL)	Ethyl methacrylate	(2.0 mg/mL)
Allyl chloride	(2.0 mg/mL)	Isobutyl alcohol	(40 mg/mL)
cis-1,4-Dichloro-2-butene	(2.0 mg/mL)	Methacrylonitrile	(20 mg/mL)
trans-1,4-Dichloro-2-butene	(2.0 mg/mL)	Methyl methacrylate	(2.0 mg/mL)
1,4-Dioxane	(40 mg/mL)	Pentachloroethane	(2.0 mg/mL)
Ethanol	(40 mg/mL)	Propionitrile	(20 mg/mL)

Same as M-8240C-R3-10X without Pentachloroethane

M-8240C-R6 — $ 40 / **1 x 1 mL**
At stated conc. in MeOH — 11 comps.

Acetonitrile	(20 mg/mL)	Ethyl methacrylate	(2.0 mg/mL)
Allyl chloride	(2.0 mg/mL)	Isobutyl alcohol	(40 mg/mL)
cis-1,4-Dichloro-2-butene	(2.0 mg/mL)	Methacrylonitrile	(20 mg/mL)
trans-1,4-Dichloro-2-butene	(2.0 mg/mL)	Methyl methacrylate	(2.0 mg/mL)
1,4-Dioxane	(40 mg/mL)	Propionitrile	(20 mg/mL)
Ethanol	(40 mg/mL)		

M-8260-ADD ‡ — $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 8 comps.
M-8260-ADD-10X ‡ — $ 30 / **1 x 1 mL**
M-8260-ADD-10X-PAK ‡ ***NEW*** — ***SAVE 20%*** $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 8 comps.

Acetone
2-Butanone
Carbon disulfide
2-Chloroethylvinyl ether
2-Hexanone
Iodomethane
4-Methyl-2-pentanone
Vinyl acetate

M-603 — $ 14 / **1 x 1 mL**
1.0 mg/mL each in H_2O — 2 comps.
M-603-10X — $ 17 / **1 x 1 mL**
10.0 mg/mL each in MeOH:Water (9:1) — 2 comps.
M-603-M-0.1X ***NEW*** — $ 25 / **1 x 1 mL**
100 µg/mL each in MeOH:Water (9:1) — 2 comps.

Acrolein
Acrylonitrile

See also Method 8240 & 8260

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Method 8260B Volatile Organic Compounds by GC/MS

The following standard formulations have been put together for a complete 8260B target compound list. We have utilized our standard M-502A-R containing the 54 typical analytes found in this method and a number of other EPA methods. In addition, we have tried to minimize the number of additional standards required to get the complete analyte list, while still addressing the various chromatographic problems associated to specific analytes.

Liquids

M-502A-R — $ 60 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 54 comps.

Benzene (01)
Bromobenzene (02)
Bromochloromethane (03)
Bromodichloromethane (04)
Bromoform (05)
n-Butylbenzene (07)
sec-Butylbenzene (08)
tert-Butylbenzene (09)
Carbon tetrachloride (10)
Chlorobenzene (11)
Chloroform (13)
2-Chlorotoluene (15)
4-Chlorotoluene (16)
Dibromochloromethane (17)
1,2-Dibromo-3-chloropropane (18)
1,2-Dibromoethane (19)
Dibromomethane (20)
1,2-Dichlorobenzene (21)
1,3-Dichlorobenzene (22)
1,4-Dichlorobenzene (23)
1,1-Dichloroethane (25)
1,2-Dichloroethane (26)
1,1-Dichloroethene (27)
cis-1,2-Dichloroethene (28)
trans-1,2-Dichloroethene (29)
1,2-Dichloropropane (30)
1,3-Dichloropropane (31)
2,2-Dichloropropane (32)
1,1-Dichloropropene (33)
cis-1,3-Dichloropropene (34A) *
trans-1,3-Dichloropropene (34B) **
Ethylbenzene (35)
Hexachlorobutadiene (36)
Isopropylbenzene *(Cumene)* (37)
p-Isopropyltoluene *(p-Cymene)* (38)
Methylene chloride (39)
Naphthalene (40)
n-Propylbenzene (41)
Styrene (42)
1,1,1,2-Tetrachloroethane (43)
1,1,2,2-Tetrachloroethane (44)
Tetrachloroethene (45)
Toluene (46)
1,2,3-Trichlorobenzene (47)
1,2,4-Trichlorobenzene (48)
1,1,1-Trichloroethane (49)
1,1,2-Trichloroethane (50)
Trichloroethene (51)
1,2,3-Trichloropropane (53)
1,2,4-Trimethylbenzene (54)
1,3,5-Trimethylbenzene (55)
o-Xylene (57)
m-Xylene (58)
p-Xylene (59)

* cis (1.06 x conc.)
** trans (0.94 x conc.)

Gases

M-502B — $ 25 / **1 x 1 mL**
0.2 mg/mL each in MeOH — 6 comps.

Bromomethane (06)
Chloroethane (12)
Chloromethane (14)
Dichlorodifluoromethane (24)
Trichlorofluoromethane (52)
Vinyl chloride (56)

Volatile Organic Compounds (VOC) Set

M-502A-R/B-SET — $ 85 / **set of 2 x 1 mL**
(includes 1 mL of 54 liquids and 1 mL of 6 gas components)

M-603 — $ 14 / **1 x 1 mL**
1.0 mg/mL each in water — 2 comps.

Acrolein
Acrylonitrile

M-8240C-R3-10X — $ 45 / **1 x 1 mL**
At stated conc. in MeOH — 12 comps.

Acetonitrile	(20 mg/mL)	Ethyl methacrylate	(2.0 mg/mL)
Allyl chloride	(2.0 mg/mL)	Isobutyl alcohol	(40 mg/mL)
cis-1,4-Dichloro-2-butene	(2.0 mg/mL)	Methacrylonitrile	(20 mg/mL)
trans-1,4-Dichloro-2-butene	(2.0 mg/mL)	Methyl methacrylate	(2.0 mg/mL)
1,4-Dioxane	(40 mg/mL)	Pentachloroethane	(2.0 mg/mL)
Ethanol	(40 mg/mL)	Propionitrile	(20 mg/mL)

Storage Conditions

All products come with storage conditions listed on the label of the ampule or bottle. Some chemical formulations require refrigeration or freezer storage to inhibit adverse reactions among the components. Other standards require sonication prior to use because they are near their saturation for the particular formulation. It is imperative that these conditions are followed to insure the chemical reference standard will be at the stated concentration.

Additional VOCs by Method 8260B

M-8260B-01 — $ 45 / **1 x 1 mL**
M-8260B-01-PAK — *SAVE 20%* $ 180 / **5 x 1 mL**
2000 µg/mL each in MeOH — 11 comps.

Benzyl chloride
1-Chlorobutane
1-Chlorohexane
1,2,3,4-Diepoxybutane
Diethyl ether
Nitrobenzene
2-Nitropropane
Dibromofluoromethane
Methyl acrylate
MtBE
Pentafluorobenzene

M-8260B-02 — $ 45 / **1 x 1 mL**
M-8260B-02-PAK — *SAVE 20%* $ 180 / **5 x 1 mL**
2000 µg/mL each in MeOH — 10 comps.

Allyl alcohol
1-Butanol
Chloroacetonitrile
3-Chloropropionitrile
Epichlorohydrin
Ethyl acetate
Hexachloroethane
2-Hydroxypropionitrile
Malonitrile
Pyridine

M-8260B-03 — $ 45 / **1 x 1 mL**
M-8260B-03-PAK — *SAVE 20%* $ 180 / **5 x 1 mL**
2000 µg/mL each in MeOH : Water 9: 1 — 4 comps.

N-Nitrosodi-*n*-butylamine
2-Picoline
Propylamine
o-Toluidine

M-8260B-04 — $ 45 / **1 x 1 mL**
M-8260B-04-PAK — *SAVE 20%* $ 180 / **5 x 1 mL**
2000 µg/mL each in MeOH — 6 comps.

t-Butanol
2-Chloroethanol
1,3-Dichloro-2-propanol
1-Propanol
Isopropanol
Propargyl alcohol

M-8260B-05 ‡ — $ 25 / **1 x 1 mL**
M-8260B-05-PAK ‡ — *SAVE 20%* $ 100 / **5 x 1 mL**
2000 µg/mL each in MeOH — 2 comps.

Crotonaldehyde
Paraldehyde

M-8260B-06-PAK ‡ — *SAVE 20%* $ 120 / **5 x 1 mL**
2000 µg/mL each in MeOH — 3 comps.

Bromoacetone
2-Pentanone
b-Propiolactone

Chloroprene (Xylene-Free)

APP-9-048-R1-10X — $ 20 / **1 x 1 mL**
1.0 mg/mL in MeOH
APP-9-048-R1-20X NEW — $ 30 / **1 x 1 mL**
2.0 mg/mL in MeOH

Ethylene oxide

M-8015B/5031-14-R1 — $ 20 / **1 x 1 mL**
5 mg/mL in H_2O

Chloral hydrate

M-E-1179-M — $ 40 / **1 x 1 mL**
1.0 mg/mL in MeOH

M-8260B continued to the next page →

Method 8260B (Continued) Volatile Organic Compounds by GC/MS

Internal Standards

M-8260-IS $ 30 / **1 x 1 mL**
M-8260-IS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH 4 comps.
M-8260-IS-10X $ 35 / **1 x 1 mL**
M-8260-IS-10X-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH 4 comps.

Chlorobenzene-d_5
1,4-Difluorobenzene
1,4-Dichlorobenzene-d_4
Pentafluorobenzene

M-8260-IS-R $ 30 / **1 x 1 mL**
M-8260-IS-R-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH 4 comps.
M-8260-IS-R-10X $ 40 / **1 x 1 mL**
M-8260-IS-R-10X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2.0 mg/mL each in MeOH 4 comps.

2-Bromo-1-chloropropane
1,4-Difluorobenzene
1,4-Dichlorobenzene-d_4
Pentafluorobenzene

M-8260A/B-IS $ 20 / **1 x 1 mL**
M-8260A/B-IS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.2 mg/mL each in MeOH 3 comps.
M-8260A/B-IS-10X $ 30 / **1 x 1 mL**
M-8260A/B-IS-10X-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH 3 comps.

Chlorobenzene-d_5
1,4-Dichlorobenzene-d_4
Fluorobenzene

Combined Internal/Surrogate Standard VOA Mix

M-8260A/B-IS/SS $ 40 / **1 x 1 mL**
M-8260A/B-IS/SS-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
200 µg/mL each in MeOH 7 comps.
M-8260A/B-IS/SS-10X $ 50 / **1 x 1 mL**
M-8260A/B-IS/SS-10XPAK *SAVE 20%* $ 200 / **5 x 1 mL**
2.0 mg/mL each in MeOH 7 comps.

p-Bromofluorobenzene
Chlorobenzene-d_5
Dibromofluoromethane
1,4-Dichlorobenzene-d_4
1,2-Dichloroethane-d_4
Fluorobenzene
Toluene-d_8

Surrogate Standards

M-8260-SS $ 30 / **1 x 1 mL**
M-8260-SS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH 3 comps.
M-8260-SS-10X **NEW** $ 40 / **1 x 1 mL**
M-8260-SS-10X-PAK **NEW** *SAVE 20%* $ 160 / **5 x 1 mL**
2.0 mg/mL each in MeOH 3 comps.

4-Bromofluorobenzene
Dibromofluoromethane
Toluene-d_8

M-8260A/B-SS-2 **NEW** $ 20 / **1 x 1 mL**
0.2 mg/mL in MeOH
M-8260A/B-SS-2-10X **NEW** $ 25 / **1 x 1 mL**
2.0 mg/mL in MeOH

Dibromofluoromethane

M-8260A/B-SS $ 30 / **1 x 1 mL**
M-8260A/B-SS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH 4 comps.
M-8260A/B-SS-10X $ 40 / **1 x 1 mL**
M-8260A/B-SS-10X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2.0 mg/mL each in MeOH 4 comps.

p-Bromofluorobenzene
Dibromofluoromethane
1,2-Dichloroethane-d_4
Toluene-d_8

Method 8240 & 8260 Volatile Organic Compounds Auxiliary Standards

Internal Standard VOA

M-8240/60-IS		$ 30 / **1 x 1 mL**
M-8240/60-IS-PAK	*SAVE 20%*	$ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH		5 comps.
M-8240/60-IS-10X		$ 40 / **1 x 1 mL**
M-8240/60-IS-10X-PAK	*SAVE 20%*	$ 160 / **5 x 1 mL**
2.0 mg/mL each in MeOH		5 comps.

Bromochloromethane
Chlorobenzene-d_5
1,4-Dichlorobenzene-d_4
1,4-Difluorobenzene
Pentafluorobenzene

Surrogate Standard VOA

M-8240/60-SS		$ 30 / **1 x 1 mL**
M-8240/60-SS-PAK	*SAVE 20%*	$ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH		4 comps.
M-8240/60-SS-10X		$ 40 / **1 x 1 mL**
M-8240/60-SS-10X-PAK	*SAVE 20%*	$ 160 / **5 x 1 mL**
2.0 mg/mL each in MeOH		4 comps.

p-Bromofluorobenzene
Dibromofluoromethane
1,2-Dichloroethane-d_4
Toluene-d_8

Internal / Surrogate Standard VOA

M-8240/60-IS/SS		$ 45 / **1 x 1 mL**
M-8240/60-IS/SS-PAK	*SAVE 20%*	$ 180 / **5 x 1 mL**
0.2 mg/mL each in MeOH		9 comps.
M-8240/60-IS/SS-10X		$ 60 / **1 x 1 mL**
M-8240/60-IS/SS-10XPAK	*SAVE 20%*	$ 240 / **5 x 1 mL**
2.0 mg/mL each in MeOH		9 comps.

Bromochloromethane
p-Bromofluorobenzene
Chlorobenzene-d_5
Dibromofluoromethane
1,4-Dichlorobenzene-d_4
1,2-Dichloroethane-d_4
1,4-Difluorobenzene
Pentafluorobenzene
Toluene-d_8

Volatile Calibration Check Compounds (CCC)

CLP-020		$ 30 / **1 x 1 mL**
CLP-020-PAK	*SAVE 20%*	$ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH		6 comps.
CLP-020-10X		$ 30 / **1 x 1 mL**
CLP-020-10X-PAK	*SAVE 20%*	$ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH		6 comps.

Chloroform
1,1-Dichloroethene
1,2-Dichloropropane
Ethylbenzene
Toluene
Vinyl chloride

Volatile System Performance Check Compounds (SPCC)

CLP-021		$ 30 / **1 x 1 mL**
CLP-021-PAK	*SAVE 20%*	$ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH		5 comps.
CLP-021-10X		$ 30 / **1 x 1 mL**
CLP-021-10X-PAK	*SAVE 20%*	$ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH		5 comps.

Bromoform
Chlorobenzene
Chloromethane
1,1-Dichloroethane
1,1,2,2-Tetrachloroethane

Instrument Performance Check Solutions

CLP-004		$ 10 / **1 x 1 mL**
CLP-004-PAK	*SAVE 20%*	$ 40 / **5 x 1 mL**
25 µg/mL in MeOH		
CLP-004-10X		$ 10 / **1 x 1 mL**
CLP-004-10X-PAK	*SAVE 20%*	$ 40 / **5 x 1 mL**
250 µg/mL in MeOH		
CLP-004-100X		$ 10 / **1 x 1 mL**
CLP-004-100X-PAK	*SAVE 20%*	$ 40 / **5 x 1 mL**
2500 µg/mL in MeOH		

p-Bromofluorobenzene

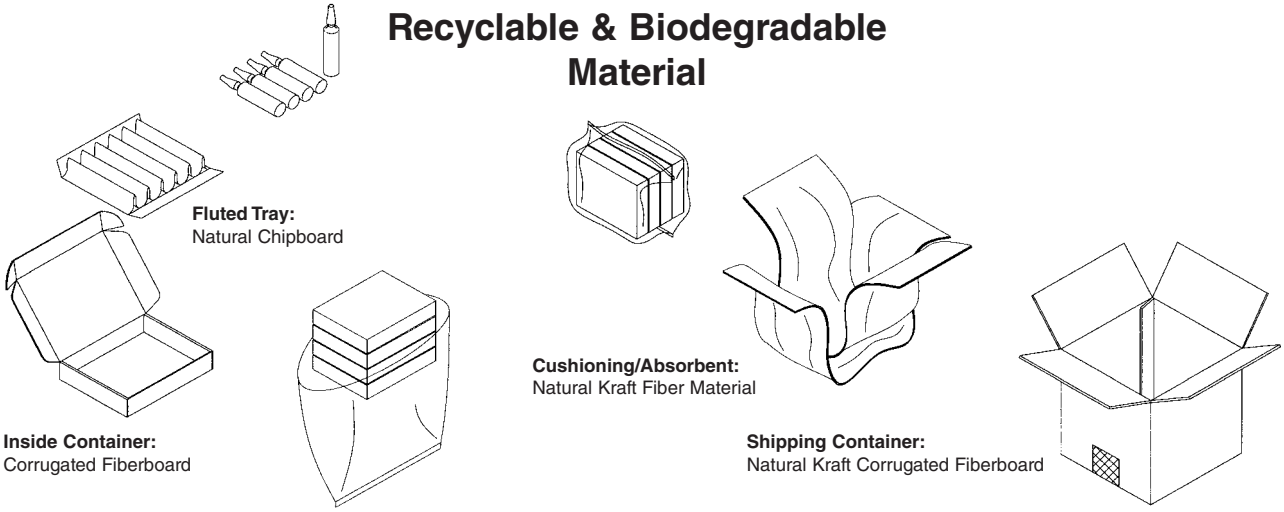
Purgeable Organic Matrix Spiking Solutions

CLP-003-R		$ 20 / **1 x 1 mL**
CLP-003-R-PAK	*SAVE 20%*	$ 80 / **5 x 1 mL**
0.25 mg/mL each in MeOH		5 comps.
CLP-003-R-10X		$ 20 / **1 x 1 mL**
CLP-003-R-10X-PAK	*SAVE 20%*	$ 80 / **5 x 1 mL**
2.5 mg/mL each in MeOH		5 comps.

Benzene
Chlorobenzene
1,1-Dichloroethene
Toluene
Trichloroethene

AccuStandard has Environmentally Friendly Packaging

Recyclable & Biodegradable Material



Package compliant with DOT Title 49, CFR 173.4.

Method 8270C/D Semi-Volatile by GC/MS as core mixtures

The primary analytes typically analyzed in Method 8270 version C and D have been formulated based on one of the following considerations: large core mixes, analyte retention time association to ISTD's, similar functional groups, Third Party Certified Standards or as working level Ready-to-Inject standards

Use of these Method 8270C/D components in 5 mixtures can save you time and money in preparing your calibration curves. Four high concentration solutions CLP-HC-BN-SET, CLP-HC-A-R, CLP-HC-X1 and Z-014E can be combined to give you the 92 typical analytes needed for Method 8270C/D. Product Z-014E-R can be used in lieu of Z-014E for those labs interested in adding pyridine to their target list.

These mixtures can also serve as your **second source** requirements since they are independently prepared from product M-8270 (7 x 1 mL).

Base-Neutral Mixture (44 components)

CLP-HC-BN-R

Acenaphthene
Acenaphthylene
Anthracene
Azobenzene
Benz[a]anthracene
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
4-Bromophenyl phenyl ether
Butyl benzyl phthalate
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloro-1-methylethyl)ether
2-Chloronaphthalene
4-Chlorophenyl phenyl ether
Chrysene
Dibenz[a,h]anthracene
Di-*n*-butyl phthalate
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Diethyl phthalate
Dimethyl phthalate
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-*n*-octyl phthalate
bis(2-Ethylhexyl)phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno[1,2,3-cd]pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
N-Nitrosodi-*n*-propylamine
Phenanthrene
Pyrene
1,2,4-Trichlorobenzene

Benzidine Mixture (2 comps.)

Z-014F

Benzidine
3,3'-Dichlorobenzidine

Alternate Source Line (ASL)
For complete listing of competitive 8270 see the QC Section

Technical Note

Azobenzene was substituted for 1,2-diphenylhydrazine since it oxidizes to azobenzene under GC operating conditions.

Base-Neutrals

CLP-HC-BN-R — $ 160 / **1 x 1 mL**
2.0 mg/mL each in Benzene : CH_2Cl_2 : AcCN (2:2:1) — 44 comps.
CLP-HC-BN-R-PAK — *SAVE 20%* $ 640 / **5 x 1 mL**
2.0 mg/mL each in Benzene : CH_2Cl_2 : AcCN (2:2:1) — **44 comps.**

Benzidine

Z-014F — $ 30 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 2 comps.

Base-Neutral and Benzidine Sets

CLP-HC-BN-SET — $ 190 / **2 x 1 mL (CLP-HC-BN-R, Z-014F)**
CLP-HC-BN-SET-PAK — *SAVE 20%* $ 760 / **5 x (2 x 1 mL) 5 x (CLP-HC-BN-R, Z-014F)**

Additional Analyte Solutions

Acid Composite Mixture

CLP-HC-A-R — $ 55 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 19 comps.

Benzoic acid
4-Chloro-3-methylphenol
2-Chlorophenol
o-Cresol
p-Cresol
2,4-Dichlorophenol
2,6-Dichlorophenol
2,4-Dimethylphenol
4,6-Dinitro-2-methylphenol
2,4-Dinitrophenol
Ethyl methanesulfonate
Methyl methanesulfonate
2-Nitrophenol
4-Nitrophenol
Pentachlorophenol
Phenol
2,3,4,6-Tetrachlorophenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol

Composite #1

Z-014E — $ 30 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 8 comps.

Aniline
Benzyl alcohol
4-Chloroaniline
Dibenzofuran
2-Methylnaphthalene
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline

Composite #2

Z-014E-R — $ 32 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 9 comps.

Aniline
Benzyl alcohol
4-Chloroaniline
Dibenzofuran
2-Methylnaphthalene
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline
Pyridine

Composite #3A

CLP-HC-X1 — $ 85 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 19 comps.

Acetophenone
4-Aminobiphenyl
1-Chloronaphthalene
Dibenz[a,j]acridine
p-Dimethylaminoazobenzene
7,12-Dimethylbenz[a]anthracene
α,α-Dimethylphenethylamine
Diphenylamine
3-Methylcholanthrene
1-Naphthylamine
2-Naphthylamine
N-Nitrosodi-*n*-butylamine
N-Nitrosopiperidine
Pentachlorobenzene
Pentachloronitrobenzene
Phenacetin
2-Picoline
Pronamide
1,2,4,5-Tetrachlorobenzene

M-8270-07 — $ 160 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 15 comps.

Aramite
Chlorobenzilate
Diallate
2,4-D
Dimethoate
Dinoseb
Disulfoton
Famphur
Kepone
Methyl parathion
Parathion
Phorate
Silvex *(2,4,5-TP)*
Sulfotep
Thionazin

M-8270-08 — $ 65 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 9 comps.

3,3'-Dimethyl benzidine
4-Nitroquinoline-1-oxide
N-Nitrosodiethylamine
N-Nitrosomethylethylamine
N-Nitrosomorpholine
N-Nitrosopyrrolidine
5-Nitro-*o*-toluidine
p-Phenylenediamine
o-Toluidine

M-8270-09 — $ 65 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 10 comps.

2-Acetyl aminofluorene
m-Dinitrobenzene
Hexachlorophene
Hexachloropropene
Isodrin
Isosafrole
Methapyrilene
1,4-Naphthoquinone
Safrole
0,0,0-Triethyl phosphorothioate

Method 8270C/D (Continued) Auxiliary Standards

Internal Standard

Z-014J — $ 80 / **1 x 1 mL**
Z-014J-PAK — *SAVE 37%* $ 250 / **5 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 — 6 comps.

- Acenaphthene-d_{10}
- Chrysene-d_{12}
- 1,4-Dichlorobenzene-d_4
- Naphthalene-d_8
- Perylene-d_{12}
- Phenanthrene-d_{10}

Surrogate Standards

M-8270-SS — $ 80 / **1 x 1 mL**
M-8270-SS-PAK — *SAVE 20%* $ 320 / **5 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 — 6 comps.

- 2-Fluorobiphenyl
- 2-Fluorophenol
- Nitrobenzene-d_5
- Phenol-d_5
- *p*-Terphenyl-d_{14}
- 2,4,6-Tribromophenol

M-8270-SS-R — $ 75 / **1 x 1 mL**
M-8270-SS-R-PAK — *SAVE 20%* $ 300 / **5 x 1 mL**
At stated conc. each in CH_2Cl_2: MeOH (4:1) — 6 comps.

2-Fluorobiphenyl	(1.0 mg/mL)	Phenol-d_5	(2.0 mg/mL)
2-Fluorophenol	(2.0 mg/mL)	Terphenyl-d_{14}	(1.0 mg/mL)
Nitrobenzene-d_5	(1.0 mg/mL)	2,4,6-Tribromophenol	(2.0 mg/mL)

Base/Neutrals & Acids - Matrix Standard Spiking Solutions

CLP-007-SET — $ 35 / **2 x 1 mL**
CLP-007-SET-PAK — *SAVE 20%* $ 140 / **5 x (2 x 1 mL)**
(CLP-007A, CLP-007B)

Base/Neutrals

CLP-007A — $ 20 / **1 x 1 mL**
1.0 mg/mL each in MeOH — 6 comps.

- Acenaphthene
- 1,4-Dichlorobenzene
- 2,4-Dinitrotoluene
- N-nitroso-di-*n*-propylamine
- Pyrene
- 1,2,4-Trichlorobenzene

Acids

CLP-007B — $ 20 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 5 comps.

- 2-Chlorophenol
- 4-Chloro-3-methylphenol
- 4-Nitrophenol
- Pentachlorophenol
- Phenol

GC/MS Tuning Standard

M-625-TS-20X — $ 40 / **1 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 — 4 comps.

- Benzidine
- p,p'-DDT
- DFTPP
- Pentachlorophenol

Calibration Check Compounds (CCC)

CLP-011-SET — $ 35 / **set of 2 x 1 mL**
(includes **CLP-011A** and **CLP-011B**)

Base/Neutrals

CLP-011A — $ 20 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 7 comps.

- Acenaphthene
- Benzo[a]pyrene
- 1,4-Dichlorobenzene
- Di-*n*-octylphthalate
- Hexachlorobutadiene
- Fluoranthene
- N-nitroso-diphenylamine

Acids

CLP-011B — $ 20 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 6 comps.

- 4-Chloro-3-methylphenol
- 2,4-Dichlorophenol
- 2-Nitrophenol
- Pentachlorophenol
- Phenol
- 2,4,6-Trichlorophenol

System Performance Check Compounds (SPCC)

CLP-010 — $ 25 / **1 x 1 mL**
0.2 mg/mL each in CH_2Cl_2 — 4 comps.
CLP-010-10X — $ 25 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 4 comps.

- 2,4-Dinitrophenol
- Hexachlorocyclopentadiene
- 4-Nitrophenol
- N-nitroso-*di*-*n*-propylamine

Multi-Component Analytes Polychlorinated Biphenyls, Chlordane & Toxaphene

Each at 1,000 µg/mL in Hexane

AccuPAK™ *(5 x 1 mL)*
SAVE 20%

Aroclors #	Cat. No.	1 mL	Cat. No.	PAK
Aroclor 1016	C-216S-H-10X	$ 20	C-216S-H-10X-PAK	$ 80
Aroclor 1221	C-221S-H-10X	20	C-221S-H-10X-PAK	80
Aroclor 1232	C-232S-H-10X	20	C-232S-H-10X-PAK	80
Aroclor 1242	C-242S-H-10X	20	C-242S-H-10X-PAK	80
Aroclor 1248	C-248S-H-10X	20	C-248S-H-10X-PAK	80
Aroclor 1254	C-254S-H-10X	20	C-254S-H-10X-PAK	80
Aroclor 1260	C-260S-H-10X	20	C-260S-H-10X-PAK	80
Aroclor 1262	C-262S-H-10X	20	C-262S-H-10X-PAK	80
Aroclor 1268	C-268S-H-10X	20	C-268S-H-10X-PAK	80
Pesticides				
Chlordane	P-017S-H-10X	$ 15	P-017S-H-10X-PAK	$ 80
Toxaphene	P-093S-H-10X	15	P-093S-H-10X-PAK	80

Method 8270C/D (Continued) Semi-Volatiles by Capillary Column GC/MS

These Method 8270C/D formulations are designed based on the association of the analyte to a specific internal standard. These formulations allow for easy preparation of the typical analytes in the calibration curve. In addition, instrument/method problems can be rapidly diagnosed by examining those specific analytes and the associated internal standard in the affected part of the analysis.

Save when ordering a complete set over individual solutions

Complete 8270 Method Mixture Set

M-8270-SET — $ 505 / **7 x 1 mL (M-8270-01,M-8270-02,M-8270-03,M-8270-04A,M-8270-04B,M-8270-05,M-8270-06)**

M-8270-R-SET — $ 480 / **7 x 1 mL (M-8270-01,M-8270-02,M-8270-03,M-8270-04A,M-8270-04B-R1,M-8270-05,M-8270-06)**

M-8270-01 — $ 80 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 17 comps.

Aniline
Benzyl alcohol
bis(2-Chloroethyl)ether
bis(2-Chloro-1-methylethyl)ether
2-Chlorophenol
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Ethylmethanesulfonate
Hexachloroethane
Methylmethanesulfonate
2-Methylphenol
4-Methylphenol
N-Nitrosodimethylamine
N-Nitrosodi-*n*-propylamine
Phenol
2-Picoline

M-8270-02 — $ 80 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 18 comps.

Acetophenone
Benzoic acid
bis(2-Chloroethoxy)methane
4-Chloroaniline
4-Chloro-3-methylphenol
2,4-Dichlorophenol
2,6-Dichlorophenol
α,α-Dimethylphenethylamine
2,4-Dimethylphenol
Hexachlorobutadiene
Isophorone
2-Methylnaphthalene
Naphthalene
Nitrobenzene
2-Nitrophenol
N-Nitroso-di-*n*-butylamine
N-Nitrosopiperidine
1,2,4-Trichlorobenzene

M-8270-03 — $ 120 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 24 comps.

Acenaphthene
Acenaphthylene
1-Chloronaphthalene
2-Chloronaphthalene
4-Chlorophenyl phenyl ether
Dibenzofuran
Diethyl phthalate
Dimethyl phthalate
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Fluorene
Hexachlorocyclopentadiene
1-Naphthylamine
2-Naphthylamine
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline
4-Nitrophenol
Pentachlorobenzene
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
2,4,6-Trichlorophenol
2,4,5-Trichlorophenol

M-8270-04A — $ 45 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 9 comps.

4-Aminobiphenyl
Anthracene
4-Bromophenyl phenyl ether
Di-*n*-butyl phthalate
4,6-Dinitro-2-methylphenol
Fluoranthene
Hexachlorobenzene
Pentachlorophenol
Phenanthrene

M-8270-04B — $ 35 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 6 comps.

Diphenylamine
1,2-Diphenylhydrazine
N-Nitrosodiphenylamine
Pentachloronitrobenzene
Phenacetin
Pronamide

M-8270-05 — $ 80 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 8 comps.

Benzidine
Benzo[a]anthracene
bis(2-Ethylhexyl)phthalate
Butylbenzylphthalate
Chrysene
3,3'-Dichlorobenzidine
p-Dimethylaminoazobenzene
Pyrene

M-8270-06 — $ 120 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 10 comps.

Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Dibenz[a,j]acridine
Dibenz[a,h]anthracene
7,12-Dimethylbenz[a]anthracene
Di-*n*-octylphthalate
Indeno[1,2,3-cd]pyrene
3-Methylcholanthrene

Technical Note

Under EPA recommended GC conditions (Method 8270) the analyte 1,2-Diphenylhydrazine is converted in varying degrees to Azobenzene and breakdown products. According to our study, the use of an injection port temperature range (240°C - 300°C) will cause the 1,2-Diphenylhydrazine to break down.

Substituting Azobenzene for 1,2-Diphenylhydrazine will allow analysis yielding a single peak regardless of the EPA recommended injection port temperature range used.

Alternate Formulation

M-8270-04B-R1 — $ 35 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 6 comps.

Azobenzene
Diphenylamine
N-Nitrosodiphenylamine
Pentachloronitrobenzene
Phenacetin
Pronamide

M-8270-07 — $ 160 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 15 comps.

Aramite
Chlorobenzilate
Diallate
2,4-D
Dimethoate
Dinoseb
Disulfoton
Famphur
Kepone
Methyl parathion
Parathion
Phorate
Silvex *(2,4,5-TP)*
Sulfotep
Thionazin

M-8270-08 — $ 65 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 9 comps.

3,3'-Dimethyl benzidine
4-Nitroquinoline-1-oxide
N-Nitrosodiethylamine
N-Nitrosomethylethylamine
N-Nitrosomorpholine
N-Nitrosopyrrolidine
5-Nitro-*o*-toluidine
p-Phenylenediamine
o-Toluidine

M-8270-09 — $ 65 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 10 comps.

2-Acetyl aminofluorene
1,3-Dinitrobenzene
Hexachlorophene
Hexachloropropene
Isodrin
Isosafrole
Methapyrilene
1,4-Naphthoquinone
Safrole
O,O,O-Triethylphosphorothioate

Method 8270C/D (Continued) Appendix IX Semi-Volatiles Analyzed by Method 8270

M-8270-10 $ 15 / **1 x 1 mL**
2.0 mg/mL in MeOH

sym-Trinitrobenzene

M-8270-10-R $ 15 / **1 x 1 mL**
2.0 mg/mL each in MeOH 2 comps.

Pyridine
sym-Trinitrobenzene

Additions to Method 8270

M-8270-13-SET $ 95 / **2 x 1 mL**
(M-8270-13A-R, M-8270-13B-R)

M-8270-13A-R $ 85 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 12 comps.

4-Aminoazobenzene
3-Amino-9-ethylcarbazole
o-Anisidine
5-Chloro-2-methylaniline
p-Cresidine
2,4-Diaminotoluene
4,4'-Methylenebis(N,N-dimethylaniline)
4,4'-Methylene bis(2-chloroaniline)
4,4'-Oxydianiline
2-Picoline
Pyridine
2,4,5-Trimethylaniline

M-8270-13B-R $ 25 / **1 x 1 mL**
2.0 mg/mL each in THF 3 comps.

2-Aminoanthraquinone
4-Chloro-1,2-phenylenediamine
4-Chloro-1,3-phenylenediamine

M-8270-14-SET $ 95 / **3 x 1 mL**
(M-8270-14A, M-8270-14B, M-8270-14C)

M-8270-14A $ 35 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 6 comps.

m-Cresol
o-Cresol
Resorcinol
Thiophenol
tris(2,3-Dibromopropyl)phosphate
Tri-*p*-tolyl phosphate

M-8270-14B $ 35 / **1 x 1 mL**
2.0 mg/mL each in THF 5 comps.

p-Benzoquinone
Hydroquinone
Maleic anhydride
Phthalic anhydride
Trimethyl phosphate

M-8270-14C $ 35 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2:MeOH (3:1) 5 comps.

1-Acetyl-2-thiourea
Diethyl sulfate
Hexamethylphosphoramide
3-Picolyl chloride HCL
Toluene diisocyanate

M-8270-15 $ 95 / **1 x 1 mL**
1.0 mg/mL each in CH_2Cl_2:MeOH (19:1) 13 comps.

Dibenzo[a,e]pyrene
1,2-Dibromo-3-chloropropane
Diethyl stilbestrol
1,2-Dinitrobenzene
1,4-Dinitrobenzene
5,5-Diphenylhydantoin
Mestranol
Nicotine
5-Nitroacenapthene
5-Nitro-*o*-anisidine
4-Nitrobiphenyl
Propylthiouracil
Strychnine

Pesticides

M-8270-16 $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 10 comps.

Anilazine
Azinphos methyl
Barbamate
Demeton (mixed isomers)
Dichlone
Dioxathion
Mirex
Sulfoxide
Sulfallate
Trifluralin

M-8270-17 $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 7 comps.

Brominal
Captafol
Captan
Dinex
Dinocap
Fluchloralin
Nitrofen

Carbamates/Pesticides

M-8270-18 $ 75 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 6 comps.

Carbaryl
Carbofuran
Ethyl carbamate
Mexacarbate
Schradan (Octamethylpyrophosphoramide)
Phenobarbital

Pesticides

M-8270-19 $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 12 comps.

Carbophenothion
Coumaphos
EPN
Ethion
Fensulfothion
Fenthion
Leptophos
Malathion
Phosalone
Imidan (Phosmet)
Terbufos
Tetrachlorvinphos

M-8270-20 $ 50 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 9 comps.

Chlorfenvinphos
Ciodrin (Crotoxyphos)
Dichlorvos
Dicrotophos
Mevinphos
Monocrotophos
Naled
Phosphamidon
TEPP (Tetraethyl pyrophosphate)

Azo Dye

RAC-12-10X $ 35 / **1 x 1 mL**
1.0 mg/mL in CH_2Cl_2

3,3'-Dimethoxylbenzidine

Pesticide Mix

Z-014C-R $ 95 / **1 x 1 mL**
Z-014C-R-PAK ***SAVE 20%*** $ 380 / **5 x 1 mL**
2.0 mg/mL each in Toluene : Hexane (1:1) 20 comps.

Aldrin
α-BHC
β-BHC
γ-BHC
δ-BHC
α-Chlordane
γ-Chlordane
4,4'-DDD
4,4'-DDE
4,4'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Endrin ketone
Heptachlor
Heptachlor epoxide
Methoxychlor

Alternate Source Line
For complete listing of competitive 8270 see the QC Section

Method 8270C/D 5 point Semi-Volatile Calibration Curve

AccuStandard provides a 5 point semi-volatile calibration curve in 2 formats. One calibration curve already incorporates the internal standards in each level of the curve. To begin analysis, the chemist just cracks the ampule open and transfers the content to the autosampler vial. The second semi-volatile curve does not contain the internal standard.
The analytical chemist will need to add 10 µL of internal standard to each level of the curve and the environmental samples as the vials are placed on the GC/MS. AccuStandard offers both types of curves to meet your laboratory's preference regarding the addition of internal standards.

Target Analytes *(Semi-Volatiles)*

Acenaphthene
Acenaphthylene
Aniline
Anthracene
Azobenzene
Benz[a]anthracene
Benzidine
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzoic acid
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl alcohol
4-Bromophenyl phenyl ether
Butyl benzyl phthalate
Carbazole
4-Chloroaniline
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloro-1-methylethyl)ether
4-Chloro-3-methylphenol
2-Chloronaphthalene
2-Chlorophenol
4-Chlorophenyl phenyl ether
Chrysene
o-Cresol
p-Cresol
Dibenz[a,h]anthracene
Dibenzofuran
Di-*n*-butyl phthalate
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
Diethyl phthalate
2,4-Dimethylphenol
Dimethyl phthalate
4,6-Dinitro-2-methylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-*n*-octyl phthalate
bis(2-Ethylhexyl)phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno[1,2,3-cd]pyrene
Isophorone
2-Methylnaphthalene
Naphthalene
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline
Nitrobenzene
2-Nitrophenol
4-Nitrophenol
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
N-Nitrosodi-*n*-propylamine
Pentachlorophenol
Phenanthrene
Phenol
Pyrene
Pyridine
1,2,4-Trichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol

Surrogates Analytes

2-Fluorobiphenyl
2-Fluorophenol
Nitrobenzene-d_5
Phenol-d_5
p-Terphenyl-d_{14}
2,4,6-Tribromophenol

Technical Note

AccuStandard has prepared both Semi-Volatile curves from special high concentration stocks. The useful shelf life for these 5 point curves is similar to the shelf life experienced at the environmental laboratory when the standard is prepared from previously used high concentrate stocks.

Internal Standard Analytes

Acenaphthene-d_{10}
Chrysene-d_{12}
1,4-Dichlorobenzene-d_4
Naphthalene-d_8
Perylene-d_{12}
Phenanthrene-d_{10}

Working Level Semi-Volatiles Curve
With Internal Standards

M-8270-CAL-IS-SET — $ 275 / **5 x 1 mL**
All solutions in CH_2Cl_2 — 83 comps.

Components *(units in µg/mL)*	Level 1	Level 2 *(2.5X)*	Level 3 *(4X)*	Level 4 *(6X)*	Level 5 *(8X)*
Target Analytes	20	50	80	120	160
Surrogate Analytes	20	50	80	120	160
Internal Analytes	40	40	40	40	40

Level 2 *Daily QC Working Level*
CCC (with Internal Standard)

M-8270-IS-WL-2.5X-5ML — $ 275 / **1 x 5 mL**
M-8270-IS-WL-2.5X-10ML — $ 425 / **1 x 10 mL**
At stated conc. in CH_2Cl_2

Working Level Semi-Volatiles Curve
Without Internal Standards

M-8270-CAL-SET — $ 250 / **5 x 1 mL**
All solutions in CH_2Cl_2 — 77 comps.

Components *(units in µg/mL)*	Level 1	Level 2 *(2.5X)*	Level 3 *(4X)*	Level 4 *(6X)*	Level 5 *(8X)*
Target Analytes	20	50	80	120	160
Surrogate Analytes	20	50	80	120	160

Level 2 *Daily QC Working Level*
CCC (without Internal Standard)

M-8270-WL-2.5X-5ML — $ 250 / **1 x 5 mL**
M-8270-WL-2.5X-10ML — $ 400 / **1 x 10 mL**
At stated conc. in CH_2Cl_2

Method 8270C/D (Continued)

Matrix Spike *(SW 846)*

CLP-007-WL-50ML — $ 115 / **1 x 50 mL**
At stated conc. in MeOH — 11 comps.

4-Chloro-3-methyl phenol	(200 µg/mL)	1,4-Dichlorobenzene	(100 µg/mL)
2-Chlorophenol	(200 µg/mL)	2,4-Dinitrotoluene	(100 µg/mL)
4-Nitrophenol	(200 µg/mL)	N-Nitrosodi-*n*-propylamine	(100 µg/mL)
Pentachlorophenol	(200 µg/mL)	Pyrene	(100 µg/mL)
Phenol	(200 µg/mL)	1,2,4-Trichlorobenzene	(100 µg/mL)
Acenaphthene	(100 µg/mL)		

Prep Note

To help maximize instrument performance, add 10 µL of internal standard to a 1 mL sample extract.

Internal Standard

Z-014J — $ 80 / **1 x 1 mL**
Z-014J-PAK — *SAVE 37%* $ 250 / **5 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 — 6 comps.

Acenaphthene-d_{10}	Naphthalene-d_8
Chrysene-d_{12}	Perylene-d_{12}
1,4-Dichlorobenzene-d_4	Phenanthrene-d_{10}

Benzidine Solution

M-625C-1-40X — $ 20 / **1 x 1 mL**
2.0 mg/mL in CH_2Cl_2

Benzidine

GC/MS Tuning Solution

M-625-TS — $ 40 / **1 x 1 mL**
M-625-TS-PAK — *SAVE 20%* $ 160 / **5 x 1 mL**
50 µg/mL each in CH_2Cl_2 — 4 comps.

Benzidine	DFTPP
p,p'-DDT	Pentachlorophenol

DFTPP GC/MS Tuning Solution

M-625C-3 — $ 20 / **1 x 1 mL**
M-625C-3-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
25 µg/mL in CH_2Cl_2

Decafluorotriphenylphosphine *(DFTPP)*

Matrix Spike *(3/90 SOW)*

CLP-007R-WL-50ML — $ 115 / **1 x 50 mL**
At stated conc. in MeOH — 11 comps.

4-Chloro-3-methyl phenol	(150 µg/mL)	1,4-Dichlorobenzene	(100 µg/mL)
2-Chlorophenol	(150 µg/mL)	2,4-Dinitrotoluene	(100 µg/mL)
4-Nitrophenol	(150 µg/mL)	N-Nitrosodi-*n*-propylamine	(100 µg/mL)
Pentachlorophenol	(150 µg/mL)	Pyrene	(100 µg/mL)
Phenol	(150 µg/mL)	1,2,4-Trichlorobenzene	(100 µg/mL)
Acenaphthene	(100 µg/mL)		

Technical Note

AccuStandard has found that benzidine degrades in multi-component semi-volatile solutions. For this reason, the benzidine in any calibration curve should be used as a qualitative retention time marker. Reported hits for benzidine should be quantitatively determined by analyzing a single benzidine solution or by using the benzidine response observed in the Daily GC/MS tuning solution.

Method 8270 Surrogate Spiking Solution

M-8270-SS-R-WL-PAK — $ 190 / **5 x 10 mL**
M-8270-SS-R-WL-VAP — $ 300 / **10 x 10 mL**
At stated conc. in CH_2Cl_2: MeOH (4:1) — 6 comps.

2-Fluorobiphenyl	(100 µg/mL)	Phenol-d_5	(200 µg/mL)
2-Fluorophenol	(200 µg/mL)	Terphenyl-d_{14}	(100 µg/mL)
Nitrobenzene-d_5	(100 µg/mL)	2,4,6-Tribromophenol	(200 µg/mL)

M-8270-SS-R — $ 75 / **1 x 1 mL**
M-8270-SS-R-PAK — *SAVE 20%* $ 300 / **5 x 1 mL**
At stated conc. in CH_2Cl_2: MeOH (4:1) — 6 comps.

2-Fluorobiphenyl	(1000 µg/mL)	Phenol-d_5	(2000 µg/mL)
2-Fluorophenol	(2000 µg/mL)	Terphenyl-d_{14}	(1000 µg/mL)
Nitrobenzene-d_5	(1000 µg/mL)	2,4,6-Tribromophenol	(2000 µg/mL)

Prep Note

To ensure extraction efficiency add, 1 mL of Surrogate to the sample.

CLP Surrogate Spiking Solution

CLP-031-R-WL-25ML — $ 110 / **1 x 25 mL**
CLP-031-R-WL-50ML — $ 190 / **1 x 50 mL**
At stated conc. in MeOH — 8 comps.

2-Chlorophenol-d_4	(150 µg/mL)	Nitrobenzene-d_5	(100 µg/mL)
1,2-Dichlorobenzene-d_4	(100 µg/mL)	Phenol-d_5	(150 µg/mL)
2-Fluorobiphenyl	(100 µg/mL)	*p*-Terphenyl-d_{14}	(100 µg/mL)
2-Fluorophenol	(150 µg/mL)	2,4,6-Tribromophenol	(150 µg/mL)

Method 8275A (Thermal Extraction/GC/FID/MS) Semi-Volatiles by Thermal Chromatography

Semi-Volatiles

M-8275 — $ 60 / **1 x 1 mL**
1.0 mg/mL each in Acetone — 17 comps.

Aldrin	2,4-Dinitrotoluene
Benzo[k]fluoranthene	Diphenylamine
Benzo[a]pyrene	Fluorene
Carbazole	Hexachlorobenzene
4-Chloro-3-methylphenol	4-Methylphenol
1-Chloronaphthalene	Naphthalene
2-Chlorophenol	Phenanthrene
Dibenzothiophene	Pyrene
2,4-Dichlorophenol	

Internal Standard

Z-014J — $ 80 / **1 x 1 mL**
Z-014J-PAK — *SAVE 37%* $ 250 / **5 x 1 mL**
4.0 mg/mL each in CH_2Cl_2 — 6 comps.

Acenaphthene-d_{10}	Naphthalene-d_8
Chrysene-d_{12}	Perylene-d_{12}
1,4-Dichlorobenzene-d_4	Phenanthrene-d_{10}

Alternate Source Line
For complete listing of competitive 8270 see the QC Section

Method 8280A Dioxins & Furans by HRGC/LRMS

Dioxin Mixture

M-8280A $ 150 / **1 x 1 mL**
M-8280A-PAK *SAVE 20%* $ 600 / **5 x 1 mL**
5 µg/mL each in Toluene 5 comps.

2,3,7,8-Tetrachlorodibenzo-*p*-dioxin
1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
Octachlorodibenzo-*p*-dioxin

Furan Mixture

M-8280B $ 150 / **1 x 1 mL**
M-8280B-PAK *SAVE 20%* $ 600 / **5 x 1 mL**
5 µg/mL each in Toluene 5 comps.

2,3,7,8-Tetrachlorodibenzofuran
1,2,3,7,8-Pentachlorodibenzofuran
1,2,3,4,7,8-Hexachlorodibenzofuran
1,2,3,4,6,7,8-Heptachlorodibenzofuran
Octachlorodibenzofuran

Column Performance Check

M-8280-CPC $ 200 / **1 x 1 mL**
5 µg/mL each in Toluene 7 comps.

1,2,3,4-Tetrachlorodibenzo-*p*-dioxin
2,3,7,8-Tetrachlorodibenzo-*p*-dioxin
1,2,3,4,7-Pentachlorodibenzo-*p*-dioxin
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8,9-Octachlorodibenzo-*p*-dioxin
2,3,7,8-Tetrachlorodibenzofuran

Canadian Environmental Method Multi-Component Dioxin Mixtures

Custom Window Defining Mixture

D-WD 20,000 ng/mL in Toluene $ 1,100 / **1 x 1 mL**
D-WD-2.5X 50,000 ng/mL in Toluene $ 2,000 / **1 x 1 mL**
7 comps.

1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-*p*-dioxin (Isomer pair)
1,2,3,8,9-Pentachlorodibenzo-*p*-dioxin
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-*p*-dioxin (Isomer pair)
1,2,3,4,6,7-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,9-Heptachlorodibenzo-*p*-dioxin
Octachlorodibenzo-*p*-dioxin

Formulations atHighest Concentration for Economical Prices

Custom Calibration Mixture

D-CAL 20,000 ng/mL in Toluene $ 900 / **1 x 1 mL**
D-CAL-2.5X 50,000 ng/mL in Toluene $ 1,600 / **1 x 1 mL**
6 comps.

1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
Octachlorodibenzo-*p*-dioxin

Column Performance Check

M-8280-CPC $ 200 / **1 x 1 mL**
5.0 µg/mL each in Toluene 7 comps.

1,2,3,4-Tetrachlorodibenzo-*p*-dioxin
2,3,7,8-Tetrachlorodibenzo-*p*-dioxin
1,2,3,4,7-Pentachlorodibenzo-*p*-dioxin
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8,9-Octachlorodibenzo-*p*-dioxin
2,3,7,8-Tetrachlorodibenzofuran

Standards of Interest

For more Canadian Methods see the Regional Section of this catalog, pages 256-258.

Method 8310 PAHs by HPLC

PAH Mixture

M-8310 $ 75 / **1 x 1 mL**
M-8310-PAK *SAVE 20%* $ 300 / **5 x 1 mL**
0.5 mg/mL each in AcCN 16 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
Naphthalene
Phenanthrene
Pyrene

PAH Quality Control Calibration Mixture

M-610-QC $ 35 / **1 x 1 mL**
At stated conc. in AcCN 16 comps.

Acenaphthene	(0.1 mg/mL)	Chrysene	(0.01 mg/mL)
Acenaphthylene	(0.1 mg/mL)	Dibenz[a,h]anthracene	(0.01 mg/mL)
Anthracene	(0.1 mg/mL)	Fluoranthene	(0.01 mg/mL)
Benzo[a]anthracene	(0.01 mg/mL)	Fluorene	(0.1 mg/mL)
Benzo[a]pyrene	(0.01 mg/mL)	Indeno[1,2,3-cd]pyrene	(0.01 mg/mL)
Benzo[b]fluoranthene	(0.01 mg/mL)	Naphthalene	(0.1 mg/mL)
Benzo[g,h,i]perylene	(0.01 mg/mL)	Phenanthrene	(0.1 mg/mL)
Benzo[k]fluoranthene	(0.005 mg/mL)	Pyrene	(0.01 mg/mL)

Surrogate Standard

M-8310-SS $ 10 / **1 x 1 mL**
M-8310-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
0.1 mg/mL in Acetonitrile

Decafluorobiphenyl

Internal Standard Post Supercritical Fluid Extraction

M-8310-SFE-IS-100X $ 10 / **1 x 1 mL**
M-8310-SFE-IS-100X-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
20,000 µg/mL in AcCN:THF (1:1)

Biphenyl

Florida Method PAH Mixture

Z-014G-FL $ 85 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2:Benzene 18 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
Naphthalene
Phenanthrene
Pyrene
1-Methylnaphthalene
2-Methylnaphthalene

Florida Administrative Code (continued) PAHs by HPLC

Performance Check Solution

M-610-QC-FL — $ 35 / **1 x 1 mL**
M-610-QC-FL-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
At stated conc. in AcCN — 18 comps.

Acenaphthene	(0.1 mg/mL)	Dibenz[a,h]anthracene	(0.01 mg/mL)
Acenaphthylene	(0.1 mg/mL)	Fluoranthene	(0.01 mg/mL)
Anthracene	(0.1 mg/mL)	Fluorene	(0.1 mg/mL)
Benz[a]anthracene	(0.01 mg/mL)	Indeno[1,2,3-cd]pyrene	(0.01 mg/mL)
Benzo[a]pyrene	(0.01 mg/mL)	1-Methyl naphthalene	(0.1 mg/mL)
Benzo[b]fluoranthene	(0.01 mg/mL)	2-Methyl naphthalene	(0.1 mg/mL)
Benzo[g,h,i]perylene	(0.01 mg/mL)	Naphthalene	(0.1 mg/mL)
Benzo[k]fluoranthene	(0.005 mg/mL)	Phenanthrene	(0.1 mg/mL)
Chrysene	(0.01 mg/mL)	Pyrene	(0.01 mg/mL)

Matrix Spiking Solution

M-610-MS — $ 30 / **1 x 1 mL**
M-610-MS-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. in AcCN — 6 comps.

Benz[a]pyrene	(0.5 mg/mL)	2-Methylnaphthalene	(5.0 mg/mL)
Chrysene	(0.5 mg/mL)	Phenanthrene	(0.5 mg/mL)
1-Methylnaphthalene	(5.0 mg/mL)	Pyrene	(0.5 mg/mL)

PAH Mix Additions

H-001S/002S-M-20X — $ 30 / **1 x 1 mL**
1.0 mg/mL each in MeOH — 2 comps.

1-Methyl naphthalene — 2-Methyl naphthalene

Polynuclear Aromatic Hydrocarbons (HPLC)

M-8310-FL — $ 50 / **1 x 1 mL**
M-8310-FL-PAK — *SAVE 20%* $ 200 / **5 x 1 mL**
0.5 mg/mL each in AcCN — 18 comps.
M-8310-FL-SET — $ 360 / **18 x 1 mL**

Acenaphthene	M-8310-FL-01	$ 20
Acenaphthylene	M-8310-FL-02	20
Anthracene	M-8310-FL-03	20
Benz[a]anthracene	M-8310-FL-04	25
Benzo[a]pyrene	M-8310-FL-05	25
Benzo[b]fluoranthene	M-8310-FL-06	30
Benzo[g,h,i]perylene	M-8310-FL-07	30
Benzo[k]fluoranthene	M-8310-FL-08	30
Chrysene	M-8310-FL-09	25
Dibenz[a,h]anthracene	M-8310-FL-10	20
Fluoranthene	M-8310-FL-11	20
Fluorene	M-8310-FL-12	20
Indeno[1,2,3-cd]pyrene	M-8310-FL-13	35
1-Methylnaphthalene	M-8310-FL-14	20
2-Methylnaphthalene	M-8310-FL-15	20
Naphthalene	M-8310-FL-16	20
Phenanthrene	M-8310-FL-17	20
Pyrene	M-8310-FL-18	20

Polynuclear Aromatic Hydrocarbons (HPLC)

M-8310-QC-ATI — $ 55 / **1 x 1 mL**
M-8310-QC-ATI-PAK — *SAVE 20%* $ 220 / **5 x 1 mL**
At stated conc. in AcCN — 18 comps.

Acenaphthene	(1000 µg/mL)	Dibenz[a,h]anthracene	(200 µg/mL)
Acenaphthylene	(2000 µg/mL)	Fluoranthene	(200 µg/mL)
Anthracene	(100 µg/mL)	Fluorene	(200 µg/mL)
Benz[a]anthracene	(100 µg/mL)	Indeno[1,2,3-cd]pyrene	(100 µg/mL)
Benzo[a]pyrene	(100 µg/mL)	1-Methylnaphthalene	(1000 µg/mL)
Benzo[b]fluoranthene	(200 µg/mL)	2-Methylnaphthalene	(1000 µg/mL)
Benzo[g,h,i]perylene	(200 µg/mL)	Naphthalene	(1000 µg/mL)
Benzo[k]fluoranthene	(100 µg/mL)	Phenanthrene	(100 µg/mL)
Chrysene	(100 µg/mL)	Pyrene	(100 µg/mL)

Buy AccuPaks™
Save 20-40% 5 x 1 mL

AccuStandard's Environmental Efforts

1. As part of a recent facility expansion, and in cooperation with the local utilities, AccuStandard invested almost $100,000 on energy conservation and controls. The estimated impact on the environment is similar to that of planting 19 acres of trees.

2. Many customers avoid the environmental impact and cost of disposing of unused standards. One of the only standards manufacturers to offer this, Accustandard's "On-Going Stability Program" allows us to extend the expiration date on a standard if our testing over time on a specific lot warrants it.

3. Many every day steps such as using recycled paper for the tens of thousands of catalogs every year, educating customers on the value of using standards as pre-made solutions rather than buying large quantities of neats.

Method 8315/8315A Ketones/Aldehydes by HPLC

Aldehyde Mixture

M-8315 — $ 20 / **1 x 1 mL**
M-8315-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
1.0 mg/mL each in H_2O — 2 comps.

Acetaldehyde
Formaldehyde

Aldehyde Individuals

Acetaldehyde *(1.0 mg/mL in H_2O)* — **M-8315-01** — $ 20 / **1 x 1 mL**
Formaldehyde *(1.0 mg/mL in H_2O)* — **M-8315-02** — $ 20 / **1 x 1 mL**

Aldehyde as DNPH Derivatives

M-8315-DNPH-10ML — $ 30 / **1 x 10 mL**
1.0 mg/mL each in MeOH — 2 comps. as DNPH Derivatives

Acetaldehyde
Formaldehyde

Option 1 (Samples Collected from Water, Air, Soil, Waste or Stacks by Method 0011)

Carbonyl Mixture

M-8315-R1 — $ 65 / **1 x 1 mL**
1.0 mg/mL each in AcCN — 12 comps.

Acetaldehyde
Butanal *(Butyraldehyde)*
Crotonaldehyde
Cyclohexanone
Decanal
Formaldehyde
Heptanal
Hexanal *(Hexaldehyde)*
Nonanal
Octanal
Pentanal *(Valeraldehyde)*
Propanal *(Propionaldehyde)*

Carbonyl DNPH Derivative Mixture

M-8315-R1-DNPH — $ 90 / **1 x 1 mL**
0.1 mg/mL each in AcCN — 12 comps. as DNPH derivatives

Acetaldehyde
Butanal *(Butyraldehyde)*
Crotonaldehyde
Cyclohexanone
Decanal
Formaldehyde
Heptanal
Hexanal *(Hexaldehyde)*
Nonanal
Octanal
Pentanal *(Valeraldehyde)*
Propanal *(Propionaldehyde)*

Option 2 (Samples Collected from Indoor Air by Method 0100)

Carbonyl Mixture

M-8315-R2 — $ 75 / **1 x 1 mL**
1.0 mg/mL each in AcCN — 15 comps.

Acetaldehyde
Acetone
Acrolein
Benzaldehyde
Butanal *(Butyraldehyde)*
Crotonaldehyde
2,5-Dimethylbenzaldehyde
Formaldehyde
Hexanal *(Hexaldehyde)*
Isovaleraldehyde
Pentanal *(Valeraldehyde)*
Propanal *(Propionaldehyde)*
m-Tolualdehyde
o-Tolualdehyde
p-Tolualdehyde

Carbonyl DNPH Derivative Mixture

M-8315-R2-DNPH — $ 120 / **1 x 1 mL**
0.1 mg/mL each in AcCN — 15 comps. as DNPH derivatives

Acetaldehyde
Acetone
Acrolein
Benzaldehyde
Butanal *(Butyraldehyde)*
Crotonaldehyde
2,5-Dimethylbenzaldehyde
Formaldehyde
Hexanal *(Hexaldehyde)*
Isovaleraldehyde
Pentanal *(Valeraldehyde)*
Propanal *(Propionaldehyde)*
m-Tolualdehyde
o-Tolualdehyde
p-Tolualdehyde

Carbonyl Compound Set

M-8315-R3-10X-SET — $ 200 / **20 x 1 mL**
Each at 1.0 mg/mL in AcCN

Acetaldehyde (01)
Acetone (02)
Acrolein (03)
Benzaldehyde (04)
Butanal (05)
Crotonaldehyde (06)
Cyclohexanone (07)
Decanal (08)
2,5-Dimethylbenzaldehyde (09)
Formaldehyde (10)
Heptanal (11)
Hexanal (12)
Isovaleraldehyde (13)
Nonanal (14)
Octanal (15)
Pentanal (16)
Propanal (17)
m-Tolualdehyde (18)
o-Tolualdehyde (19)
p-Tolualdehyde (20)

Carbonyl DNPH Derivative Set

M-8315-R-DNPH-SET — $ 250 / **20 x 1 mL**
Each at 0.1 mg/mL in AcCN — 20 comps. as DNPH Derivatives

Acetaldehyde (01)
Acetone (02)
Acrolein (03)
Benzaldehyde (04)
Butanal *(Butyraldehyde)* (05)
Crotonaldehyde (06)
Cyclohexanone (07)
Decanal (08)
2,5-Dimethylbenzaldehyde (09)
Formaldehyde (10)
Heptanal (11)
Hexanal *(Hexaldehyde)* (12)
Isovaleraldehyde (13)
Nonanal (14)
Octanal (15)
Pentanal *(Valeraldehyde)* (16)
Propanal *(Propionaldehyde)* (17)
m-Tolualdehyde (18)
o-Tolualdehyde (19)
p-Tolualdehyde (20)

Technical Note

For initial Method 8315 development, AccuStandard offers individual analyte sets (20 x 1 mL) for both the Carbonyl compounds and their corresponding DNPH derivatives. Use of these sets will allow the analytical chemist to rapidly establish individual analyte retention times and to troubleshoot possible extraction recovery problems.

Method 8316 Acrolein, Acrylamide, Acrylonitrile by HPLC

M-8316 — $ 20 / **1 x 1 mL**
1.0 mg/mL each in Water — 3 comps.

Acrolein
Acrylamide
Acrylonitrile

Method 8318 N-Methylcarbamates by HPLC

N-Methylcarbamates

M-8318-SET — $ 140 / **10 x 1 mL**
Each at 0.1 mg/mL in MeOH
M-8318M — $ 60 / **1 x 1 mL**
Mixture, 0.1 mg/mL each in MeOH — 10 comps.

Aldicarb (01)
Aldicarb sulfone (02)
Carbaryl (03)
Carbofuran (04)
Dioxacarb (05)
3-Hydroxycarbofuran (06)
Methiocarb (07)
Methomyl (08)
Promecarb (09)
Propoxur (10)

Method 8321 Non-Volatile Compounds by HPLC/TSP/MS or UV Solvent Extractable

Chlorinated Phenoxyacid Herbicide Mix

M-8321-HERB $ 75 / **1 x 1 mL**
0.1 mg/mL each in AcCN 14 comps.

Dalapon	Dinoseb
Dicamba	MCPA
2,4-D	MCPP
2,4-D, butoxyethanol ester	Silvex *(2,4,5-TP)*
2,4-D, ethylhexyl ester	2,4,5-T
2,4-DB	2,4,5-T, butyl ester
Dichlorprop	2,4,5-T, butoxyethanol ester

Organophosphorus Pesticide Mix

M-8321-OP $ 75 / **1 x 1 mL**
0.1 mg/mL each in AcCN 15 comps.

Asulam	Methyl parathion
Dichlorvos	Monocrotophos
Dimethoate	Naled
Disulfoton	Phorate
Famphur	Thiofanox
Fensulfothion	Trichlorfon
Merphos	Tris(2,3-Dibromopropyl)phosphate
Methomyl	

Method 8325 Benzidines & Nitrogen containing Pesticides by L-L or L-S Extraction & RP HPLC/Particle Beam/MS

Benzidine/Pesticide Mix

M-553 $ 95 / **1 x 1 mL**
At stated conc. in AcCN : MeOH (1:1) 13 comps.

Benzidine	(250 µg/mL)	3,3'-Dimethylbenzidine	(350 µg/mL)
Benzoylprop ethyl	(350 µg/mL)	Diuron	(450 µg/mL)
Caffeine	(300 µg/mL)	Linuron	(1,300 µg/mL)
Carbaryl	(1,000 µg/mL)	Monuron	(400 µg/mL)
o-Chlorophenyl thiourea	(750 µg/mL)	Rotenone	(3,200 µg/mL)
3,3'-Dichlorobenzidine	(250 µg/mL)	Siduron	(450 µg/mL)
3,3'-Dimethoxybenzidine	(750 µg/mL)		

Performance Check Solution

M-553-PC $ 20 / **1 x 1 mL**
0.1 mg/mL in AcCN

DFTPPO *(Decafluorotriphenylphosphine oxide)*

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Method 8323 Organometallic Tin Analysis by Electrospray Ion Trap Mass Spectrometry

The following Organo-Tin standards were originally formulated to meet custom applications for a number of our customers. AccuStandard has introduced the below set of standards as regular catalog items to meet the increased requests for Organo-Tin standards. The environmental interest in these compounds stems from their addition to the list of endocrine disrupters. Organo-Tin compounds such as Tributyl-Tin were used as marine antifouling agents and Triphenyl-Tin as a crop pesticide.

Organometallic Butyltin Chloride Standard

OMT-001 $ 40 / **1 x 1 mL**
OMT-001-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 4 comps.

Butyltin trichloride	Tetrabutyltin
Dibutyltin dichloride	Tributyltin chloride

Tri-*n*-propyltin Surrogate Standard

OMT-003 $ 30 / **1 x 1 mL**
OMT-003-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2000 µg/mL in CH_2Cl_2

Tri-*n*-propyltin chloride

Tetra-*n*-propyl tin Internal Standard

OMT-005 $ 40 / **1 x 1 mL**
OMT-005-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2000 µg/mL in CH_2Cl_2

Tetra-*n*-propyl tin

Organometallic Phenyltin Chloride Standard

OMT-002 $ 40 / **1 x 1 mL**
OMT-002-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 4 comps.

Diphenyltin dichloride	Tetraphenyltin
Phenyltin trichloride	Triphenyltin chloride

Tripentyltin Chloride Surrogate Standard

OMT-004 $ 30 / **1 x 1 mL**
OMT-004-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2000 µg/mL in CH_2Cl_2

Tripentyltin chloride

Tetrapentyltin Internal Standard

OMT-006 $ 30 / **1 x 1 mL**
OMT-006-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2000 µg/mL in CH_2Cl_2

Tetrapentyltin

Over 40,000 Standards, just a click away

(Over 10,000 Listed and over 30,000 formulated custom standards)

AccuStandard.com

Method 8330 TNT Metabolites

Analyte	Concentration (µg/mL)	Solvent	Cat. No.	Price (1 mL)
1,3-Dinitrobenzene	100	AcCN : MeOH (1:1)	M-8330-01-0.1X	$ 20
2,4-Dinitrotoluene	100	AcCN : MeOH (1:1)	M-8330-02-0.1X	20
2,6-Dinitrotoluene	100	AcCN : MeOH (1:1)	M-8330-03-0.1X	20
Nitrobenzene	100	AcCN : MeOH (1:1)	M-8330-06-0.1X	20
2-Nitrotoluene	100	AcCN : MeOH (1:1)	M-8330-07-0.1X	15
3-Nitrotoluene	100	AcCN : MeOH (1:1)	M-8330-08-0.1X	15
4-Nitrotoluene	100	AcCN : MeOH (1:1)	M-8330-09-0.1X	15
TNT	100	AcCN : MeOH (1:1)	M-8330-11-0.1X	20
1,3,5-Trinitrobenzene	100	AcCN : MeOH (1:1)	M-8330-12-0.1X	20
2-Amino-4,6-dinitrotoluene	100	AcCN : MeOH (1:1)	M-8330-13-0.1X	20
4-Amino-2,6-dinitrotoluene	100	AcCN : MeOH (1:1)	M-8330-14-0.1X	20
2,4-Diamino-6-nitrotoluene	100	AcCN	M-8330-ADD-12	40
2,4-Diamino-4-nitrotoluene	100	AcCN	M-8330-ADD-13	40
2,2',6,6'-Tetranitro-4,4'-azoxytoluene	100	AcCN : MeOH (1:1)	M-8330-ADD-15	75
2,2',6,6'-Tetranitro-4,4'-azotoluene	100	AcCN	M-8330-ADD-17	100
4,4',6,6'-Tetranitro-2,2'-azotoluene	100	AcCN	M-8330-ADD-19	100
2-Hydroxylamino-4,6-dinitrotoluene *	100	AcCN	M-8330-ADD-18	115
4-Hydroxylamino-2,6-dinitrotoluene *	100	AcCN	M-8330-ADD-20	100
Hexanitrostilbene (HNS) ***NEW***	100	AcCN	M-8330-ADD-26	60
3,5-Dinitrotoluene ***NEW***	100	AcCN : MeOH (1:1)	M-8330-ADD-39	75

* (3 month stability)

Explosives by HPLC Set

M-8330-R-SET ‡ $ 175 / **14 x 1 mL**
Each at 100 µg/mL in AcCN : MeOH (1:1)
M-8330-R-10X-SET ‡ $ 210 / **14 x 1 mL**
Each at 1000 µg/mL in AcCN : MeOH (1:1)

1,3-Dinitrobenzene (01)
2,4-Dinitrotoluene (02)
2,6-Dinitrotoluene (03)
HMX (04)
RDX (05)
Nitrobenzene (06)
2-Nitrotoluene (07)
3-Nitrotoluene (08)
4-Nitrotoluene (09)
Tetryl (10)
TNT (11)
1,3,5-Trinitrobenzene (12)
2-Amino-4,6-dinitrotoluene (13)
4-Amino-2,6-dinitrotoluene (14)

Method 8330 Additional Explosives by HPLC

Analyte	Concentration (µg/mL)	Solvent	Cat. No.	Price (1 mL)
1,3-Dinitrobenzene	100	AcCN : MeOH (1:1)	M-8330-01-0.1X	$ 20
HMX	100	AcCN : MeOH (1:1)	M-8330-04-0.1X	20
RDX	100	AcCN : MeOH (1:1)	M-8330-05-0.1X	20
Tetryl	100	AcCN : MeOH (1:1)	M-8330-10-0.1X	20
Nitroglycerin	100	EtOH	M-8330-ADD-1	20
	1000	EtOH	M-8330-ADD-1-10X	30
PETN	100	MeOH	M-8330-ADD-2	20
	1000	MeOH	M-8330-ADD-2-10X	30
Picric acid	100	AcCN : MeOH (1:1)	M-8330-ADD-3	20
3,5-Dinitroaniline	100	AcCN : MeOH (1:1)	M-8330-ADD-4	30
EGDN	100	AcCN	M-8330-ADD-5	20
Nitroguanidine	100	MeOH	M-8330-ADD-6	20
Nitromethane	100	MeOH	M-8330-ADD-7	20
Hydrazine	100	MeOH	M-8330-ADD-8	20
1,2-Diaminopropane	100	MeOH	M-8330-ADD-9	20
Guanidine nitrate	100	MeOH	M-8330-ADD-10	20
PYX(2,6-bis,bis-(pricrylamine)-3,5-dinitropyridine	100	AcCN	M-8330-ADD-11	20
1,3,5-Triamino-2,4,6-trinitrobenzene (TATB)	40	Dimethyl formamide	M-8330-ADD-14-DMF	40
2,3-Dimethyl-2,3-dinitrobutane (DMNB)	100	AcCN	M-8330-ADD-21	30
Picramic acid	100	AcCN : MeOH (1:1)	M-8330-ADD-22	30
2,4,6-Triaminotoluene trihydrochloride	N/A	10 mg	M-8330-ADD-23N	25
Triacetone triperoxide (TATP)	100	AcCN	M-8330-ADD-24	75
Hexamethylenetriperoxide diamine (HMTD)	100	AcCN	M-8330-ADD-25	75
Hexanitrostilbene (HNS)	100	AcCN	M-8330-ADD-26	60
Ammonium picrate	100	AcCN	M-8330-ADD-27	25
Trimethylolethane trinitrate	100	AcCN : MeOH (1:1)	M-8330-ADD-28	30
2,4,6-Trinitroresorcinol ***NEW***	100	AcCN : MeOH (1:1)	M-8330-ADD-29	60
1-Nitroglycerin ***NEW***	100	AcCN : MeOH (1:1)	M-8330-ADD-31	20
2-Nitroglycerin ***NEW***	100	AcCN : MeOH (1:1)	M-8330-ADD-32	20
1,2-Dinitroglycerin ***NEW***	100	AcCN : MeOH (1:1)	M-8330-ADD-33	20
1,3-Dinitroglycerin ***NEW***	100	AcCN : MeOH (1:1)	M-8330-ADD-34	20
DEGDN ***NEW***	100	AcCN : MeOH (1:1)	M-8330-ADD-36	30
Hexanitrodiphenylamine ***NEW***	100	AcCN : MeOH (1:1)	M-8330-ADD-37	40
N-Nitrodimethylamine ***NEW***	100	AcCN	M-8330-ADD-40	75
TEGDN ***NEW***	100	AcCN	M-8330-ADD-41	30

Technical Note

AccuStandard complies with ATF and other regulations for manufacuring and shipping explosives.

Technical Note

DMNB (M-8330-ADD-21) is a required taggant added to commercially manufactured plastic explosives.

Additional Explosive Standards

Method 529
Explosive & Related Compounds by SPE & Capillary Column GC/MS

Method 8095
Also see Explosive Intermediate (GC/ECD)

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Method 8330 Multi-Component Formulations for Explosive Analysis

The following A and B mixes provide better resolution between possible coeluting analytes, assisting the chemist to optimize the HPLC system. We suggest, when first performing Method 8330 development, to purchase the high concentration 14 x 1 mL set "M-8330-R-10X-SET".

M-8330A ‡ — $ 40 / **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1)
M-8330A-10X ‡ — $ 50 / **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 7 comps.

1,3-Dinitrobenzene
2,4-Dinitrotoluene
HMX
Nitrobenzene
RDX
1,3,5-Trinitrobenzene
TNT

M-8330A-R ‡ — $ 45 / **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1)
M-8330A-R-10X ‡ — $ 55 / **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 8 comps.

2-Amino-4,6-dinitrotoluene
1,3-Dinitrobenzene
2,4-Dinitrotoluene
HMX
Nitrobenzene
RDX
1,3,5-Trinitrobenzene
TNT

Composite Explosive Mixture

M-8330-R — $ 110 / **1 x 1 mL**
M-8330-R-PAK — *SAVE 20%* $ 440 / **5 x 1 mL**
1.0 mg/mL each in MeOH:AcCN (1:1) — 14 comps.

1,3-Dinitrobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
HMX
RDX
Nitrobenzene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene
Tetryl
TNT
1,3,5-Trinitrobenzene
2-Amino-4,6-dinitrotoluene
4-Amino-2,6-dinitrotoluene

Internal Standard

M-8330-IS — $ 15 / **1 x 1 mL**
M-8330-IS-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in MeOH

3,4-Dinitrotoluene

M-8330B ‡ — $ 25 / **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1)
M-8330B-10X ‡ — $ 40 / **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 5 comps.

Tetryl
2,6-Dinitrotoluene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene

M-8330B-R ‡ — $ 30 / **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1)
M-8330B-R-10X ‡ — $ 45 / **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 7 comps.

2-Amino-4,6-dinitrotoluene
4-Amino-2,6-dinitrotoluene
Tetryl
2,6-Dinitrotoluene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene

M-8330B-R2 ‡ — $ 30 / **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1)
M-8330B-R2-10X ‡ — $ 40 / **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 6 comps.

4-Amino-2,6-dinitrotoluene
Tetryl
2,6-Dinitrotoluene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Surrogate Standard

M-8330-SS — $ 20 / **1 x 1 mL**
1.0 mg/mL in MeOH

1,2-Dinitrobenzene

Method 8410 Semi-Volatiles by GC/FTIR

Internal Standard

M-8410-IS — $ 30 / **1 x 1 mL**
M-8410-IS-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 — 2 comps.

1-Fluoronaphthalene
p-Terphenyl-d_{14}

Method 8430 bis(2-Chloroethyl)ether & Hydrolysis Products

M-8430 — $ 20 / **1 x 1 mL**
1.0 mg/mL each in Water — 5 comps.

bis(2-Chloroethyl)ether
2-Chloroethanol
2-(2-Chloroethoxy)-ethanol
Diethylene glycol
Ethylene glycol

Method 8440 Total Petroleum Hydrocarbon

Total Recoverable Petroleum Hydrocarbon Mix

M-8440 — $ 20 / **1 x 1 mL**
M-8440-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
At stated conc. in Tetrachloroethene — 3 comps.

Chlorobenzene (0.10 w/w %)
n-Hexadecane (0.15 w/w %)
Isooctane (0.15 w/w %)

Silica Gel Cleanup Calibration Solution

M-8440-SGC — $ 10 / **1 x 1 mL**
M-8440-SGC-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
10.0 mg/mL in Tetrachloroethene

Corn Oil

Total Petroleum Hydrocarbon Concentrate Mix

M-8440-CON — $ 30 / **1 x 1 mL**
M-8440-CON-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
3 comps.

Chlorobenzene (25.0 vol %)
n-Hexadecane (37.5 vol %)
Isooctane (37.5 vol %)

REACH Statement

In an effort to ensure that all chemicals are tested and used in safe ways, the European Union has adopted a plan (REACH - Registration, Evaluation, Authorization and Restriction of Chemicals), which went into effect on June 1, 2007. This plan originated out of the desire to replace the patchwork of existing regulations in Europe with a more comprehensive law that encompasses all chemicals, including those placed on the market prior to 1981 when the industry did not have to provide documented health and safety information.

Listed below are the important dates outlined in the REACH directive.

June 1, 2007	The REACH Directive takes effect
June 1, 2008	Pre-registration for existing substances and Registration for new substances begins
November 30, 2008	Pre-registration for existing substances ends
December 1, 2008	Registration for existing substances that have not been pre-registered begins
January 1, 2009	List of pre-registered substances is published
June 1, 2009	First recommendation of priority substances to be considered for authorization published
December 1, 2010	PHASE 1 - The following pre-registered 'phase-in' substances should have been registered when supplied at:

≥ 1000 tons per year or;
≥ 100 tons per year and classified under CHIP as very toxic to aquatic organisms or;
≥ 1 ton per year and classified under CHIP as Category 1 or 2 carcinogens, mutagens or reproductive toxicants

June 1, 2013	PHASE 2 - Deadline for registration of substances supplied at ≥ 100 tons per year
June 1, 2018	PHASE 3 - Deadline for registration of substances supplied at ≥ 1 ton per year

AccuStandard fully supports the efforts and objectives of the REACH Directive and will continue to monitor any changes in the scope of this regulation. Changes may include newly banned substances, expiring exemptions or lowered maximum concentration levels. We will take the necessary actions to continue to sell our products in the European markets.

EUROPEAN COMMISSION
JOINT RESEARCH CENTRE

Institute for Reference Materials and Measurements
Reference Materials Unit

Geel, November 2008
D02 HE/mt D2008/28987

"...In short, the consequences for reference material producers seem to be:

● No registration of reference materials is required for materials produced at less than 1 ton per year, regardless of the nature of the substance and/or certified parameters."

As a leading manufacturer of chemical reference standards in the world, AccuStandard will take all necessary actions under REACH in order to continue to expand the supply of our products in Europe. For other guidance on REACH, please go to the ECHA-website (www.echa.europa.eu).

Regional Standards

Standards for International Testing Protocols

AccuStandard has researched and developed standard solutions that meet the requirements of various governmental bodies around the world. If you do not locate a solution that meets your requirements, please contact our Technical Department, and we will quickly develop a formulation that meets your requirements.

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For additional mixtures, see Persistent Organic Pollutants (POPs) in the Table of Contents.

Available at www.AccuStandard.com

Cross References are available at the AccuStandard web site for analytical standards for many general categories that cross chemical groups.

Endocrine Disruptors (EU and US)	Allergens	Dyes
	RoHS	Oeko-Tex Labeling

The text of methods from various governmental agencies and non-governmental agencies can be downloaded from the AccuStandard web site or from the agency sites.

EU Directives	EPA Methods

Also, new product listings can be found on the AccuStandard website as soon as they are available. Please visit the website often for the latest updates.

PCB Congeners

Toxicity and Abundance based PCB Congener Formulations
These formulations have been selected by the Institute for Biological Sciences of Canada. The concentration level for these formulations is selected so that 1 mL of standard diluted into 100 mL will show equal response by ECD.

PCB Congener Set
C-CAN-SET $ 150 / **4 x 1 mL (C-CAN-01, C-CAN-02, C-CAN-03, C-CAN-04)**

PCB Congener Mix #1
C-CAN-01 $ 45 / **1 x 1 mL**
At stated conc. in Isooctane 14 comps.

(Congener No.)	µg/mL
2,2',5-Trichlorobiphenyl (18)	11.8
2,4',5-Trichlorobiphenyl (31)	6.6
2,2',3,3'-Tetrachlorobiphenyl (40)	4.9
2,2',3,5'-Tetrachlorobiphenyl (44)	5.9
2,2',4,5'-Tetrachlorobiphenyl (49)	7.6
2,2',6,6'-Tetrachlorobiphenyl (54)	16.6
3,3',4,4'-Tetrachlorobiphenyl (77)	5.5
2,2',3,4,5-Pentachlorobiphenyl (86)	2.9
2,2',3,4,5'-Pentachlorobiphenyl (87)	3.8
2,3',4,5',6-Pentachlorobiphenyl (121)	3.1
2,2',4,4',5,5'-Hexachlorobiphenyl (153)	2.1
2,3,3',4,4',5-Hexachlorobiphenyl (156)	1.5
2,3,3',4,5,5'-Hexachlorobiphenyl (159)	1.2
Decachlorobiphenyl (209)	1.7

PCB Congener Mix #2
C-CAN-02 $ 45 / **1 x 1 mL**
At stated conc. in Isooctane 15 comps.

(Congener No.)	µg/mL
4,4'-Dichlorobiphenyl (15)	91.9
2,2',5,5'-Tetrachlorobiphenyl (52)	15.2
2,3,4,4'-Tetrachlorobiphenyl (60)	3.9
2,2',4,5',6-Pentachlorobiphenyl (103)	10.8
2,3,3',4,4'-Pentachlorobiphenyl (105)	4
2,2',3,3',4,4'-Hexachlorobiphenyl (128)	4.9
2,2',3,4,5,6'-Hexachlorobiphenyl (143)	5.7
2,2',4,4',5,6'-Hexachlorobiphenyl (154)	6.2
2,2',3,3',4,5,6-Heptachlorobiphenyl (173)	2.3
2,2',3,4,4',5,6'-Heptachlorobiphenyl (182)	3.8
2,2',3,3',5,5',6,6'-Octachlorobiphenyl (202)	3.6
2,3,3',4,4',5,5',6-Octachlorobiphenyl (205)	3.2
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl (207)	3.8
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (208)	2.4
Decachlorobiphenyl (209)	2.8

PCB Congener Mix #3
C-CAN-03 $ 45 / **1 x 1 mL**
At stated conc. in Isooctane 15 comps.

(Congener No.)	µg/mL
4,4'-Dichlorobiphenyl (15)	138.1
2,3,4,4',5-Pentachlorobiphenyl (114)	6.3
2,2',3,3',4,5-Hexachlorobiphenyl (129)	8.3
2,2',3,4,4',5-Hexachlorobiphenyl (137)	7.4
2,2',4,4',5,5'-Hexachlorobiphenyl (153)	7.3
2,2',3,3',4,4',6-Heptachlorobiphenyl (171)	5.2
2,2',3,4,4',5',6-Heptachlorobiphenyl (183)	6.6
2,2',3,4,5,5',6-Heptachlorobiphenyl (185)	3.5
2,3,3',4,4',5,5'-Heptachlorobiphenyl (189)	4.7
2,3,3',4,4',5',6-Heptachlorobiphenyl (191)	5
2,2',3,3',4,5',6,6'-Octachlorobiphenyl (201)	4.8
2,2',3,3',4,5,5',6'-Octachlorobiphenyl (199)	7
2,2',3,4,4',5,5',6-Octachlorobiphenyl (203)	5.1
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (206)	6.7
Decachlorobiphenyl (209)	5.1

PCB Congener Mix #4
C-CAN-04 $ 45 / **1 x 1 mL**
At stated conc. in Isooctane 15 comps.

(Congener No.)	µg/mL
4,4'-Dichlorobiphenyl (14)	76.7
2,2',4,5,5'-Pentachlorobiphenyl (101)	8.9
2,3',4,4',5-Pentachlorobiphenyl (118)	3.9
2,2',3,4,4',5'-Hexachlorobiphenyl (138)	4.2
2,2',3,4,5,5'-Hexachlorobiphenyl (141)	2.8
2,2',3,5,5',6-Hexachlorobiphenyl (151)	5
2,2',4,4',5,5'-Hexachlorobiphenyl (153)	3.3
2,2',3,3',4,4',5-Heptachlorobiphenyl (170)	3
2,2',3,4,4',5,5'-Heptachlorobiphenyl (180)	2.8
2,2',3,4',5,5',6-Heptachlorobiphenyl (187)	3.2
2,2',3,3',4,4',5,5'-Octachlorobiphenyl (194)	2.4
2,2',3,3',4,4',5,6-Octachlorobiphenyl (195)	2.6
2,2',3,3',4,4',5,6'-Octachlorobiphenyl (196)	3.3
2,2',3,3',4,5,5',6'-Octachlorobiphenyl (199)	3.6
Decachlorobiphenyl (209)	2.7

PCB Congener Formulation Quebec Ministry of Environment

PCB Congener Mix
C-QME-01 $ 125 / **1 x 1 mL**
At stated conc. in Isooctane 41 comps.

(Congener No.)	ng/mL
2,2',4-Trichlorobiphenyl (17)	500
2,2',5-Trichlorobiphenyl (18)	2000
2,4,4'-Trichlorobiphenyl (28)	2000
2,4',5-Trichlorobiphenyl (31)	1500
2',3,4-Trichlorobiphenyl (33)	2000
2,2',3,5'-Tetrachlorobiphenyl (44)	2000
2,2',4,5'-Tetrachlorobiphenyl (49)	2000
2,2',5,5'-Tetrachlorobiphenyl (52)	2000
2,3',4',5-Tetrachlorobiphenyl (70)	2000
2,4,4',5-Tetrachlorobiphenyl (74)	2000
2,2',3,3',4-Pentachlorobiphenyl (82)	500
2,2',3,4,5'-Pentachlorobiphenyl (87)	2000
2,2',3,5',6-Pentachlorobiphenyl (95)	1000
2,2',4,4',5-Pentachlorobiphenyl (99)	2000
2,2',4,5,5'-Pentachlorobiphenyl (101)	2000
2,3,3',4,4'-Pentachlorobiphenyl (105)	500
2,3,3',4',6-Pentachlorobiphenyl (110)	2000
2,3',4,4',5-Pentachlorobiphenyl (118)	2000
2,2',3,3',4,4'-Hexachlorobiphenyl (128)	2000
2,2',3,3',4,6'-Hexachlorobiphenyl (132)	1000
2,2',3,4,4',5'-Hexachlorobiphenyl (138)	2000
2,2',3,4',5',6-Hexachlorobiphenyl (149)	2000
2,2',3,5,5',6-Hexachlorobiphenyl (151)	2000
2,2',4,4',5,5'-Hexachlorobiphenyl (153)	2000
2,3,3',4,4',5-Hexachlorobiphenyl (156)	2000
2,3,3',4,4',6-Hexachlorobiphenyl (158)	500
3,3',4,4',5,5'-Hexachlorobiphenyl (169)	2000
2,2',3,3',4,4',5-Heptachlorobiphenyl (170)	2000
2,2',3,3',4,4',6-Heptachlorobiphenyl (171)	2000
2,2',3,3',4',5,6-Heptachlorobiphenyl (177)	2000
2,2',3,4,4',5,5'-Heptachlorobiphenyl (180)	2000
2,2',3,4,4',5',6-Heptachlorobiphenyl (183)	2000
2,2',3,4',5,5',6-Heptachlorobiphenyl (187)	2000
2,3,3',4,4',5',6-Heptachlorobiphenyl (191)	2000
2,2',3,3',4,4',5,5'-Octachlorobiphenyl (194)	2000
2,2',3,3',4,4',5,6-Octachlorobiphenyl (195)	2000
2,2',3,3',4,5,5',6'-Octachlorobiphenyl (199)	1500
2,3,3',4,4',5,5',6-Octachlorobiphenyl (205)	2000
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (206)	2000
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (208)	2000
Decachlorobiphenyl (209)	2000

Dioxins: Calibration & Window Defining Mixtures (Canadian Environmental Methods)

Custom Window Defining Mixture
D-WD $ 1,100 / **1 x 1 mL**
20,000 ng/mL in Toluene
D-WD-2.5X $ 2,000 / **1 x 1 mL**
50,000 ng/mL in Toluene 7 comps.

1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-*p*-dioxin (Isomer pair)
1,2,3,8,9-Pentachlorodibenzo-*p*-dioxin
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-*p*-dioxin (Isomer pair)
1,2,3,4,6,7-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,9-Heptachlorodibenzo-*p*-dioxin
Octachlorodibenzo-*p*-dioxin

Custom Calibration Mixture
D-CAL $ 900 / **1 x 1 mL**
20,000 ng/mL in Toluene
D-CAL-2.5X $ 1,600 / **1 x 1 mL**
50,000 ng/mL in Toluene 6 comps.

1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin
1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin
Octachlorodibenzo-*p*-dioxin

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

PAH Mixture
Quebec Ministry of Environment

PAH Standard

H-QME-01 $ 110 / **1 x 1 mL**
500 µg/mL each in CH_2Cl_2:Benzene (1:1)
24 comps

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[b]fluoranthene
Benzo[j]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[c]phenanthrene
Benzo[a]pyrene
Benzo[e]pyrene
Chrysene
Dibenz[a,h]anthracene
Dibenzo[a,h]pyrene
Dibenzo[a,i]pyrene
Dibenzo[a,l]pyrene
7,12-Dimethylbenz[a]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
3-Methylcholanthrene
Naphthalene
Phenanthrene
Pyrene

Petroleum Brownfield Regulation

The Brownfield Regulation has been approved by the Canadian Ministry of the Environment as of October 1, 2004.

Light Petroleum Fraction

CCME-LPF-SET $ 95 / **5 x 1 mL**
At stated conc. (µg/mL) in MeOH 8 comps.

Compound	0.05X	0.1X	0.2X	0.5X	1X
n-Decane	12.5	25	50	125	250
n-Hexane	12.5	25	50	125	250
Toluene	12.5	25	50	125	250
Benzene	12.5	25	50	125	250
o-Xylene	12.5	25	50	125	250
m-Xylene	6.25	12.5	25	62.5	125
p-Xylene	6.25	12.5	25	62.5	125
Ethylbenzene	12.5	25	50	125	250

Medium & Heavy Petroleum Fraction

CCME-MHPF-SET $ 75 / **3 x 1 mL**
At stated conc. (µg/mL) in n-Hexane 3 comps.

Compound	0.1X	0.5X	1X
n-Decane	40	200	400
n-Hexadecane	40	200	400
n-Tetratriacontane	40	200	400

Performance Check Standard

CCME-QC $ 45 / **1 x 1 mL**
CCME-QC-PAK $ 180 / **5 x 1 mL**
40 µg/mL each in n-Hexane:Cyclohexane (1:1)
2 comps.

n-Pentacontane
n-Tetracontane

Spike Standard

CCME-SPIKE $ 30 / **1 x 1 mL**
2500 µg/mL each in n-Hexane 2 comps.

SAE 30W Motor Oil - Non-Detergent Formula
#2 Diesel Fuel - 50% Weathered

Canadian Drinking Water Brownfield Regulation

Phenoxyacid Herbicides Mix

CCME-CDW-PHERB $ 45 / **1 x 1 mL**
1000 µg/mL each in Acetone 11 comps.

Bromoxynil
2,4-D
Dicamba
2,4-Dichlorophenol
Diclofop methyl
Dinoseb
Pentachlorophenol
Picloram
2,4,5-T
2,3,4,6-Tetrachlorophenol
2,4,6-Trichlorophenol

Carbamates Mix

CCME-CDW-CARB $ 30 / **1 x 1 mL**
100 µg/mL each in AcCN 5 comps.

Aldicarb
Bendiocarb
Carbaryl
Carbofuran
Triallate

Chlorinated Pesticide Mix

CCME-CDW-CPEST $ 40 / **1 x 1 mL**
200 µg/mL each in Hexane:Toluene (1:1)
14 comps.

Aldrin
g-BHC
a-Chlordane
g-Chlordane
2,4'-DDE
4,4'-DDE
2,4'-DDT
4,4'-DDT
Dieldrin
Heptachlor
Heptachlor epoxide (Isomer B)
Methoxychlor
Oxychlordane Isomer
Trifluralin

MISA Analytical Test Groups

Set **MISA-VH-1/VH-2-SET** $ 60 / **2 x 1 mL (MISA-VH-1, MISA-VH-2)**

Group 16: Volatiles, Halogenated

MISA-VH-1 $ 40 / **1 x 1 mL**
MISA-VH-1-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
0.5 mg/mL each in MeOH 22 comps.

Bromoform	*trans*-1,2-Dichloroethene
Carbon tetrachloride	1,1-Dichloroethene
Chlorobenzene	1,2-Dichloropropane
Chloroform	*cis*-1,3-Dichloropropene*
Dibromochloromethane	*trans*-1,3-Dichloropropene**
1,2-Dibromoethane	Methylene chloride
1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
1,3-Dichlorobenzene	Tetrachloroethene
1,4-Dichlorobenzene	1,1,1-Trichloroethane
1,2-Dichloroethane	1,1,2-Trichloroethane
1,1-Dichloroethane	Trichloroethene

* cis (1.06 x conc.)
** trans (0.94 x conc.)

MISA-VH-2 $ 25 / **1 x 1 mL**
MISA-VH-2-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
0.5 mg/mL each in MeOH 5 comps.

Bromomethane	Trichlorofluoromethane
Chloroethane	Vinyl chloride
Chloromethane	

Group 17: Volatiles, Non-Halogenated

MISA-VNH $ 30 / **1 x 1 mL**
MISA-VNH-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.5 mg/mL each in MeOH 7 comps.

Benzene	*o*-Xylene
Ethylbenzene	*m*-Xylene
Styrene	*p*-Xylene
Toluene	

Group 18: Volatiles, Water Soluble

MISA-VWS $ 15 / **1 x 1 mL**
2.0 mg/mL each in Water 2 comps.

Acrolein	Acrylonitrile

Group 19: Extractables, Base-Neutral

Z-014G $ 65 / **1 x 1 mL**
Z-014G-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2: Benzene (1:1) 16 comps.

Acenaphthene	Chrysene
Acenaphthylene	Dibenz[a,h]anthracene
Anthracene	Fluoranthene
Benz[a]anthracene	Fluorene
Benzo[a]pyrene	Indeno[1,2,3-cd]pyrene
Benzo[b]fluroanthene	Naphthalene
Benzo[ghi]perylene	Phenanthrene
Benzo[k]fluoranthene	Pyrene

MISA-BN-1 $ 35 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 8 comps.

Biphenyl	1-Methylnaphthalene
Camphene	2-Methylnaphthalene
1-Chloronaphthalene	5-Nitroacenaphthene
2-Chloronaphthalene	Perylene

MISA-BN-2 $ 35 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 8 comps.

Benzylbutylphthalate	4-Chlorophenyl phenyl ether
4-Bromophenyl phenyl ether	Di-n-butyl phthalate
bis(2-Chloroethyl)ether	Di-n-octyl phthalate
bis(2-Chloroisopropyl)ether	bis(2-Ethylhexyl)phthalate

MISA-BN-3 $ 35 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 8 comps.

bis(2-Chloroethoxy)methane	Diphenylether
2,4-Dinitrotoluene	Indole
2,6-Dinitrotoluene	N-Nitroso-diphenylamine
Diphenylamine	N-Nitroso-di-*n*-propyl amine

Group 20: Extractables, Acid (Phenolics)

MISA-A $ 60 / **1 x 1 mL**
MISA-A-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 20 comps.

4-Chloro-3-methylphenol	4-Nitrophenol
2-Chlorophenol	Pentachlorophenol
2-Cresol	Phenol
3-Cresol	2,3,4,5-Tetrachlorophenol
4-Cresol	2,3,4,6-Tetrachlorophenol
2,4-Dichlorophenol	2,3,5,6-Tetrachlorophenol
2,6-Dichlorophenol	2,3,4-Trichlorophenol
2,4-Dimethylphenol	2,3,5-Trichlorophenol
4,6-Dinitro-2-cresol	2,4,5-Trichlorophenol
2,4-Dinitrophenol	2,4,6-Trichlorophenol

Group 22: Organochlorine Pesticides

MISA-PEST $ 75 / **1 x 1 mL**
MISA-PEST-PAK *SAVE 20%* $ 300 / **5 x 1 mL**
2.0 mg/mL each in Acetone 18 comps.

Aldrin	Endosulfan I
α-BHC	Endosulfan II
β-BHC	Endosulfan sulfate
γ-BHC	Endrin
δ-BHC	Endrin aldehyde
4,4'-DDD	Endrin ketone
4,4'-DDE	Heptachlor
4,4'-DDT	Heptachlor epoxide isomer B
Dieldrin	Methoxychlor

Group 23: Extractables, Chlorinated Neutrals

MISA-NC $ 40 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 12 comps.

Hexachlorobenzene	1,2,3,4-Tetrachlorobenzene
Hexachlorobutadiene	1,2,3,5-Tetrachlorobenzene
Hexachlorocyclopentadiene	1,2,4,5-Tetrachlorobenzene
Hexachloroethane	1,2,3-Trichlorobenzene
Octachlorostyrene	1,2,4-Trichlorobenzene
Pentachlorobenzene	2,4,5-Trichlorotoluene

Group 27: Polychlorinated Biphenyls

Solutions and Sets

Each at 35 µg/mL	Isooctane	MeOH	Price / 1 mL
Aroclor 1016	C-216S	C-216S-M	$ 15
Aroclor 1221	C-221S	C-221S-M	15
Aroclor 1232	C-232S	C-232S-M	15
Aroclor 1242	C-242S	C-242S-M	15
Aroclor 1248	C-248S	C-248S-M	15
Aroclor 1254	C-254S	C-254S-M	15
Aroclor 1260	C-260S	C-260S-M	15
Aroclor 1262	C-262S	C-262S-M	15
Aroclor 1268	C-268S	C-268S-M	15
Set of 9 above	**Z-008S-SET** $ 78	**Z-008S-M-SET**	$ 78

Neat Set

Z-008-SET $ 78 / **Set of 9 vials**

Aroclor 1016)	100 mg
Aroclor 1221	100 mg
Aroclor 1232	10 mg
Aroclor 1242	100 mg
Aroclor 1248	10 mg
Aroclor 1254	100 mg
Aroclor 1260	10 mg
Aroclor 1262	10 mg
Aroclor 1268	10 mg

PCB Congener Standards

PCB Congener Mixture

PCB-W22 $ 35 / **1 x 1 mL**
10 µg/mL each in Isooctane 15 comps.
PCB-W22-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
PCB-W22-SET $ 225 / **15 x 1 mL**
100 µg/mL in Isooctane (Set of Individual Solutions)

No.	
18	2,2',5-Trichlorobiphenyl (01)
20	2,3,3'-Trichlorobiphenyl (02)
28	2,4,4'-Trichlorobiphenyl (03)
31	2,4',5-Trichlorobiphenyl (04)
44	2,2',3,5'-Tetrachlorobiphenyl (05)
52	2,2',5,5'-Tetrachlorobiphenyl (06)
101	2,2',4,5,5'-Pentachlorobiphenyl (07)
105	2,3,3',4,4'-Pentachlorobiphenyl (08)
118	2,3',4,4',5-Pentachlorobiphenyl (09)
138	2,2',3,4,4',5'-Hexachlorobiphenyl (10)
149	2,2',3,4',5',6-Hexachlorobiphenyl (11)
153	2,2',4,4',5,5'-Hexachlorobiphenyl (12)
170	2,2',3,3',4,4',5-Heptachlorobiphenyl (13)
180	2,2',3,4,4',5,5'-Heptachlorobiphenyl (14)
194	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (15)

Internal Standard

C-EU-IS-10ML $ 75 / **1 x 10 mL**
At stated conc. in Isooctane 2 comps.

2,4,6-Trichlorobiphenyl
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl

ISO 6468 PCB Standard

ISO6468-PCB $ 35 / **1 x 1 mL**
10 µg/mL each in Hexane 7 comps.

2,4,4'-Trichlorobiphenyl
2,2',5,5'-Tetrachlorobiphenyl
2,2',4,5,5'-Pentachlorobiphenyl
2,2',3,4,4',5'-Hexachlorobiphenyl
2,2',4,4',5,5'-Hexachlorobiphenyl
2,2',3,4,4',5,5'-Heptachlorobiphenyl
2,2',3,3',4,4',5,5'-Octachlorobiphenyl

PCB Congener Content Evaluation Mix #1

AE-00059 $ 25 / **1 x 1 mL**
AE-00059-10ML $ 95 / **1 x 10 mL**
10 µg/mL each in Isooctane 6 comps.

No.	
28	2,4,4'-Trichlorobiphenyl
52	2,2',5,5'-Tetrachlorobiphenyl
101	2,2',4,5,5'-Pentachlorobiphenyl
138	2,2',3,4,4',5'-Hexachlorobiphenyl
153	2,2',4,4',5,5'-Hexachlorobiphenyl
180	2,2',3,4,4',5,5'-Heptachlorobiphenyl

PCB Congener Content Evaluation Mix #2

AE-00060 $ 30 / **1 x 1 mL**
AE-00060-10ML $ 95 / **1 x 10 mL**
10 µg/mL each in Isooctane 3 comps.

No.	
77	3,3',4,4'-Tetrachlorobiphenyl
126	3,3',4,4'5-Pentachlorobiphenyl
169	3,3',4,4'5,5'-Hexachlorobiphenyl

Congener Calibration Mix #27

AE-00081-10ML $ 325 / **1 x 1 mL**
100 µg/mL each in Isooctane 10 comps.

2,4,4'-Trichlorobiphenyl
2,2',5,5'-Tetrachlorobiphenyl
2,2',4,5,5'-Pentachlorobiphenyl
2,3,3',4,4'-Pentachlorobiphenyl
2,3',4,4',5-Pentachlorobiphenyl
2,2',3,4,4',5'-Hexachlorobiphenyl
2,2',4,4',5,5'-Hexachlorobiphenyl
2,3,3',4,4',5-Hexachlorobiphenyl
2,2',3,4,4',5,5'-Heptachlorobiphenyl
Decachlorobiphenyl

Congener Calibration Mix

AE-00061 $ 35 / **1 x 1 mL**
AE-00061-10ML $ 180 / **1 x 10 mL**
10 µg/mL each in Isooctane 14 comps.

No.	
18	2,2',5-Trichlorobiphenyl
28	2,4,4'-Trichlorobiphenyl
31	2,4',5-Trichlorobiphenyl
44	2,2',3,5'-Tetrachlorobiphenyl
52	2,2',5,5'-Tetrachlorobiphenyl
101	2,2',4,5,5'-Pentachlorobiphenyl
118	2,3',4,4',5-Pentachlorobiphenyl
138	2,2',3,4,4',5'-Hexachlorobiphenyl
149	2,2',3,4',5',6-Hexachlorobiphenyl
153	2,2',4,4',5,5'-Hexachlorobiphenyl
170	2,2',3,3',4,4',5-Heptachlorobiphenyl
180	2,2',3,4,4',5,5'-Heptachlorobiphenyl
194	2,2',3,3',4,4',5,5'-Octachlorobiphenyl
209	Decachlorobiphenyl

Internal Standards

Each in 100 µg/mL in Isooctane

C-030S-TP $ 15 / **1 x 1 mL**
2,4,6-Trichlorobiphenyl
C-209S-TP $ 15 / **1 x 1 mL**
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl

Technical Note

These Congener Content Evaluation Mixes have proven useful for European Laboratories estimating the PCB content of a sample when following EU guideline 96/59/EU for cleanup of PCBs.

Custom Standards

When you have a need for unique Analytical Standards, let the experts at AccuStandard assist in designing your formulation. Our technical group, with over 80 years of combined analytical experience, will review your request, suggest the most economical and stable formulation, and provide pricing all within 24 hours.

Volatiles

DIN 38407-2 Benzene Standard

Determination of water, waste water and sludge for low volatile halogenated hydrocarbons by GC.

DIN38407-2-BENZ $ 20 / **1 x 1 mL**

10 µg/mL each in n-Hexane 5 comps.

Hexachlorobenzene
Pentachlorobenzene
Pentachloronitrobenzene
1,2,4,5-Tetrachlorobenzene
1,2,4-Trichlorobenzene

Volatile Standard

AE-00048 $ 25 / **1 x 1 mL**

100 µg/mL each in MeOH 5 comps.

1,1,1-Trichloroethane
Trichloroethene
Tetrachloroethene
Dichloromethane
Tetrachloromethane

Calibration Solution

Set of 5 ampules with a conc. each in MeOH of 1 µg/mL, 5 µg/mL, 10 µg/mL, 50 µg/mL and 100 µg/mL

Compound	Cat. No.	Price / Unit
1,1,1-Trichloroethane	AE-00034-CAL-SET	$ 45 / 5 x 1 mL
Trichloroethene	AE-00035-CAL-SET	45 / 5 x 1 mL
Tetrachloroethene	AE-00036-CAL-SET	45 / 5 x 1 mL
Dichloromethane	AE-00037-CAL-SET	45 / 5 x 1 mL
Carbon tetrachloride	AE-00038-CAL-SET	45 / 5 x 1 mL

DIN 38407-9 Benzene Mix

Determination of Benzene and Benzene derivatives in water, wastewater and sludge by GC.

DIN38407-9-BENZ $ 22 / **1 x 1 mL**

100 µg/mL each in MeOH 8 comps.

Benzene
Toluene
Ethylbenzene
Chlorobenzene
1,4-Dichlorobenzene
o-Xylene
m-Xylene
p-Xylene

DIN EN ISO 10301 - Halogenated VOCs

Determination of water, waste water and sludge for low volatile halogenated hydrocarbons by GC.

DINENISO-10301 $ 35 / **1 x 1 mL**

1 µg/mL each in MeOH 17 comps.

Dichloromethane
Trichloromethane
Carbon tetrachloride
1,1-Dichloroethane
1,2-Dichloroethane
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Tetrachloroethene
1,2-Dichloropropane
1,3-Dichloropropane
1,3-Dichloropropene
Dibromomethane
Tribromoethene
Bromochloromethane
Bromodichloromethane
Dibromochloromethane

Volatiles Calibration Curve Mix 1

AE-00039-CAL-SET $ 60 / **5 x 1 mL**

1 µg/mL, 5 µg/mL, 10 µg/mL, 50 µg/mL, 100 µg/mL each comp. in MeOH 5 comps.

Dichloromethane
Tetrachloroethene
Tetrachloromethane
1,1,1-Trichloroethane
Trichloroethene

Volatiles Calibration Curve Mix 2

AE-00040-CAL-SET $ 70 / **5 x 1 mL**

1 µg/mL, 5 µg/mL, 10 µg/mL, 50 µg/mL, 100 µg/mL each comp. in MeOH 6 comps.

Chloroform
Dichloromethane
Tetrachloroethene
Tetrachloromethane
1,1,1-Trichlorothane
Trichloroethene

Chlorinated Organic Volatile

Calibration Standards

Appendix 2, Drinking Water Regulation of May 22, 1986.

Each at 100 µg/mL in MeOH

Compound	Cat. No.	Price / 1 mL
1,1,1-Trichloroethane	APP-9-202	$ 12
Trichloroethene	APP-9-204	12
Tetrachloroethene	APP-9-194	12
Dichloromethane	APP-9-074	12
Carbon tetrachloride	APP-9-036	12

Nitroaromatic Compounds

DIN-38407-17 Nitroaromatic Compounds

Examination of water, wastewater, and sludge for the determination of selected nitroaromatic compounds by Gas-Liquid Chromatography

DIN38407-17 $ 68 / **1 x 1 mL**

500 µg/mL each in MeOH 12 comps.

Nitrobenzene
2-Nitrotoluene
4-Nitrotoluene
1,3-Dinitrobenzene
2,6-Dinitrotoluene
2,4-Dinitrotoluene
3,4-Dinitrotoluene
2-Amino-6-nitrotoluene
4-Amino-2-nitrotoluene
4-Amino-2,6-dinitrotoluene
2-Amino-4,6-dinitrotoluene
2,4,6-Trinitrotoluene

Explosives

DIN 38407-21 Explosives

Examination of water, wastewater, and sludge for determination of selected explosives and related compounds by HPLC with UV detection

DIN38407-21-A $ 95 / **1 x 1 mL**

10 µg/mL each in MeOH 12 comps.

Picric acid
HMX
RDX
Tetryl
EGDN
DEGDN
Nitroglycerin
TNT
2-Nitrotoluene
PETN
4-Nitrotoluene
3-Nitrotoluene

DIN 38407-21 Related Compounds

Examination of water, wastewater, and sludge for determination of selected explosives and related compounds by HPLC with UV detection

DIN38407-21-B $ 65 / **1 x 1 mL**

10 µg/mL each in MeOH:AcCN (98:2) 8 comps.

1,3,5-Trinitrobenzene
1,3-Dinitrobenzene
4-Amino-2,6-dinitrotoluene
2,2',4,4',6,6'-Hexanitrodiphenylamine
2-Amino-4,6-dinitrotoluene
2,6-Dinitrotoluene
2,4-Dinitrotoluene
Diphenylamine

PAHs

DIN 38407-8 PAH Mix (WHO 6 List)

Determination of PAH in water, wastewater and sludge by HPLC.

DIN38407-8-PAH $ 15 / **1 x 1 mL**
2 µg/mL each in Acetonitrile 6 comps.

Fluoranthene	Benzo(a)pyrene
Benzo(b)fluoranthene	Benzo(k)fluoranthene
Benzo(g,h,i)perylene	Indeno(1,2,3-cd)pyrene

DIN 38407-18 PAH Solution

Examination of water, wastewater, and sludge for the determination of 15 polycyclic aromatic hydrocarbons (PAH) by HPLC with fluorescence detection.

DIN38407-18 $ 45 / **1 x 1 mL**
10 µg/mL each in Acetonitrile 15 comps.

Naphthalene	Benzo(k)]fluoranthene
Acenaphthene	Benzo(a)pyrene (Ames grade)
Fluorene	Dibenz(a,h)anthracene
Phenanthrene	Benzo(g,h,i)perylene
Anthracene	Pyrene
Fluoranthene	Benz(a)anthracene
Chrysene	Indeno(1,2,3-cd)pyrene
Benzo(b)fluoranthene	

DIN 38414-23 PAHs

Determination of 15 PAHs in water, waste water and sludge by HPLC and Fluorescence detection.

DIN38414-23 $ 45 / **1 x 1 mL**
10 µg/mL each in Acetonitrile 15 comps.

Naphthalene	Benzo(k)fluoranthene
Acenaphthene	Benzo(a)pyrene (Ames grade)
Fluorene	Dibenz(a,h)anthracene
Phenanthrene	Benzo(g,h,i)perylene
Anthracene	Pyrene
Fluoranthene	Benz(a)anthracene
Chrysene	Indeno(1,2,3-cd)pyrene
Benzo(b)fluoranthene	

PAH Standard Kits and Solutions

The following mixtures and kits have been prepared to meet the needs of laboratories utilizing European and USEPA methodologies.
Minimum purity 99%, except where indicated.

PAH Mix #1

Regulations for drinking water analysis, (E-DIN 38407-F-18, E-DIN 38414-F-21).
Regulations for sediment and sludge

AE-00025 $ 48 / **1 x 1 mL**
AE-00025-10ML $ 240 / **1 x 10 mL**
At stated conc. in Acetonitrile 16 comps.

Acenaphthene	(25 µg/mL)	Chrysene	(20 µg/mL)
Acenaphthylene	(25 µg/mL)	Dibenz[a,h]anthracene	(40 µg/mL)
Anthracene	(25 µg/mL)	Fluoranthene	(40 µg/mL)
Benz[a]anthracene	(10 µg/mL)	Fluorene	(40 µg/mL)
Benzo[b]fluoranthene	(25 µg/mL)	Indeno[1,2,3-cd]pyrene	(25 µg/mL)
Benzo[k]fluoranthene	(10 µg/mL)	Naphthalene	(50 µg/mL)
Benzo[g,h,i]perylene	(25 µg/mL)	Phenanthrene (98%)	(30 µg/mL)
Benzo[a]pyrene	(20 µg/mL)	Pyrene	(40 µg/mL)

PAH Mix #2

For European methods according to customer requests.

AE-00045 $ 16 / **1 x 1 mL**
AE-00045-10ML $ 80 / **1 x 10 mL**
At stated conc. in Acetonitrile 7 comps.

Benzo[b]fluoranthene	(2 µg/mL)	Fluoranthene	(10 µg/mL)
Benzo[k]fluoranthene	(2 µg/mL)	Indeno[1,2,3,cd]pyrene	(2 µg/mL)
Benzo[g,h,i]perylene	(2 µg/mL)	Perylene	(10 µg/mL)
Benzo[a]pyrene	(2 µg/mL)		

PAH Mix #3

German method for drinking water analysis.

AE-00032 $ 20 / **1 x 1 mL**
AE-00032-10ML $ 100 / **1 x 10 mL**
10 µg/mL each in Acetonitrile 7 comps.

Benzo[b]fluoranthene	Fluoranthene
Benzo[k]fluoranthene	Indeno[1,2,3,cd]pyrene
Benzo[g,h,i,]perylene	Perylene
Benzo[a]pyrene	

PAH Mix #4

For European methods according to customer requests.

AE-00033 $ 24 / **1 x 1 mL**
AE-00033-10ML $ 120 / **1 x 10 mL**
In Acetonitrile 7 comps.

Benzo[b]fluoranthene	(20 µg/mL)	Fluoranthene	(50 µg/mL)
Benzo[k]fluoranthene	(20 µg/mL)	Indeno[1,2,3,cd]pyrene	(40 µg/mL)
Benzo[g,h,i,]perylene	(20 µg/mL)	Perylene	(20 µg/mL)
Benzo[a]pyrene	(20 µg/mL)		

ISO/DIS 22032 PBDEs in Sediment & Sludge

DRAFT INTERNATIONAL STANDARD
ISO/DIS 22032 Calibration Curve Set

ISO/DIS-22032-SET $ 475 / **7 x 1 mL**
At stated conc. (ng/mL) in Isooctane 8 comps. each

(Congener No.) ISO/DIS-22032	01	02	03	04	05	06	07
2,2',4,4'-Tetrabromodiphenyl ether (#47)	5	12.5	25	50	100	150	250
2,2',4,4',5-Pentabromodiphenyl ether (#99)	5	12.5	25	50	100	150	250
2,2',4,4',6-Pentabromodiphenyl ether (#100)	5	12.5	25	50	100	150	250
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)	5	12.5	25	50	100	150	250
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)	5	12.5	25	50	100	150	250
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)	5	12.5	25	50	100	150	250
2,3,3',4,4',5,5',6-Octabromodiphenyl ether (#205)	5	12.5	25	50	100	150	250
2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether (#209)	25	50	100	200	500	700	1000

Internal Standard for BDE# 47, 99 and 100

ISO22032-IS-1-5ML $ 50/**1 x 5 mL**
ISO22032-IS-1-10ML $ 75/**1 x 10 mL**
100 ng/mL each in Isooctane

3,3',4,4'-Tetrabromodiphenyl ether

Internal Standard for BDE# 153, 154 and 183

ISO22032-IS-2-5ML $ 50/**1 x 5 mL**
ISO22032-IS-2-10ML $ 75/**1 x 10 mL**
100 ng/mL each in Isooctane

2,2',3,4,4',5,6-Heptabromodiphenyl ether

Aliphatic, Aromatic Amines and Derivatives

Aryl Amine Multi-Componet Solution

AE-00049-SET — $ 55 / **2 x 1 mL**
10 µg/mL each in Ethyl acetate — 24 comps. (Includes AE-00049-R1 plus RAC-08)

AE-00049-R1 — $ 45 / **1 mL**
10 µg/mL each in Ethyl acetate — 23 comps.

o-Aminoazotoluene
4-Aminobiphenyl
2-Amino-4-nitrotoluene
Benzidine
4-Chloroaniline
4-Chloro-*o*-toluidine
p-Cresidine
4,4'-Diaminodiphenylmethane
2,4-Diaminotoluene
3,3'-Dichlorobenzidine
3,3'-Dimethoxybenzidine
3,3'-Dimethylbenzidine
3,3'-Dimethyl-4,4'-diaminodiphenylmethane
4,4'-Methylenebis(2-chloroaniline)
2-Naphthylamine
4,4'-Oxydianiline
4,4'-Thiodianiline
o-Toluidine
2,4,5-Trimethylaniline
p-Aminoazobenzene
2-Aminobiphenyl
o-Anisidine
3-Chloro-*o*-toluidine

RAC-08 — $ 25 / **1 mL**
100 µg/mL each in Pyride

2,4-Diaminoanisole

Halo Acetic Acids

DIN 38407-25 Selected Halo Acetic Acids

DIN38407-25 — $ 45 / **1 x 1 mL**
10 µg/mL in MtBE — 7 comps.

Bromochloroacetic acid
Dalapon
Dibromoacetic acid
Dichloroacetic acid
Bromoacetic acid
Chloroactic acid
Trichloroacetic acid

EFSA for Isopropylthioxanthone (ITX)

Responding to the hazard found in Italy, France, Spain, and Portugal, we have formulated Isopropylthioxanth-9-one (a photographical chemical) found in baby milk in Italy. The 2-isomer as well as the technical mixture also contains the 4-isomer.

2-Isopropylthioxanthone (ITX)

EFSA-ITX-01 — $ 45 / **1 x 1 mL**
1.0 mg/mL in Isooctane

2-Isopropylthioxanth-9-one

Isopropylthioxanthone (ITX) Mixed Isomers

EFSA-ITX-02 — $ 25 / **1 x 1 mL**
1.0 mg/mL in Isooctane

2- and 4- Isopropylthioxanth-9-one

Pesticide Standards

The following Pesticide Standards are for German Regulations - For residue thresholds. Swiss Regulations - For components and contaminants in food. DFG collected methods.

Pesticide / Congener Mix #1

AE-00010 $ 64 / **1 x 1 mL**
AE-00010-10ML $ 320 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene 31 comps.

2,4,4'-Trichlorobiphenyl	1
2,2',5,5'-Tetrachlorobiphenyl	1
2,2',4,5,5'-Pentachlorobiphenyl	1
2,2',3,4,4',5'-Hexachlorobiphenyl	1
2,2',4,4',5,5'-Hexachlorobiphenyl	1
2,2',3,4,4',5,5'-Heptachlorobiphenyl	1
Aldrine	10
cis-Chlordane	10
trans-Chlordane	10
oxy-Chlordane	10
o,p'-DDD	10
p,p'-DDD	10
o,p'-DDE	10
p,p'-DDE	10
o,p'-DDT	10
p,p'-DDT	10
Dieldrine	10
Endosulfan I	10
Endosulfan II	10
Endrine	10
α-HCH	10
β-HCH	10
γ-HCH	10
δ-HCH	10
Heptachlor	10
cis-Heptachlorepoxide	10
trans-Heptachlorepoxide	10
Hexachlorbenzene	10
Isodrin	10
Methoxychlor	10
Mirex	10

Pesticide Mix #2

AE-00011 $ 62 / **1 x 1 mL**
AE-00011-10ML $ 310 / **1 x 10 mL**
10 µg/mL each in Toluene 22 comps.

Anilazine	Tecnacene
Captan	Tetradifon
Chlorthalonil	Tetrasul
Clorfenson	Tridiamefon
Dichlofluanid	Tridiamenol
Dicofol	Trifluarin
Endosulfane-sulfate	Pentachloroaniline
Fenson	Procymidon
Folpet	Propyzamid
Imazalil	Quintozen
Iprodion	Vinclozolin

Pesticide Mix #3

AE-00012 $ 32 / **1 x 1 mL**
AE-00012-10ML $ 160 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene 10 comps.

Captafol	200
Captan	100
Demethon-S-methyl	500
Demethon-S-methyl-sulfone	500
Dicofol	200
Pentachlorophenol	100
Tetrachlorvinphos	10
Trichlorfon	100
Tolyfluanid	100
Vamidithion	200

Pesticide Mix #4

AE-00013 $ 25 / **1 x 1 mL**
AE-00013-10ML $ 125 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene 5 comps.

Cyproconazole	500
Hexaconazole	500
Penconazole	500
Tebuconazole	500
Tetrachlorvinphos	10

Pesticide Mix #5

AE-00014 $ 25 / **1 x 1 mL**
AE-00014-10ML $ 125 / **1 x 10 mL**
At stated conc. (µg/mL) in Ethyl acetate 8 comps.

Atrazine	200
Cyanazine	200
Desmertryn	500
Metribuzin	500
Prometryne	500
Simazine	200
Terbutryn	500
Tetrachlorvinphos	10

Tetrachlorvinphos Surrogate / Internal Standard

AE-00047 $ 20 / **1 x 1 mL**
1000 µg/mL in Acetonitrile

Tetrachlorvinphos

Pesticide Mix #6

AE-00015 $ 30 / **1 x 1 mL**
AE-00015-10ML $ 150 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene 8 comps.

Chlorpyriphos-methyl	100
Diazinon	100
Ethion	100
Etrimfos	50
Iodofenphos	200
Malathion	100
Phosphamidon	200
Tetrachlorvinphos	10

Pesticide Mix #7

AE-00016 $ 30 / **1 x 1 mL**
AE-00016-10ML $ 150 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene 8 comps.

Bromophos-methyl	100
Bromophos-ethyl	150
Fenitrothion	200
Methacryfos	150
Omethoate	150
Phosalone	100
Tetrachlorvinfos	10
Tolclofos-methyl	100

Pesticide Mix #8

AE-00017 $ 25 / **1 x 1 mL**
AE-00017-10ML $ 125 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene:Acetone:Hexane (18:1:1) 6 comps.

Chlorbufam	500
Chlorpropham	500
Dichlobenil	200
Imazalil	500
Pyrazon	500
2,3,5,6-Tetrachloronitrobenzene	100

Pesticide Mix #9

AE-00018 $ 36 / **1 x 1 mL**
AE-00018-10ML $ 180 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene 9 comps.

Azinophos-ethyl	100
Fenchlorvos	100
Fonophos	150
Methidathion	100
Mevinphos	200
Parathion-ethyl	150
Parathion-methyl	100
Pirimiphos-methyl	100
Tetrachlorvinphos	10

Pesticide Mix #10

AE-00019 $ 26 / **1 x 1 mL**
AE-00019-10ML $ 130 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene 7 comps.

Benalaxyl	500
Carbaryl	500
Oxadixyl	500
Terbuthylazine	250
Tetrachlorvinphos	10
Triadimefon	500
Triadimenol	500

Pesticide Standards continued on next page

Pesticide Standards

The following Pesticide Standards are for German Regulations - For residue thresholds. Swiss Regulations - For components and contaminants in food. DFG collected methods.

Pesticide Mix #11

AE-00020 $ 80 / **1 x 1 mL**
AE-00020-10ML $ 400 / **1 x 10 mL**
10 µg/mL each in Toluene 19 comps.

Aldrin	β-HCH
Chloridazon	γ-HCH
o,p'-DDD	δ-HCH
p,p'-DDD	Heptachlor
o,p'-DDE	cis-Heptachlorepoxide
p,p'-DDE	trans-Heptachlorepoxide
o,p'-DDT	Hexachlorobenzene
p,p'-DDT	Tecnacene
Endrin	Tetrachlorvinphos
α-HCH	

Pesticide Mix #12

AE-00021 $ 36 / **1 x 1 mL**
AE-00021-10ML $ 180 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene 9 comps.

Carbophenthion	100
Disulfoton	150
Fenthion	100
Methamidophos	100
Phorate	150
Phorate-sulfatone	100
Phorate-sulfone	150
Tetrachlorvinphos	10
Thiomethon	100

Pesticide Mix #13

AE-00022 $ 30 / **1 x 1 mL**
AE-00022-10ML $ 150 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene 8 comps.

Chlorfenvinphos (CFVP)	100
Chlorpyriphos	100
Dichlorvos	100
Dimethoate	100
Heptenophos	100
Quinalphos	100
Tetrachlorvinphos	10
Triazophos	100

Pesticide Mix #14

AE-00023 $ 34 / **1 x 1 mL**
AE-00023-10ML $ 170 / **1 x 10 mL**
At stated conc. (µg/mL) in Toluene 10 comps.

Cyfluthrin	500
λ-Cyhalothrin	500
Cypermethrin	500
Deltamethrin	500
Dichloran	100
Fenvalerate	500
Pendimethalin	100
Permethrin	500
Tefluthrin	100
Tetrachlorvinphos	10

Regulations for drinking water and water used in food manufacturing, May 27, 1986, BGBI, I,S. 760.

Pesticide Mix #15

AE-00024 $ 84 / **1 x 1 mL**
AE-00024-10ML $ 420 / **1 x 10 mL**
0.02 µg/mL each in Ethyl acetate 33 comps.

Atrazine	Linuron
Bifenox	Pencycuron
Bromacil	Pendimethalin
Carbetamide	Prometryne
Chloridazo	Propazine
Chloroxuron	Metamitron
Chlorpropham	Metazachlor
Chlortoluron	Methabenzthiazuron
Crimidine	Methoprotryne
Cyanazine	Metobromuron
Desethylatrazine	Metolachlor
Desisopropylatrazine	Monolinuron
Desethylterbuthylazine	Sebuthylazin
Dimefuron	Simazine
Diuron	Terbutryn
Isoproturon	Terbuthylazine
Karbutilate	

Regulations for drinking water analysis, (E-DIN 38407-F-18, E-DIN 38414-F-21) Regulations for sediment and sludge.

Pesticide Mix #16

AE-00030 $ 44 / **1 x 1 mL**
AE-00030-10ML $ 220 / **1 x 10 mL**
10 µg/mL each in Ethyl acetate 20 comps.

Aldicarb	Lindane
Atrazine	MCPA *
Bentazone *	Mecoprop *
Chlortofuron	Metazachlor
Cyanazine	Metobromuron
2,4-D *	Metoxuron
Dichlorprop *	Sebuthylazin
1,3-Dichloropropene	Simazine
Endosulfan I	Terbuthylazine
Endosulfan II	
Isoproturon	* Underivatized

Regulations - Test methods for organochlorine and organophosphorus compounds and pyrethroide Current Science and Technology, German Book of Medicine (1996).

Pesticide Mix #17

AE-00027 $ 36 / **1 x 1 mL**
AE-0027-10ML $ 180 / **1 x 10 mL**
10 µg/mL each in Toluene 14 comps.

Alachlor	Methyl pentachlorophenyl sulfide
Bromopropylate	Pentachloraniline
Carbophenothion	cis-Permethrin
Cypermethrin	trans-Permethrin
Deltamethrin	Piperonyl butoxide
Endosulfane sulfate	Pyrethrins
Fenvalerate	Quintozene

Pesticide Mix #18

AE-00028 $ 40 / **1 x 1 mL**
AE-00028-10ML $ 200 / **1 x 10 mL**
10 µg/mL each in Toluene 16 comps.

Azinphos-methyl	Ethyl parathion
Carbophenothion	Fenitrothion
Chlorfenvinphos	Fonofos
Chlorpyrifos-ethyl	Methyl parathion
Chlorpyrifos-methyl	Malathion
Diazinon	Methidathion
Dichlorphos	Phosalone
Ethion	Pirimiphos-methyl

Pesticide Mix #19

AE-00029 $ 36 / **1 x 1 mL**
AE-00029-10ML $ 180 / **1 x 10 mL**
10 µg/mL each in Toluene 13 comps.

Chlorpyrifos-methyl	Fenitrothion
p,p'-DDT	Lindane
Deltamethrin	Methyl parathion
Dichlorvos	Phosalone
Dieldrin	Quintozene
Endosulfan sulfate	Tecnacene
Ethion	

Pesticide Standards

Pesticide Mix #20

AE-00050 $ 45 / **1 x 1 mL**
AE-00050-10ML $ 125 / **1 x 10 mL**
10 µg/mL each in Ethyl acetate 20 comps.

Aldicarb	Isoproturon
Atrazine	γ-BHC
Bentazon	MCPA
Chlortoluron	MCPP acid
Cyanazine	Metazachlor
2,4-D	Metobromuron
Dichlorprop	Metoxuron
1,1-Dichloropropene	Sebutylazin
Endosulfan I	Simazine
Endosulfan II	Terbuthylazine

Pesticide Mix #20

Regulation DIN V 38407 Part 12 Method F12
AE-00031 $ 45 / **1 x 1 mL**
AE-00031-10ML $ 220 / **1 x 10 mL**
10 µg/mL each in Ethyl acetate 17 comps.

Atrazine	Methabenzthiazuron
Chlortoluron	Metobromuron
Cyanazine	Metolachlor
Desethyl atrazine	Metoxuron
Hexazinone	Monolinuron
Isoproturon	Sebuthylazin
Karmex	Simazine
Linuron	Terbuthylazine
Metazachlor	

Pesticide Mix #21

AE-00051 $ 45 / **1 x 1 mL**
10 µg/mL each in Cyclohexane 16 comps.

Aldrin	Endrin
p,p'-DDD	Heptachlor
p,p'-DDE	Heptachlor epoxide (isomer B)
o,p'-DDT	Hexachlorobenzene
p,p'-DDT	α-BHC
Dieldrin	β-BHC
Endosulfan I	γ-BHC
Endosulfan II	Methoxychlor

Pesticide Mix #22

AE-00052 $ 20 / **1 x 1 mL**
AE-00052-10ML $ 100 / **1 x 10 mL**
10 µg/mL each in Acetonitrile 8 comps.

Atrazine	Metoxuron
Desethyl atrazine	Propazine
Bromacil	Simazine
Chloridazon	Terbuthylazine

Pesticide Mix #23

AE-00053 $ 20 / **1 x 1 mL**
AE-00053-10ML $ 100 / **1 x 10 mL**
10 µg/mL each in Acetonitrile 6 comps.

2,4-D	MCPA
2,4-DB	MCPB
Dichlorprop	MCPP acid

Pesticide Mix #24

AE-00054 $ 20 / **1 x 1 mL**
AE-00054-10ML $ 100 / **1 x 10 mL**
At stated conc. (µg/mL) in Cyclohexane 6 comps.

Aldrin	0.2	α-BHC	0.15
p,p'-DDT	0.4	γ-BHC	0.15
Dieldrin	0.3	Heptachlor	0.2

Pesticide Mix #25

AE-00055 $ 20 / **1 x 1 mL**
AE-00055-10ML $ 100 / **1 x 10 mL**
10 µg/mL each in Cyclohexane 4 comps.

α-BHC	γ-BHC
β-BHC	δ-BHC

Pesticide Mix #26

AE-00056 $ 25 / **1 x 1 mL**
AE-00056-10ML $ 125 / **1 x 10 mL**
1.0 µg/mL each in Cyclohexane 5 comps.

α-BHC	δ-BHC
β-BHC	ε-BHC
γ-BHC	

Pesticide Mix #27

AE-00057 $ 40 / **1 x 1 mL**
AE-00057-10ML $ 100 / **1 x 10 mL**
1.0 µg/mL each in Isooctane 13 comps.

α-BHC	p,p'-DDE
β-BHC	Dieldrin
γ-BHC	Endrin
δ-BHC	Heptachlor epoxide (isomer B)
o,p'-DDD	Methoxychlor
p,p'-DDD	Mirex
o,p'-DDE	

Pesticide Standards

ISO 6468 Pesticide Standard

Water quality determination of certain organochlorine insecticides, polychlorine biphenyls and chlorobenzenes by GC after liquid-liquid extraction.

ISO6468-PEST $ 30 / **1 x 1 mL**
10 µg/mL each in n-Hexane 19 comps.

α-BHC	Methoxychlor
β-BHC	Aldrin
γ-BHC	Dieldrin
δ-BHC	Endrin
o,p'-DDE	Heptachlor
p,p'-DDE	Heptachlor epoxide (Isomer A)
o,p'-DDD	Heptachlor epoxide (Isomer B)
p,p'-DDD	Endosulfan I
o,p'-DDT	Endosulfan II
p,p'-DDT	

EN ISO 10695 Pesticide Mix

Water quality determination of selected organic nitrogen and phosphorous compound by GC.

ENISO10695-PEST $ 50 / **1 x 1 mL**
10 µg/mL each in Acetone 12 comps.

Atrazine	Propazine
Cyanazine	Sebuthylazin
Metazachlor	Simazine
Parathion	Terbuthylazine
Methyl parathion	Trifluralin
Pendimethalin	Vinclozolin

DIN 38407-2 Pesticide Standard

Determination of water, waste water and sludge for low volatile halogenated hydrocarbons by GC.

DIN38407-2-PEST $ 50 / **1 x 1 mL**
10 µg/mL each in n-Hexane 17 comps.

Aldrin	Endrin
p,p'-DDD	Heptachlor
o,p'-DDE	Heptachlor epoxide (Isomer A)
p,p'-DDE	Heptachlor epoxide (Isomer B)
o,p'-DDT	α-BHC
p,p'-DDT	β-BHC
Dieldrin	γ-BHC
Endosulfan I	Methoxychlor
Endosulfan II	

EN ISO 11369 Pesticide Mix 20

Regulation DIN V 38407 Part 12 Method F12

AE-00031 $ 45 / **1 x 1 mL**
AE-00031-10ML $ 220 / **1 x 10 mL**
10 µg/mL each in Ethyl acetate 17 comps.

Atrazine	Methabenzthiazuron
Chlortoluron	Metobromuron
Cyanazine	Metolachlor
Desethyl atrazine	Metoxuron
Hexazinone	Monolinuron
Isoproturon	Sebuthylazin
Karmex (Diuron)	Simazine
Linuron	Terbuthylazine
Metazachlor	

DIN V 38407-11 Pesticide Mix

Scope: Determination of plant protection agents in water, wastewater and sludge.

DINV38407-11-PST $ 55 / **1 x 1 mL**
DINV38407-11-PST-PAK $ 220 / **5 x 1 mL**
5 µg/mL each in Acetonitrile 21 comps.

Alachlor	Monuron
Atrazine	Parathion
Chlorfenvinphos	Pendimethalin
Chlortoluron	Propazine
Cyanazine	Sebuthylazin
2,4-D	Simazine
MCPA acid	2,4,5-T
Metazachlor	Terbuthylazine
Metobromuron	Trifluralin
Metolachlor	Vinclozolin
Metoxuron	

DIN 38407-14 Methyl Esters Mix

Examination of water, wastewater and sludge for phenoxyalkyl carbonic acids by GC and MS detection after solid-liquid extraction and derivatization.

DIN38407-14-ME $ 65 / **1 x 1 mL**
500 µg/mL each in n-Hexane 8 comps.

Mecoprop methyl ester
MCPA methyl ester
Dichlorprop methyl ester
2,4-D methyl ester
Fenoprop methyl ester
MCPB methyl ester
2,4,5-T methyl ester
2,4-DB methyl ester

DIN 38407-22Glyphosate & AMPA

Examination of water, wastewater, and sludge for Glyphosate and Aminomethyl phosphonic acid (AMPA)

DIN38407-22 $ 45 / **1 x 1 mL**
100 µg/mL each in Water 2 comps.

Glyphosate
Aminomethylphosphonic acid

Pesticide Mix 16

Regulations for drinking water analysis, (E-DIN 38407-F-18, E-DIN 38414-F-21) Regulations for sediment and sludge.

AE-00030 $ 44 / **1 x 1 mL**
AE-00030-10ML $ 220 / **1 x 10 mL**
10 µg/mL each in Ethyl acetate 20 comps.

Aldicarb	Lindane
Atrazine	MCPA *
Bentazone *	Mecoprop *
Chlortoluron	Metazachlor
Cyanazine	Metobromuron
2,4-D *	Metoxuron
Dichlorprop *	Sebuthylazine
1,3-Dichloropropene	Simazine
Endosulfan I	Terbuthylazine
Endosulfan II	
Isoproturon	* Underivatized

DIN 38407-14 Acid Mix

Examination of water, wastewater and sludge for phenoxyalkyl carbonic acids by GC and MS detection after solid-liquid extraction and derivatization.

DIN38407-14-ACID $ 55 / **1 x 1 mL**
500 µg/mL each in n-Hexane 8 comps.

Mecoprop acid
MCPA acid
Dichlorprop acid
2,4-D acid
Fenoprop acid
MCPB acid
2,4,5-T acid
2,4-DB acid

Phenols & Derivatives

DIN EN 12673 Chlorophenols

Scope: Determination of selected chlorophenols in water by GC

DINEN-12673 $ 40 / **1 x 1 mL**
At stated conc. (µg/mL) in Ethanol 19 comps.

2-Chlorophenol	30	2,3,5-Trichlorophenol	3
3-Chlorophenol	30	2,3,6-Trichlorophenol	3
4-Chlorophenol	30	2,4,5-Trichlorophenol	3
2,3-Dichlorophenol	4	2,4,6-Trichlorophenol	3
2,4-Dichlorophenol	4	3,4,5-Trichlorophenol	3
2,5-Dichlorophenol	4	2,3,4,5-Tetrachlorophenol	2
2,6-Dichlorophenol	4	2,3,4,6-Tetrachlorophenol	2
3,4-Dichlorophenol	4	2,3,5,6-Tetrachlorophenol	2
3,5-Dichlorophenol	4	Pentachlorophenol	1
2,3,4-Trichlorophenol	3		

DIN EN ISO 17495 Nitrophenols

Scope: determination of selected nitrophenols by solid-phase extraction and gas chromatography with mass spectrometric detection.

DINENISO-17495 $ 50 / **1 x 1 mL**
500 µg/mL each in Acetone 14 comps.

2,4-Dinitrophenol	2-Nitrophenol
2,5-Dinitrophenol	3-Nitrophenol
2,6-Dinitrophenol	4-Nitrophenol
2-Methyl-4,6-dinitrophenol	4-Methyl-2-nitrophenol
2,6-Dimethyl-4-nitrophenol	3-Methyl-4-nitrophenol
2,4-Dichlor-6-nitrophenol	5-Methyl-2-nitrophenol
2,6-Dichlor-4-nitrophenol	3-Methyl-2-nitrophenol

ENISO 9377 Hydrocarbon in Oil

Diesel #2/Mineral Oil Standard

ENISO9377-2-1 $ 25 / **1 x 1 mL**
10000 µg/mL total hydrocarbons in Hexane 2 comps.

#2 Diesel Fuel (5000 µg/mL)
Mineral Oil (5000 µg/mL)

Quality Control Standard Mix

ISO/DIS9377-4-1 $ 25 / **1 x 1 mL**
1000 µg/mL total hydrocarbons in Acetone 2 comps.

#2 Diesel Fuel (500 µg/mL)
Mineral Oil (500 µg/mL)

Extraction Solvent Stock Solution

ENISO9377-2-3 $ 25 / **1 x 5 mL**
At stated conc. in Hexane 2 comps.

n-Decane (20 µl/L)
n-Tetracontane (20 mg/L)

System Performance Standard of n-alkanes

ENISO9377-2-2 $ 45 / **1 x 1 mL**
50 µg/mL each in Hexane 16 comps.

n-Decane
n-Dodecane
n-Tetradecane
n-Hexadecane
n-Octadecane
n-Eicosane
n-Docosane
n-Tetracosane
n-Hexacosane
n-Octacosane
n-Triacontane
n-Dotriacontane
n-Tetratriacontane
n-Hexatriacontane
n-Octatriacontane
n-Tetracontane

Stearyl Stearate Test Solution

ISO/DIS9377-4-2 $ 45 / **1 x 10 mL**
2000 µg/mL in Cyclohexane

Stearyl stearate

ISO/DIS 9377-4 Standard Mix Stock Solution

TPH-006-10X $ 35 / **1 x 1 mL**
TPH-006-10X-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
5000 µg/mL each in Cyclohexane 2 comps.

#2 Diesel fuel
Mineral oil

Florisil Cartridge QC Standard Mix

ENISO9377-2-4 $ 40 / **1 x 10 mL**
2000 µg/mL total hydrocarbons in Hexane 2 comps.

#2 Diesel Fuel (1000 µg/mL)
Mineral Oil (1000 µg/mL)

European Equivalents of Alcohol Oxidation Products in Automotive Engine Exhaust by HPLC of DNPH Derivatives

Carbonyl-DNPH Mix #1

AE-00043 $ 45 / **1 x 1 mL**
20 µg/mL each in Acetonitrile 13 comps.

Acetaldehyde-DNPH
Acetone-DNPH
Acrolein-DNPH
Benzaldehyde-DNPH
Butanonal-DNPH
Methyl ethyl ketone-DNPH
Crotonaldehyde-DNPH
Formaldehyde-DNPH (40 µg/mL)
Hexanal-DNPH
Methacrolein-DNPH
Propionaldehyde-DNPH
p-Tolualdehyde-DNPH
Valeraldehyde-DNPH

Cyclohexanone

AE-00046 $ 20 / **1 x 1 mL**
500 µg/mL in Acetonitrile

Cyclohexanone-DNPH

Carbonyl-DNPH Mix #2

AE-00044 $ 45 / **1 x 1 mL**
2 µg/mL each in Acetonitrile 14 comps.

Acetaldehyde-DNPH
Acetone-DNPH
Acrolein-DNPH
Benzaldehyde-DNPH
Butanone-DNPH
n-Butyraldehyde-DNPH
Crotonaldehyde-DNPH
Cyclohexanone-DNPH (5 µg/mL)
Formaldehyde-DNPH (4 µg/mL)
Hexanal-DNPH
Methacrolein-DNPH
Propionaldehyde-DNPH
p-Tolualdehyde-DNPH
Valeraldehyde-DNPH

Japan Ministry of Health and Welfare Standards

Volatile Organic Solution

JMHW-001 $ 50 / **1 x 1 mL**
JMHW-001-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
1000 µg/mLeach in MeOH 23 comps.

Benzene
Bromodichloromethane
Bromoform
Carbon tetrachloride
Chloroform
Dibromochloromethane
1,4-Dichlorobenzene
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
Dichloromethane
1,2-Dichloropropane
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Tetrachloroethene
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
m-Xylene
o-Xylene
p-Xylene

Volatile Organic Solution

JMHW-002 $ 25 / **1 x 1 mL**
JMHW-002-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2000 µg/mL each in MeOH 16 comps.

Benzene
Bromodichloromethane
Bromoform
Carbon tetrachloride
Chloroform
Dibromochloromethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
Dichloromethane
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Tetrachloroethene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene

Method of Interests

Japanese Methods JIS-K0311 and JIS-K0312
See EPA Method 1613 Dioxins & Furans which can be used for EPA Method 23, 8280, 8290 and EU Method EN-1948

Volatile Organic Solution B

JMHW-003 $ 20 / **1 x 1 mL**
JMHW-003-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2000 µg/mL each in MeOH 7 comps.

1,4-Dichlorobenzene
trans-1,2-Dichloroethene
1,2-Dichloropropane
Toluene
m-Xylene
o-Xylene
p-Xylene

Tuning Solution/Surrogate Standard Mixture

CLP-004-100X $ 10 / **1 x 1 mL**
CLP-004-100X-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
2.5 mg/mL in MeOH

p-Bromofluorobenzene

Japan Environmental Agency Standards

Volatile Organic Solution

JEAM-001 $ 25 / **1 x 1 mL**
JEAM-001-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
1000 µg/mL each in MeOH 12 comps.

Benzene
Carbon Tetrachloride
1,1-Dichloroethene
cis-1,2-Dichloroethene
Dichloromethane
1,2-Dichloroethane
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Tetrachloroethene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene

Method Aldehydes as DNPH Derivatives

JEAM-002 $ 30 / **1 x 1 mL**
JEAM-002-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
100 µg/mL each in Ethyl acetate 6 comps.

Acetaldehyde-DNPH
Butyraldehyde-DNPH
Isobutyraldehyde-DNPH
Isovaleraldehyde-DNPH
Propionaldehyde-DNPH
Pentanal-DNPH

Internal Standard

M-524-IS $ 20 / **1 x 1 mL**
M-524-IS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH 2 comps.

1,2-Dichlorobenzene-d_4
Fluorobenzene

Drinking Water Odor Standard

ODOR-JDWOS $ 80 / **1 x 1 mL**
100 µg/mL each in MeOH 2 comps.

(+/-) Geosmin
2-methylisoborneol

Korean Drinking Water Regulations Standards

VOC Mix A

KDWR-001 $ 25 / **1 x 1 mL**
KDWR-001-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
100 µg/mL each in MeOH 15 comps.

Benzene
Bromodichloromethane
Bromoform
Chloroform
Dibromochloromethane
Ethylbenzene
Dichloromethane
Phenol
Tetrachloroethene
Toluene
1,1,1-Trichloroethane
Trichloroethene
m-Xylene
p-Xylene
o-Xylene

VOC Mix B

KDWR-002 $ 25 / **1 x 1 mL**
KDWR-002-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
100 µg/mL each in MeOH 8 comps.

Bromodichloromethane
Bromoform
Chloroform
Dibromochloromethane
Dichloromethane
Tetrachloroethene
1,1,1-Trichloroethane
Trichloroethene

Pesticide Mix

KDWR-003 $ 30 / **1 x 1 mL**
KDWR-003-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
1000 µg/mL each in MeOH 5 comps.

Carbaryl
Diazinon
Fenitrothion
Malathion
Parathion

California Methods

California Air Resources Board Method 1004 Carbonyl Compounds as DNPH derivatives by HPLC

M-1004 $ 25 / **1 x 1 mL**
At stated conc. in AcCN 13 comps.
M-1004-10X $ 35 / **1 x 1 mL**
At 10 times the stated conc. in AcCN 13 comps.

	Carbonyl Compound	DNPH Derivative
Acetaldehyde	3.0 µg/mL	15.3 µg/mL
Acetone	3.0 µg/mL	12.3 µg/mL
Acrolein	3.0 µg/mL	12.7 µg/mL
Benzaldehyde	3.0 µg/mL	8.1 µg/mL
2-Butanone *(MEK)*	3.0 µg/mL	10.5 µg/mL
n-Butyraldehyde	3.0 µg/mL	10.5 µg/mL
Crotonaldehyde	3.0 µg/mL	10.7 µg/mL
Formaldehyde	3.0 µg/mL	21.0 µg/mL
Hexanal	3.0 µg/mL	8.4 µg/mL
Methacrolein	3.0 µg/mL	10.7 µg/mL
Propionaldehyde	3.0 µg/mL	12.3 µg/mL
m-Tolualdehyde	3.0 µg/mL	7.5 µg/mL
Valeraldehyde	3.0 µg/mL	9.3 µg/mL

CAR-DNPH $ 20 / **1 x 1 mL**
At stated conc. in AcCN as DNPH derivatives 7 comps.

Acetaldehyde-DNPH	1000 µg/mL	Butyraldehyde-DNPH	500 µg/mL
Acetone-DNPH	500 µg/mL	Formaldehyde-DNPH	1500 µg/mL
Acrolein-DNPH	500 µg/mL	Propionaldehyde-DNPH	500 µg/mL
Benzaldehyde-DNPH	500 µg/mL		

Reference Gas Oil Sample

RGS-001 $ 20 / **1 x 1 mL**

Hydrocarbon Mixture *(boiling point range 250-850°F)*

California Method 750-M Standard

BDE-CALEWS $ 600 / **1 x 1 mL**
10 µg/mL each in Isooctane 13 comps.

2,2',4-Tribromodiphenyl ether (#17)
2,4,4'-Tribromodiphenyl ether (#28)
2,2',4,4'-Tetrabromodiphenyl ether (#47)
2,3',4,4'-Tetrabromodiphenyl ether (#66)
2,3',4',6-Tetrabromodiphenyl ether (#71)
2,2',4,4',5-Pentabromodiphenyl ether (#99)
2,2',4,4',6-Pentabromodiphenyl ether (#100)
2,2',3,4,4',5'-Hexabromodiphenyl ether (#138)
2,2',4,4',5,5'-Hexabromodiphenyl ether (#153)
2,2',4,4',5,6'-Hexabromodiphenyl ether (#154)
2,2',3,4,4',5',6-Heptabromodiphenyl ether (#183)
2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether (#209)
2,2',6,6'-Tetrabromobisphenol A

Florida Methods PAH by HPLC

Z-014G-FL $ 85 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2:Benzene 18 comps.

Acenaphthene	Dibenz[a,h]anthracene
Acenaphthylene	Fluoranthene
Anthracene	Fluorene
Benz[a]anthracene	Indeno[1,2,3-cd]pyrene
Benzo[a]pyrene	Naphthalene
Benzo[b]fluoranthene	Phenanthrene
Benzo[g,h,i]perylene	Pyrene
Benzo[k]fluoranthene	1-Methylnaphthalene
Chrysene	2-Methylnaphthalene

Performance Check Solution

M-610-QC-FL $ 35 / **1 x 1 mL**
M-610-QC-FL-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
At stated conc. in AcCN 18 comps.

Acenaphthene	(0.1 mg/mL)	Dibenz[a,h]anthracene	(0.01 mg/mL)
Acenaphthylene	(0.1 mg/mL)	Fluoranthene	(0.01 mg/mL)
Anthracene	(0.1 mg/mL)	Fluorene	(0.1 mg/mL)
Benz[a]anthracene	(0.01 mg/mL)	Indeno[1,2,3-cd]pyrene	(0.01 mg/mL)
Benzo[a]pyrene	(0.01 mg/mL)	1-Methyl naphthalene	(0.1 mg/mL)
Benzo[b]fluoranthene	(0.01 mg/mL)	2-Methyl naphthalene	(0.1 mg/mL)
Benzo[g,h,i]perylene	(0.01 mg/mL)	Naphthalene	(0.1 mg/mL)
Benzo[k]fluoranthene	(0.005 mg/mL)	Phenanthrene	(0.1 mg/mL)
Chrysene	(0.01 mg/mL)	Pyrene	(0.01 mg/mL)

Matrix Spiking Solution

M-610-MS $ 30 / **1 x 1 mL**
M-610-MS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. in AcCN 6 comps.

Benz[a]pyrene	(0.5 mg/mL)	2-Methylnaphthalene	(5.0 mg/mL)
Chrysene	(0.5 mg/mL)	Phenanthrene	(0.5 mg/mL)
1-Methylnaphthalene	(5.0 mg/mL)	Pyrene	(0.5 mg/mL)

PAH Mix Additions

H-001S/002S-M-20X $ 30 / **1 x 1 mL**
1.0 mg/mL each in MeOH 2 comps.

1-Methyl naphthalene	2-Methyl naphthalene

Polynuclear Aromatic Hydrocarbons (HPLC)

M-8310-FL $ 50 / **1 x 1 mL**
M-8310-FL-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
0.5 mg/mL each in AcCN 18 comps.
M-8310-FL-SET $ 360 / **18 x 1 mL**

Acenaphthene	M-8310-FL-01	$ 20
Acenaphthylene	M-8310-FL-02	20
Anthracene	M-8310-FL-03	20
Benzo[a]anthracene	M-8310-FL-04	25
Benzo[a]pyrene	M-8310-FL-05	25
Benzo[b]fluoranthene	M-8310-FL-06	30
Benzo[g,h,i]perylene	M-8310-FL-07	30
Benzo[k]fluoranthene	M-8310-FL-08	30
Chrysene	M-8310-FL-09	25
Dibenz[a,h]anthracene	M-8310-FL-10	20
Fluoranthene	M-8310-FL-11	20
Fluorene	M-8310-FL-12	20
Indeno[1,2,3-cd]pyrene	M-8310-FL-13	35
1-Methylnaphthalene	M-8310-FL-14	20
2-Methylnaphthalene	M-8310-FL-15	20
Naphthalene	M-8310-FL-16	20
Phenanthrene	M-8310-FL-17	20
Pyrene	M-8310-FL-18	20

Polynuclear Aromatic Hydrocarbons (HPLC)

M-8310-QC-ATI $ 55 / **1 x 1 mL**
M-8310-QC-ATI-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
At stated conc. in AcCN 18 comps.

Acenaphthene	(1000 µg/mL)	Dibenz[a,h]anthracene	(200 µg/mL)
Acenaphthylene	(2000 µg/mL)	Fluoranthene	(200 µg/mL)
Anthracene	(100 µg/mL)	Fluorene	(200 µg/mL)
Benz[a]anthracene	(100 µg/mL)	Indeno[1,2,3-cd]pyrene	(100 µg/mL)
Benzo[a]pyrene	(100 µg/mL)	1-Methylnaphthalene	(1000 µg/mL)
Benzo[b]fluoranthene	(200 µg/mL)	2-Methylnaphthalene	(1000 µg/mL)
Benzo[g,h,i]perylene	(200 µg/mL)	Naphthalene	(1000 µg/mL)
Benzo[k]fluoranthene	(100 µg/mL)	Phenanthrene	(100 µg/mL)
Chrysene	(100 µg/mL)	Pyrene	(100 µg/mL)

Minnesota Method 465-D

List of Volatiles

Liquids

M-502A-R $ 60 / **1 x 1 mL**
M-502A-R-PAK *SAVE 20%* $ 240 / **5 x 1 mL**
0.2 mg/mL each in MeOH 54 comps.

Benzene (01)
Bromobenzene (02)
Bromochloromethane (03)
Bromodichloromethane (04)
Bromoform (05)
n-Butylbenzene (07)
sec-Butylbenzene (08)
tert-Butylbenzene (09)
Carbon tetrachloride (10)
Chlorobenzene (11)
Chloroform (13)
2-Chlorotoluene (15)
4-Chlorotoluene (16)
Dibromochloromethane (17)
1,2-Dibromo-3-chloropropane (18)
1,2-Dibromoethane (19)
Dibromomethane (20)
1,2-Dichlorobenzene (21)
1,3-Dichlorobenzene (22)
1,4-Dichlorobenzene (23)
1,1-Dichloroethane (25)
1,2-Dichloroethane (26)
1,1-Dichloroethene (27)
cis-1,2-Dichloroethene (28)
trans-1,2-Dichloroethene (29)
1,2-Dichloropropane (30)
1,3-Dichloropropane (31)
2,2-Dichloropropane (32)
1,1-Dichloropropene (33)
cis-1,3-Dichloropropene (34A) *
trans-1,3-Dichloropropene (34B) **
Ethylbenzene (35)
Hexachlorobutadiene (36)
Isopropylbenzene *(Cumene)* (37)
p-Isopropyltoluene *(p-Cymene)* (38)
Methylene chloride (39)
Naphthalene (40)
n-Propylbenzene (41)
Styrene (42)
1,1,1,2-Tetrachloroethane (43)
1,1,2,2-Tetrachloroethane (44)
Tetrachloroethene (45)
Toluene (46)
1,2,3-Trichlorobenzene (47)
1,2,4-Trichlorobenzene (48)
1,1,1-Trichloroethane (49)
1,1,2-Trichloroethane (50)
Trichloroethene (51)
1,2,3-Trichloropropane (53)
1,2,4-Trimethylbenzene (54)
1,3,5-Trimethylbenzene (55)
o-Xylene (57)
m-Xylene (58)
p-Xylene (59)

* cis (1.06 x conc.) (34A)
** trans (0.94 x conc.) (34B)

Gases

M-465B-10X $ 25 / **1 x 1 mL**
M-465B-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
0.2 mg/mL each in MeOH 7 comps.

Bromomethane
Chloroethane
Chloromethane
Dichlorodifluoromethane
Dichlorofluoromethane
Trichlorofluoromethane
Vinyl chloride

M-465D-ADD-R ‡ $ 30 / **1 x 1 mL**
0.2 mg/mL each in MeOH 8 comps.

Acetone
Allyl chloride
Ethyl ether
Methyl ethyl ketone
Methyl isobutyl ketone
Methyl-t-butyl ether
Tetrahydrofuran
Trichlorotrifluoroethane

‡ To delay premature breakdown of thermally labile products in transit we suggest shipping with a "Cold Pack"

Method 465-D Volatiles Set

M-465D-SET $ 75 / **3 x 1 mL**
(M-502A-R, M-465B-10X, M-465D-ADD-R)
M-465D-SET-PAK *SAVE 20%* $ 300 / **5 x (3 x 1 mL)**

Pesticides & Herbicides

List 1 - Pesticide Standard

MDA-PEST-01-R1 $ 105 / **1 x 1 mL**
MDA-PEST-01-R1-PAK *SAVE 20%* $ 420 / **5 x 1 mL**
500 µg/mL each in CH_2Cl_2 22 comps.

Acetochlor
Alachlor
Atrazine
Atrazine-desisopropyl
Cyanazine
Desethyl atrazine
Dimethenamid
Dursban
Dyfonate
EPTC
Ethalfluralin
Metolachlor
Metribuzin
Pendimethalin
Phorate
Propachlor
Prometon
Propazine
Simazine
Terbufos
Triallate
Trifluralin

P-088S-10X $ 24 / **1 x 1 mL**
100 µg/mL in MeOH

Butylate

List 2 - Herbicide Acids Standards

MDA-HERB-01 $ 60 / **1 x 1 mL**
At stated conc. in Acetone 9 comps.

2,4-D	(0.1 mg/mL)	Dicamba	(0.1 mg/mL)
2,4-DB	(0.1 mg/mL)	MCPA	(10 mg/mL)
2,4,5-T	(0.1 mg/mL)	Picloram	(0.1 mg/mL)
Silvex	(0.1 mg/mL)	Triclopyr	(0.1 mg/mL)
Bentazon	(0.1 mg/mL)		

Technical Note

This expanded analyte list for Method 465-D contains all the analytes in one multi-component standard, at a high concentration. This eliminates the need to combine more than one standard to cover the complete analyte list. The "Butylate" pesticide in conjunction with the MDA Method 465 formulation has all the required analytes for the Wisconsin DATCP pesticide program. Since many labs perform work in both Minnesota and Wisconsin, a single calibration curve can be used to monitor analytes covered by both methods.

Wisconsin DNR VOC Mixture

S-989 $ 100 / **1 x 1 mL**
2.0 mg/mL each in MeOH 52 comps.

Benzene
Bromobenzene
Bromodichloromethene
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Carbon tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Chloromethane
2-Chlorotoluene
4-Chlorotoluene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dichloropropane
Diisopropyl ether
Ethylbenzene
Hexachlorobutadiane
Isopropylbenzene
p-Isopropyltoluene
Methylene chloride
Methyl tert-butyl ether
Naphthalene
n-Propylbenzene
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Vinyl chloride
o-Xylene
m-Xylene
p-Xylene

ASTM D7065-06 4-tert-Octylphenol, 4-Nonylphenol and their Tech Equivalvents, Mono and Multi-Ethoxylates

NEW

Nonylphenol ethoxylates and alkylphenol ethoxylates have been produced in large quantities in the U.S and around the world. They are used in many different applications: oil-soluble detergents, emulsifiers, wetting agents, lubricants, and antistatic agents. Breakdown products have been shown to be possible endocrine disruptors.

In January of 2004, the US EPA proposed ambient water quality criteria for nonylphenol. The EPA is working with ASTM to develop and validate a method for nonylphenol and alkylphenol ethoxylates.

Nonylphenol Calibration Standard Solution

M-1626 — $ 95 / **1 x 1 mL**
At stated conc. in CH_2Cl_2 — 7 comps.

Nonylphenol	(160 µg/mL)
Nonylphenol monoethoxylate	(320 µg/mL)
Nonylphenol diethoxylate	(640 µg/mL)
4-tert-Octylphenol	(32 µg/mL)
Bisphenol A (BPA)	(32 µg/mL)
4-Nonylphenol	(32 µg/mL)
4-Nonylphenol monoethoxylate	(32 µg/mL)

Nonylphenol Internal Standard

M-1626-IS — $ 40 / **1 x 1 mL**
2000 µg/mL each in CH_2Cl_2 — 2 comps.

Acenaphthene-d_{10} Phenanthrene-d_{10}

Nonylphenol Target Component Spike Standard

M-1626-S — $ 35 / **1 x 1 mL**
At stated conc. in MeOH — 5 comps.

Nonylphenol	(160 µg/mL)
Nonylphenol monoethoxylate	(320 µg/mL)
Nonylphenol diethoxylate	(640 µg/mL)
4-tert-Octylphenol	(32 µg/mL)
Bisphenol A	(32 µg/mL)

Nonylphenol Surrogate Component Spike Standard

M-1626-SS — $ 45 / **1 x 1 mL**
32 µg/mL each in MeOH — 2 comps.

4-Nonylphenol 4-Nonylphenol monoethoxylate

M-1626-01S — $ 20 / **1 x 1 mL**
1000 µg/mL in MeOH

Bisphenol A (BPA)

Method USP 467 VOCs from Stack Gas Effluents

USP/National Formulary VOC Mixtures

NF-467 — $ 20 / **1 x 1 mL**
NF-467-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
At stated conc. in MeOH — 5 comps.

Benzene	(200 µg/mL)	Methylene chloride	(200 µg/mL)
Chloroform	(100 µg/mL)	Trichloroethene	(200 µg/mL)
1,4-Dioxane	(200 µg/mL)		

NF-467-R — $ 20 / **1 x 1 mL**
NF-467-R-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
At stated conc. in DMSO — 6 comps.

Benzene	(200 µg/mL)	Ethylene oxide	(20 µg/mL)
Chloroform	(100 µg/mL)	Methylene chloride	(200 µg/mL)
1,4-Dioxane	(200 µg/mL)	Trichloroethene	(200 µg/mL)

NF-467-R3 — $ 25 / **1 x 1 mL**
NF-467-R3-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in MeOH — 5 comps.

Benzene	(2 µg/mL)	Dichloromethane	(600 µg/mL)
Chloroform	(60 µg/mL)	Trichloroethene	(80 µg/mL)
p-Dioxane	(380 µg/mL)		

NF-467-R4 — $ 25 / **1 x 1 mL**
NF-467-R4-PAK — *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in Dimethyl sulfoxide — 5 comps.

Benzene	(2 µg/mL)	Dichlorometane	(600 µg/mL)
Chloroform	(60 µg/mL)	Trichloroethene	(80 µg/mL)
p-Dioxane	(380 µg/mL)		

NEW

NF-467-R6 — $ 20 / **1 x 1 mL**
NF-467-R6-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
At stated conc. in Dimethyl sulfoxide — 5 comps.

Benzene	(100 µg/mL)	Dichlorometane	(500 µg/mL)
Chloroform	(50 µg/mL)	Trichloroethene	(100 µg/mL)
p-Dioxane	(100 µg/mL)		

Over 40,000 Standards, just a click away

(Over 10,000 Listed and over 30,000 formulated custom standards)

AccuStandard.com

F-List Hazardous Waste from Non-Spectific Sources

F001 & F002 Solvent List Components

FL-0102 — $ 25 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 10 comps.

Carbon tetrachloride
Chlorobenzene
1,2-Dichlorobenzene
Methylene chloride
Tetrachloroethene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
1,1,2-Trichloro-1,2,2-trifluoroethane
Trichlorofluoromethane

F003 List Components (excluding MeOH as analyte)

FL-0003 — $ 25 / **1 x 1 mL**
2.0 mg/mL in MeOH — 10 comps.

Acetone
n-Butanol
Cyclohexanone
Ethyl acetate
Ethylbenzene
Ethyl ether
Methyl isbutyl ketone
m-Xylene
o-Xylene
p-Xylene

Additional Alcohol Solvents

FL-OADD — $ 15 / **1 x 1 mL**
2.0 mg/mL each in H_2O — 3 comps.

Ethanol
Isopropanol
Methanol

F004 List Component Mixes

FL-0004-CR — $ 20 / **1 x 1 mL**
2.0 mg/mL in MeOH — 3 comps.

m-Cresol
o-Cresol
p-Cresol

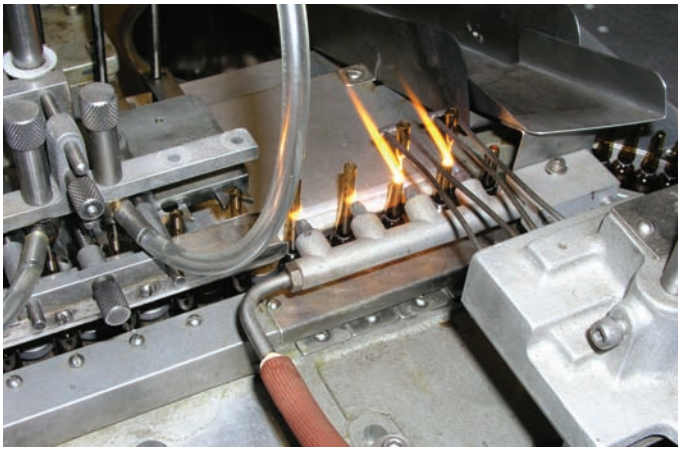
FL-0004-CA — $ 15 / **1 x 1 mL**
2.0 mg/mL in MeOH

Cresylic acid (technical mixture of phenol, cresols & xylenes)

F005 List Components (includes Nitrobenzene)

FL-0005-NB — $ 25 / **1 x 1 mL**
2.0 mg/mL each in MeOH — 9 comps.

Benzene
Carbon disulfide
2-Ethoxyethanol
Isobutanol
Methyl ethyl ketone
Nitrobenzene
2-Nitropropane
Pyridine
Toluene



PetroChemical Standards

- Widest selection of Biofuel reference standards. Includes FAMEs & FAEEs from most popular biomasses, sulfurs, physical standards, wear metals, and free & total glycerin.
- Reference standards to meet the most common UOP LLC (a Honeywell company) methods.
- Reference standards for over 100 ASTM methods plus cross references to ISO, DIN, IP, JIS & AFNOR methods.

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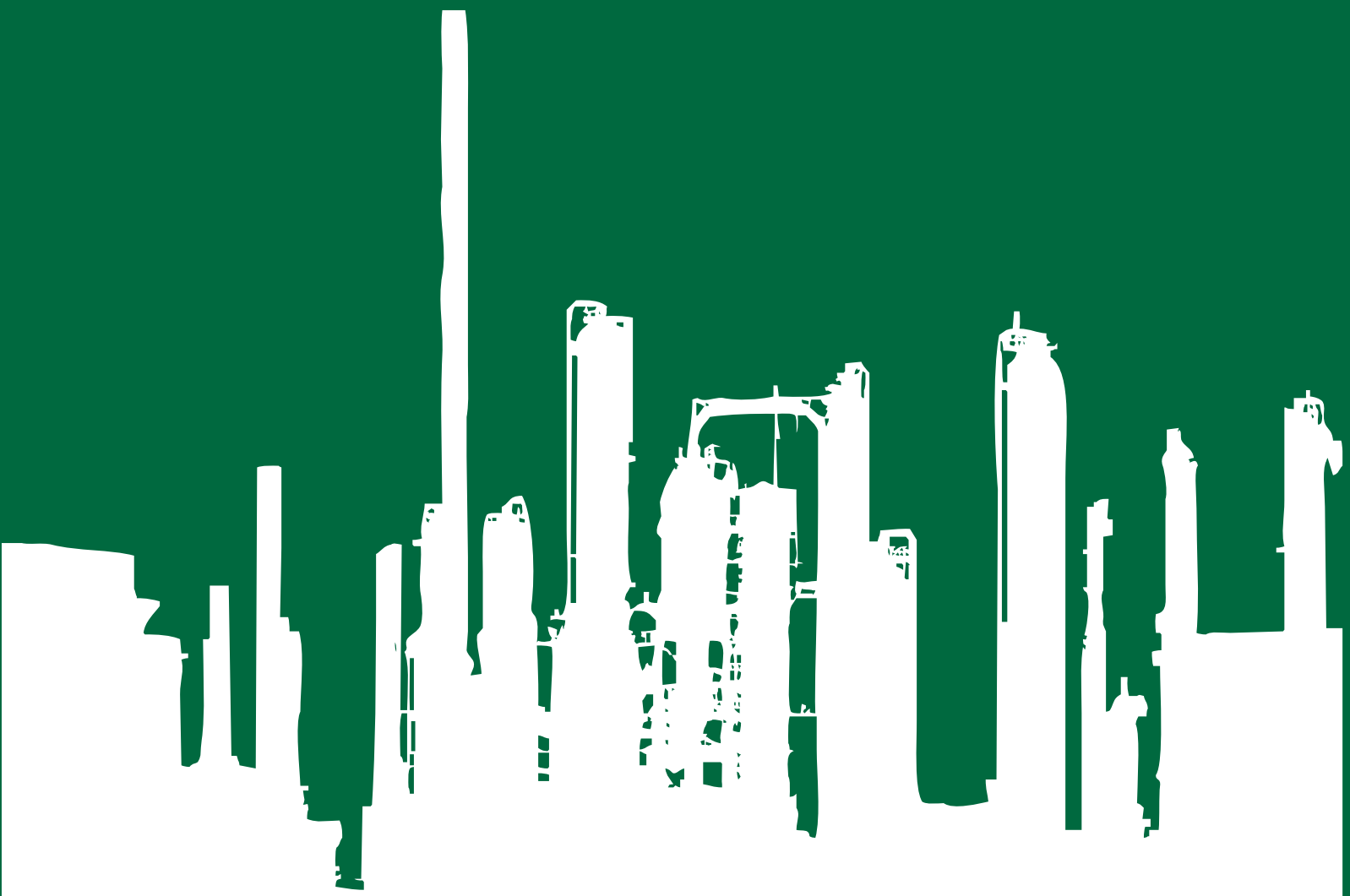

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AccuStandard's Quality System is registered to ISO 9001 and accredited to ISO/IEC 17025

AccuPetroCheck and AccuPetroTest Real World Gasoline QC Standards

In cooperation with ASTM D02 subcommittee 3 and 4, AccuStandard ampulled 21 **Real World** gasoline reference fuels. Consensus Values have been determined for these reference fuels by various ASTM Round Robins to provide Petrochemical Laboratories with a source of well characterized gasoline standards for use in QA/QC applications and as Single Blind test samples over an extended period of time. As new ASTM D02.03 and D02.04 Test methods are promulgated they require **mandatory Quality Control** testing of real world samples. AccuStandard's PetroTest & PetroCheck standards are being successfully used to achieve these new Quality Control requirements.

AccuPetroCheck Consensus Value QC Standard

CARB Low Sulfur RFG QC Standard

ASTM-FUEL-QCS-01-PAK $ 60 / **5 x 15 mL**

Parameter	Method	Value	Conc.
Total Aromatics	D1319	24.5	Vol.%
Total Olefins	D1319	5.3	Vol.%
Total Saturates	D1319	58.3	Vol.%
Sulfur	D2622	0.0057	Wt.%
Sulfur	D4294	0.0078	Wt.%
Sulfur	D5453	55.76	µg/g
Sulfur	DXXXX *	59.31	µg/g
Benzene	D5769	0.80	Vol.%
Toluene	D5769	4.92	Vol.%
Total Aromatics	D5769	23.42	Vol.%
Total Olefins	D6550	5.3	Vol.%

Conventional Gasoline QC Standard

ASTM-FUEL-QCS-02-PAK $ 60 / **5 x 15 mL**

Parameter	Method	Value	Conc.
Total Aromatics	D1319	34.6	Vol.%
Total Olefins	D1319	12.4	Vol.%
Total Saturates	D1319	62.8	Vol.%
Sulfur	D2622	0.0338	Wt.%
Sulfur	D4294	0.0368	Wt.%
Sulfur	D5453	317.36	µg/g
Sulfur	DXXXX *	338.78	µg/g
Benzene	D5769	0.55	Vol.%
Toluene	D5769	5.53	Vol.%
Total Aromatics	D5769	32.51	Vol.%
Total Olefins	D6550	12.4	Vol.%

* non-specific

AccuPetroCheck QC Standards

Two of the fuels are available as **AccuPetroCheck** Consensus Value **QC Standards**. The **AccuPetroCheck** CARB and Conventional gasoline reference materials have all parameters listed on the certificate with the Consensus Values and the regression equations for reproducibility. Use of these Reference Materials improve the quality of laboratory results. The Consensus Values listed reflect initial statistical treatment of the data at the time the catalog was published. The actual certificate provided with the **AccuPetroCheck** QC standard will have the accepted Consensus Value based on statistical treatment of the data.

AccuPetroTest

Sulfur in Diesel Fuel QC Standard

SBPT-SDF-VAP $ 25 / **2 x 15 mL**

Parameter	Approx. Range
Sulfur	20 - 11000 µg/g

See ASTM Methods D2622, D3120, D3246, D4294, D5453 for Sulfur Calibration Standards

Sulfur in White Mineral Oil QC Standard

SBPT-SWMO-VAP $ 25 / **2 x 15 mL**

Parameter	Approx. Range
Sulfur	20 - 11000 µg/g

See ASTM Methods D2622, D3120, D3246, D4294, D5453 for Sulfur Calibration Standards

Sulfur Single Blind AccuPetroTest Alternative Matrices Standards

AccuStandard has manufactured a number of Diesel and White Mineral Oil QC products containing a gravimetrically prepared amount of Sulfur. Use of these alternative matrix materials can provide further evaluation of the QA/QC process in the laboratory. Two samples will be sent for the test parameter and a separate sealed envelope containing the gravimetrically prepared sulfur values is also provided. The second sample is for repeatability testing or for use as a future QA/QC reference.

AccuPetroTest Gasoline

Low Sulfur QC Sample

SBPT-LSGAS-VAP $ 25 / **2 x 15 mL**

Parameter	Method	Approx. Range
Sulfur	D5453	0 - 50 µg/g

Olefin QC Sample

SBPT-OLEFINSFC-VAP $ 25 / **2 x 15 mL**

Parameter	Method	Approx. Range
Total Olefins	D6550	1 - 40 Vol.%

AccuPetroTest Gasoline

Comprehensive Single Blind Gasoline QC Sample

SBPT-COMP-VAP $ 50 / **2 x 15 mL**

Parameter	Method	Approx. Range	Conc.
Total Aromatics	D1319	8 - 60	Vol.%
Total Olefins	D1319	1 - 40	Vol.%
Total Saturates	D1319	30 - 80	Vol.%
Sulfur	D2622	0.0001 - 0.0930	Wt.%
Sulfur	D4294	0.0016 - 0.0930	Wt.%
Sulfur	D5453	0.5 -500	µg/g
Sulfur	D6344	1.0 - 1000	µg/g
Benzene	D5769	0.1 - 2.0	Vol.%
Toluene	D5769	1.0 - 15	Vol.%
Total Aromatics	D5769	8 - 60	Vol.%
Benzene	D6277	0.1 - 2.0	Vol.%
Total Olefins	D6550	1 - 40	Vol.%

Technical Note

This comprehensive single blind gasoline QC sample tests for more parameters from a single sample. The actual gasoline sample will have consensus values listed on the datasheet that fall within the range listed for each parameter.

Quality Control Standards continue on next page

AccuPetroTest Gasoline QC

Olefins QC Sample

SBPT-OLEFIN-VAP $ 25 / **2 x 15 mL**

Parameter	Method	Approx. Range
Total Aromatics	D1319	8-60 Vol.%
Total Olefins	D1319	1 - 40 Vol.%
Total Saturates	D1319	30-80 Vol. %

See ASTM Method D1319 for Sulfur Calibration Standards

Sulfur QC Sample

SBPT-SGAS-VAP $ 25 / **2 x 15 mL**

Parameter	Method	Approx. Range
Sulfur	D2622	0.0001 - 0.0930 Wt.%
Sulfur	D4294	0.0016 - 0.0930 Wt.%
Sulfur	D5453	4.0 - 500 µg/g
Sulfur	D6344	1.0 - 1000 µg/g

See ASTM Methods D2622, D3120, D3246, D4294, D5453 for Sulfur Calibration Standards

Technical Note

AccuPetroTest Single Blind Standards
Petrochemical laboratories looking to test the performance of the laboratory for a specific parameter can order the Single Blind **AccuPetroTest** sample for the parameter of interest. Two real world gasoline samples will be sent for the test parameter requested and a separate sealed envelope containing the determined Consensus Value is also provided. The second sample is for repeatability testing or as a future QA/QC reference.

Aromatics QC Sample

SBPT-AROM-VAP $ 25 / **2 x 15 mL**

Parameter	Method	Approx. Range
Total Aromatics	D5769	8 - 60 Vol.%

See ASTM Methods, D3606, D5580, D5769 for Benzene Calibration Standards

Benzene/Toluene QC Sample

SBPT-BENZ-VAP $ 25 / **2 x 15 mL**

Parameter	Method	Approx. Range
Benzene	D5769	0.1 - 2.0 Vol.%
Toluene	D5769	1.0 - 15 Vol.%

See ASTM Methods, D3606, D5580, D5769 for Benzene Calibration Standards

Conducting a Petrochemical Round Robin for a new ASTM method?

Select AccuStandard to prepare the necessary samples for the Round Robin study
AccuStandard has packaged for ASTM committee D02 various select groups of gasoline fuels and hydrocarbon products for use in various Round Robin studies.

Large Sample Offering
AccuStandard was selected by ASTM committee D02 to fill, seal and package an initial set of 21 different types of Round Robin Gasolines. Each gasoline was selected due to its unique properties. These unique properties will be determined by various ASTM methods under evaluation through ASTM subcommittees. AccuStandard has expanded this offering with additional materials blended for other ASTM Round Robins.

Flexibility
Use the original 21 gasoline samples to conduct a Round Robin and we can label the samples appropriately to protect the integrity of the Round Robin. In addition, we can easily add additional samples to your specific Round Robin study to expand the scope of the method for different matrices, concentrations or instrument types.

Petro PT Samples

Oxygenate PT Sample
With MtBE contamination problems in drinking water, numerous states are requiring certification for Oxygenate monitoring. Join AccuStandard's next study for Oxygenate analysis. Our timely PT schedule easily allows your lab to be proactive in new regulatory requirements. The analytes in the standard and the PT sample have been drawn from the California list of known prevalent oxygenates in gasoline. These Oxygenate PT samples and standards allow your Lab to:

- Expand testing capabilities
- Generate new testing revenue
- Eliminate standard preparation
- Easily combine with other Volatile standards

SUFFIX KEY
"AT" = Pre-Test
"AV" = Values Included

WS-PT Oxygenates

OPE-OXY-001-AT $ 47 / **2 mL**
OPE-OXY-001-AV $ 47 / **2 mL**
Sample conc. after prep 5.0-50 µg/L 4 comps.

ETBE	MTBE
Diisopropylether	TAME

Suggested Calibration Standards

Oxygenate Gasoline Additive Standards

OGAD-001 $ 30 / **1 x 1 mL**
OGAD-001-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. in MeOH 5 comps

MtBE	(2000 µg/mL)	TAME	(2000 µg/mL)
ETBE	(2000 µg/mL)	t-Butanol	(10000 µg/mL)
Isopropyl ether	(2000 µg/mL)		

OGAD-002 $ 30 / **1 x 1 mL**
At stated conc. in MeOH 5 comps

t-Butanol	(10000 µg/mL)	TAME	(2000 µg/mL)
ETBE	(2000 µg/mL)	TAEE	(2000 µg/mL)
Isopropyl ether	(2000 µg/mL)		

Technical Note

This PT sample can be used by gravimetric oil and grease methods. In addition, it can also be used for TPH analysis by gravimetric methods including the EPA method 1664. The sample contains real world material commonly found at petroleum containment sites.

WP-PT Oil, Grease & TPH

IPE-OILG-001-AT $ 32 / **5 mL**
IPE-OILG-001-AV $ 32 / **5 mL**
Sample conc. after prep 2 comps.

Analyte List	Sample range
Total Oil & Grease	5-100 mg/L
TPH	5-100 mg/L

Suggested Calibration Standard

Oil and Grease

WC-OILG-10X-1 $ 45 / **100 mL**
1000 µg/mL Total Oil and Grease in n-Propanol 2 comps.

Contains 500 µg/mL vegetable oil and 500 µg/mL of petroleum oil.

Shake well before use.

ASTM Committee D02 has jurisdiction over 580 published methods pertaining to petroleum products and lubricants. AccuStandard is a member of this technical committee, as well as ASTM Committee D16 on Aromatic Hydrocarbons. Working with fellow committee members has given us the opportunity to formulate products to meet the requirements of many of these methods.

In addition, AccuStandard can prepare, package and ship products for both ASTM PTP's (proficiency testing programs) and round robin studies. Please contact our Technical Service Department for more information.

Use this Cross Reference Table to Match other Methods for known Petrochemical analysis.

ANALYSIS	ASTM	IP	ISO	DIN	JIS	AFNOR
Tag Flash Point	D56			51411	K 2580	M07-003
Distillation	D86	123	3405	51751	K 2254	M07-002
COC Flash Point	D92	36	2592	51376	K 2265	T60-118
PMCC Flash Point	D93	34	2719	51758	K 2265	M07-019
Kinematic Viscosity	D445	71-1	3104	51562	K 2283	T60-100
Aniline Point	D611	2	2977	51775		M07-021
Hydrocarbon Types by FID	D1319	156	3837	51791	K 2536	M07-024
Water (Karl Fischer)	D1744		6296			T60-154
Freezing Point	D2386	16	3013	51421	K 2276	M07-048
Cloud Point	D2500	219	3015	51597	K 2269	T60-105
Sulfur by XRF	D2622			51400T6	K 2541	
Boiling Range By GC	D2887		3924			
Sulfur by Oxidative Microcoulometry	D3120		16591			
Lead by AAS	D3237	428				
Sulfur by Oxidative Microcoulometry	D3246	373				M07-052
Metals by AA	D3605	413	8691	51790T3		
Benzene by GC	D3606	425				
Sulfur by ED-XRF	D4294	336	8754			M07-053
Water (Karl Fischer)	D4377	356	10336			
Metals by AA	D4628	308		51391T1		
Nitrogen by Chemiluminescence Detection	D4629	379				M07-058
Metals by WD-XRF	D4927	407		51391T2		
Water (Karl Fischer)	D4928	386	10337			
Lead in Gas By X-Ray	D5059	228				
Vapor Pressure	D5191	394				M07-079
Oxygenates	D5599	408				
Cloud Point	D5771	444				
Cloud Point	D5772	445				
Cloud Point	D5773	446				
Freezing Point	D5901	434				
Auto-Freeze Point	D5972	435				
Hydrocarbons Automatic	D6379	436				
Hydrocarbons Automatic	D6591	391				
Metals			14597			

This is a partial list of Standards available for ASTM Methods.

Tables Generated from

(a) R.A. Nadkarni, "Guide to ASTM Test Methods for the Analysis of Petroleum Products and Lubricants," Manual 44 (200), ASTM West Conshohocken, PA
(b) Annual Book of ASTM Standards 2000, Volumes 05.01 to 05.05

MEMBER

ASTM INTERNATIONAL
Standards Worldwide

On site Viscosity testing

Vacuum Distillation apparatus for Testing Biodiesels Standards

ASTM D56, D92, D93 Flash Point Standards

The reference material is a stable, pure hydrocarbon with a method specific flash point determined by using the ASTM Method # referenced.

ASTM #	Nominal Flash Point	Cat. No.	Price / Unit
PMCC D93	60 °C	ASTM-P-132-01	$ 110 / 250 mL
PMCC D93	93 °C	ASTM-P-132-02	110 / 250 mL
COC D92	200 °C	ASTM-P-132-03	110 / 250 mL
COC D92	230 °C	ASTM-P-132-04	110 / 250 mL
PMCC D93	65 °C	ASTM-P-133-01	$ 175 / 250 mL
PMCC D93	134 °C	ASTM-P-133-02	130 / 250 mL
COC D92	138 °C	ASTM-P-133-03	130 / 250 mL
TCC D56	67 °C	ASTM-P-133-04	175 / 250 mL

Note: nominal 250 mL fill

ASTM D86 Distillation Standards

The automatic distillation apparatus duplicates the distillation conditions of the manual method. The increased reliance on electronic control requires an independent standard to verify that the apparatus is performing correctly. This synthetic blend of hydrocarbons boil in the temperature range specified in ASTM D86 distillation Groups 1 and 2, and a fuel oil that meets the group 4 criteria.

The Group 1 and 2 standards cover the boiling range 129-368°F (54-187°C). The Group 4 standard covers the range from 410-670°F (210-355°C).

Group	Description	Cat. No.	Price / Unit
1, 2	Synthetic Distillation Standard	ASTM-P-126-01	$ 160 / 500 mL
1, 2	Synthetic Distillation Standard	ASTM-P-126-SET	290 / 2 x 500 mL
4	Distillation Standard	ASTM-P-127-250ML	160 / 250 mL
4	Distillation Standard	ASTM-P-127-500ML	290 / 500 mL

Note: nominal 500 mL fill, or 250 mL fill

ASTM D445 Viscosity Calibration Standards

Viscosity @ 40°C	Cat. No.	Price / Unit
4 Cst	ASTM-P-128-01	$ 60 / 500 mL
7 Cst	ASTM-P-128-02	60 / 500 mL
19 Cst	ASTM-P-128-03	60 / 500 mL
61 Cst	ASTM-P-128-04	60 / 500 mL
180 Cst	ASTM-P-128-05	60 / 500 mL
520 Cst	ASTM-P-128-06	60 / 500 mL

Note: nominal 500 mL fill

ASTM D611 Aniline Point Standards

The accuracy of automated aniline point apparatus can be verified using a range of standards whose aniline points are determined using ASTM D611 (Method A) and ASTM D611 (Method E). Standards are packaged in 20 mL ampules in an inert atmosphere.

Aniline Point Verification Method 611(A)

Nominal Aniline Point Set include 5 Standards listed below	Cat. No.	Price / Unit
	D-611-SET	**$ 90 / 5 x 20 mL**
0°C	D-611-01	20 mL
30°C	D-611-02	20 mL
55°C	D-611-03	20 mL
68°C	D-611-04	20 mL
94°C	D-611-05	20 mL

Nominal Aniline Point Set include 3 Standards listed below	Cat. No.	Price / Unit
	D-611E-SET	**$ 90 / 3 x 20 mL**
43 °C	D-611E-01	20 mL
62 °C	D-611E-02	20 mL
77 °C	D-611E-03	20 mL
Pure Aniline	ASTM-P-134-PAK	$ 30 / 5 x 15 mL

Technical Note

For routine purposes pure Aniline is packaged in ampules under dry nitrogen. This minimizes the risk of oxidation.

ASTM D1015 Freezing Points of High Purity Hydrocarbons

Nominal Freezing Point	Cat. No.	Price / Unit
- 50 °C	ASTM-P-129-01	$ 110 / 250 mL
- 45 °C	ASTM-P-129-02	110 / 250 mL

Note: nominal 250 mL fill

ASTM D1319 Calibration Standards by Fluorescent Indicator Adsorption FIA

Olefin FIA Calibration Curve

FIA-CAL-SET — $ 350 / **Set of 7 x 1 mL**

D1319 Meets EPA Guidelines for RFG Analysis

	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %	Std. 6 Vol. %	Std. 7 Vol. %
Total Olefins	2.0	4.0	5.0	6.0	8.0	10.0	12.0
Total Paraffins	57.0	55.0	52.0	51.0	45.0	45.0	40.0
Total Aromatics	23.0	24.0	25.0	26.0	29.0	28.0	30.0
Total Oxygenate	18.0	17.0	18.0	17.0	18.0	17.0	18.0

	Cat. No.	Price / 1 mL
Standard 1	FIA-CAL-01	$ 60
Standard 2	FIA-CAL-02	60
Standard 3	FIA-CAL-03	60
Standard 4	FIA-CAL-04	60
Standard 5	FIA-CAL-05	60
Standard 6	FIA-CAL-06	60
Standard 7	FIA-CAL-07	60

FIA Olefin Standard

FIA-OLE — $ 45 / **1 x 1 mL**
FIA-OLE-5ML — $ 135 / **1 x 5 mL**
3 comps.

	Vol. %		Vol. %
1-Pentene	33.3	1-Heptene	33.3
2,3-Dimethyl-2-butene	33.3		

Technical Note

These standards have been prepared for the determination of aromatics, olefins, oxygenates and saturates in petroleum fractions by Fluorescent Indicator Adsorption (FIA) IP designation 156/95.

The certificate for the FIA calibration curve lists both the volume percents for the hydrocarbon types and the individual volume percents for each analyte in the functional group.

The weight fraction for each hydrocarbon type and individual analyte is also listed on the certificate.

FIA Paraffin Standard

FIA-PAR — $ 35 / **1 x 1 mL**
FIA-PAR-5ML — $ 115 / **1 x 5 mL**
8 comps.

	Vol. %		Vol. %
n-Pentane	8	2,3-Dimethylpentane	14
n-Hexane	9	Isooctane	16
Cyclohexane	15	*n*-Octane	14
n-Heptane	14	*n*-Decane	7

FIA Aromatic Standard

FIA-ARO — $ 35 / **1 x 1 mL**
FIA-ARO-5ML — $ 115 / **1 x 5 mL**
10 comps.

	Vol. %		Vol. %
Benzene	4	*m*-Xylene	16
Toluene	32	1,2,4-Trimethylbenzene	8
Ethylbenzene	8	1,3,5-Trimethylbenzene	8
p-Xylene	8	1,2,4,5-Tetramethylbenzene	4
o-Xylene	8	Naphthalene	4

ASTM D1744, E1064, D4377 Water in Liquid Petroleum Products by Karl Fischer D4928, D6304

Standards are available for coulometric Karl Fischer titrations and are packaged in 2 mL, 5 mL, and 20 mL ampules in sets of 5 and 10. The following concentrations are available:

Description	Cat. No.	Price / Unit
Water content 60 µg/g	KF-0.6X-5ML-VAP	$ 65 / 10 x 5 mL
Water content 100 µg/g	KF-1X-2ML-VAP	40 / 10 x 2 mL
	KF-1X-5ML-VAP	45 / 10 x 5 mL
	KF-1X-20ML-PAK	50 / 5 x 20 mL
Water content 1000 µg/g	KF-10X-2ML-VAP	40 / 10 x 2 mL
	KF-10X-5ML-VAP	45 / 10 x 5 mL
	KF-10X-20ML-PAK	50 / 5 x 20 mL
Water content 5000 µg/g	KF-50X-2ML-VAP	40 / 10 x 2 mL
	KF-50X-5ML-VAP	45 / 10 x 5 mL
	KF-50X-20ML-PAK	50 / 5 x 20 mL

Value Added PAK
Packaged in ready to use quantities.

Value Added Paks (Cat. No.'s ending in -VAP) provide multiple single units packaged together for both greater stability and cost savings.

Karl Fischer titrator

ASTM D2386 Freezing Points Calibration Standards

Nominal Freezing Point	Cat. No.	Price / Unit
- 50 °C	ASTM-P-129-01	$ 110 / 250 mL
- 45 °C	ASTM-P-129-02	110 / 250 mL

ASTM D2500 Cloud Point Calibration Standards

Cloud Point, Approx. Value	Cat. No.	Price / Unit
+ 5 °C	ASTM-P-131-01	$ 110 / 250 mL
- 2 °C	ASTM-P-131-02	110 / 250 mL
- 10 °C	ASTM-P-131-03	110 / 250 mL
- 15 °C	ASTM-P-131-04	110 / 250 mL
- 20 °C	ASTM-P-131-05	110 / 250 mL

AccuStandard stands for accuracy in Cloud Points.

D2622, D3120, D3246, D4294, D5453, D6334, D6445 & Proposed ASTM Sulfur Methods

AccuStandard offers the Petroleum Industry the most complete line of calibration standards designed for today's test methods for sulfur analysis. These standards are designed specifically for the analysis of sulfur in a wide variety of matrices such as #2 diesel fuel, white mineral oil, kerosene, gasoline, crude oil and residual oil.

Traceability, Quality and Certification

All sulfur standards are manufactured from the highest quality raw materials, including well characterized starting materials and the lowest sulfur matrices available. All standards are manufactured on a weight/weight basis using balances that are calibrated and verified daily against reference mass standards directly traceable to NIST. The concentration of these working level Sulfur standards have established traceability links to NIST SRM's where available.

Packaging

Since applicable concentration ranges will vary based on the instrumentation used and the nature of the sample the standards can be ordered as complete sets or individual bottles.

Sulfur Standards for ASTM D2622, D3120, D3246, D4294, D5453, D6334, D6445 & Proposed ASTM Sulfur Methods

Sulfur in Heavy Weight Mineral Oil (75 cSt) — Ready-to-Use

Concentration µg/g	Concentration Wt. %	100 mL Cat. No.	PAK 5 x 20 mL Cat. No.
Blank	0.000	SWMO-BL-100ML	SWMO-BL-20ML-PAK
100	0.010	SWMO-1X-100ML	SWMO-1X-20ML-PAK
200	0.020	SWMO-2X-100ML	SWMO-2X-20ML-PAK
300	0.030	SWMO-3X-100ML	SWMO-3X-20ML-PAK
400	0.040	SWMO-4X-100ML	SWMO-4X-20ML-PAK
500	0.050	SWMO-5X-100ML	SWMO-5X-20ML-PAK
750	0.075	SWMO-7.5X-100ML	SWMO-7.5X-20ML-PAK
1,000	0.10	SWMO-10X-100ML	SWMO-10X-20ML-PAK
1,500	0.15	SWMO-15X-100ML	SWMO-15X-20ML-PAK
3,000	0.30	SWMO-30X-100ML	SWMO-30X-20ML-PAK
5,000	0.50	SWMO-50X-100ML	SWMO-50X-20ML-PAK
7,000	0.70	SWMO-70X-100ML	SWMO-70X-20ML-PAK
10,000	1.00	SWMO-100X-100ML	SWMO-100X-20ML-PAK
15,000	1.50	SWMO-150X-100ML	SWMO-150X-20ML-PAK
20,000	2.00	SWMO-200X-100ML	SWMO-200X-20ML-PAK
30,000	3.00	SWMO-300X-100ML	SWMO-300X-20ML-PAK
40,000	4.00	SWMO-400X-100ML	SWMO-400X-20ML-PAK
50,000	5.00	SWMO-500X-100ML	SWMO-500X-20ML-PAK
60,000	6.00	SWMO-600X-100ML	SWMO-600X-20ML-PAK

Set of above **SWMO-CAL-100ML-SET** 19 x 100 mL $ 850 — At stated concentration 5 x 20 mL $ 60 / ea

Individual Sulfur Standards 100 mL Bottle 1 - 10 units $ 55 ea 10+ units $ 50 ea

Sulfur in Light Weight Mineral Oil (20 cSt) — Ready-to-Use

Concentration µg/g	Concentration Wt. %	100 mL Cat. No.	PAK 5 x 20 mL Cat. No.
Blank	0.000	SWMO-LT-BL-100ML	SWMO-LT-BL-20ML-PAK
100	0.010	SWMO-LT-1X-100ML	SWMO-LT-1X-20ML-PAK
200	0.020	SWMO-LT-2X-100ML	SWMO-LT-2X-20ML-PAK
300	0.030	SWMO-LT-3X-100ML	SWMO-LT-3X-20ML-PAK
400	0.040	SWMO-LT-4X-100ML	SWMO-LT-4X-20ML-PAK
500	0.050	SWMO-LT-5X-100ML	SWMO-LT-5X-20ML-PAK
750	0.075	SWMO-LT-7.5X-100ML	SWMO-LT-7.5X-20ML-PAK
1,000	0.10	SWMO-LT-10X-100ML	SWMO-LT-10X-20ML-PAK
1,500	0.15	SWMO-LT-15X-100ML	SWMO-LT-15X-20ML-PAK
3,000	0.30	SWMO-LT-30X-100ML	SWMO-LT-30X-20ML-PAK
5,000	0.50	SWMO-LT-50X-100ML	SWMO-LT-50X-20ML-PAK
7,000	0.70	SWMO-LT-70X-100ML	SWMO-LT-70X-20ML-PAK
10,000	1.00	SWMO-LT-100X-100ML	SWMO-LT-100X-20ML-PAK
15,000	1.50	SWMO-LT-150X-100ML	SWMO-LT-150X-20ML-PAK
20,000	2.00	SWMO-LT-200X-100ML	SWMO-LT-200X-20ML-PAK
30,000	3.00	SWMO-LT-300X-100ML	SWMO-LT-300X-20ML-PAK
40,000	4.00	SWMO-LT-400X-100ML	SWMO-LT-400X-20ML-PAK
50,000	5.00	SWMO-LT-500X-100ML	SWMO-LT-500X-20ML-PAK
60,000	6.00	SWMO-LT-600X-100ML	SWMO-LT-600X-20ML-PAK

Set of above **SWMO-LT-CAL-100ML-SET** 19 x 100 mL $ 850 — At stated concentration 5 x 20 mL $ 60

Individual Sulfur Standards 100 mL Bottle 1 - 10 units $ 55 ea 10+ units $ 50 ea

Sulfur in #2 Diesel Fuel — Ready-to-Use

Concentration µg/g	Concentration Wt. %	100 mL Cat. No.	PAK 5 x 20 mL Cat. No.
Blank	0.000	SDF-BL-100ML	SDF-BL-20ML-PAK
100	0.010	SDF-1X-100ML	SDF-1X-20ML-PAK
200	0.020	SDF-2X-100ML	SDF-2X-20ML-PAK
300	0.030	SDF-3X-100ML	SDF-3X-20ML-PAK
400	0.040	SDF-4X-100ML	SDF-4X-20ML-PAK
500	0.050	SDF-5X-100ML	SDF-5X-20ML-PAK
750	0.075	SDF-7.5X-100ML	SDF-7.5X-20ML-PAK
1,000	0.10	SDF-10X-100ML	SDF-10X-20ML-PAK
1,500	0.15	SDF-15X-100ML	SDF-15X-20ML-PAK
3,000	0.30	SDF-30X-100ML	SDF-30X-20ML-PAK
5,000	0.50	SDF-50X-100ML	SDF-50X-20ML-PAK
7,000	0.70	SDF-70X-100ML	SDF-70X-20ML-PAK
10,000	1.00	SDF-100X-100ML	SDF-100X-20ML-PAK
15,000	1.50	SDF-150X-100ML	SDF-150X-20ML-PAK
20,000	2.00	SDF-200X-100ML	SDF-200X-20ML-PAK
30,000	3.00	SDF-300X-100ML	SDF-300X-20ML-PAK
40,000	4.00	SDF-400X-100ML	SDF-400X-20ML-PAK
50,000	5.00	SDF-500X-100ML	SDF-500X-20ML-PAK
60,000	6.00	SDF-600X-100ML	SDF-600X-20ML-PAK

Set of above **SDF-CAL-100ML-SET** 19 x 100 mL $ 850 — **SDF-CAL-20ML-SET** 19 x (5 x 20 mL) $ 950

Individual Sulfur Standards 100 mL Bottle 1 - 10 units $ 55 ea 10+ units $ 50 ea — At stated concentration 5 x 20 mL $ 60

Hazardous Shipping Fees apply to 100 mL Sulfur Standards in #2 Diesel Fuel.

Technical Note

A well-characterized di-*n*-butyl sulfide is used as the starting material in these products.

Custom Concentrations

AccuStandard can custom design a sulfur set for your specific needs. Contact our Technical Service Department for assistance or additional information.

Sulfur Standards for ASTM D2622, D3120, D3246, D4294, D5453, D6334, D6445 & Proposed ASTM Sulfur Methods

Sulfur in Light Distillate Kerosene

Ready-to-Use

Concentration µg/g	Wt. %	100 mL Cat. No.	PAK 5 x 20 mL Cat. No.
Blank	0.000	SK-BL-100ML	SK-BL-20ML-PAK
100	0.010	SK-1X-100ML	SK-1X-20ML-PAK
300	0.030	SK-3X-100ML	SK-3X-20ML-PAK
500	0.050	SK-5X-100ML	SK-5X-20ML-PAK
750	0.075	SK-7.5X-100ML	SK-7.5X-20ML-PAK
1,000	0.10	SK-10X-100ML	SK-10X-20ML-PAK
2,000	0.20	SK-20X-100ML	SK-20X-20ML-PAK
3,000	0.30	SK-30X-100ML	SK-30X-20ML-PAK
4,000	0.40	SK-40X-100ML	SK-40X-20ML-PAK
5,000	0.50	SK-50X-100ML	SK-50X-20ML-PAK
10,000	1.00	SK-100X-100ML	SK-100X-20ML-PAK
20,000	2.00	SK-200X-100ML	SK-200X-20ML-PAK

Set of above **SK-CAL-100ML-SET** Δ
12 x 100 mL $ 500

At stated conc.
5 x 20 mL $ 60

Individual Sulfur Standards
100 mL Bottle
1 - 10 units $ 55 ea
10+ units $ 50 ea

Technical Note

A well-characterized di-*n*-butyl sulfide is used as the starting material in these products.

Sulfur in Heavy Distillate Kerosene

Concentration µg/g	Wt. %	100 mL Cat. No.
Blank	0.000	SK-HD-BL-100ML
100	0.010	SK-HD-1X-100ML
200	0.020	SK-HD-2X-100ML
300	0.030	SK-HD-3X-100ML
400	0.040	SK-HD-4X-100ML
500	0.050	SK-HD-5X-100ML
750	0.075	SK-HD-7.5X-100ML
1,000	0.10	SK-HD-10X-100ML
1,500	0.15	SK-HD-15X-100ML
2,000	0.20	SK-HD-20X-100ML
3,000	0.30	SK-HD-30X-100ML
4,000	0.40	SK-HD-40X-100ML
5,000	0.50	SK-HD-50X-100ML
7,000	0.70	SK-HD-70X-100ML
10,000	1.00	SK-HD-100X-100ML
15,000	1.50	SK-HD-150X-100ML
20,000	2.00	SK-HD-200X-100ML
30,000	3.00	SK-HD-300X-100ML
40,000	4.00	SK-HD-400X-100ML
50,000	5.00	SK-HD-500X-100ML
60,000	6.00	SK-HD-600X-100ML

Set of above **SK-HD-CAL-100ML-SET** Δ
21 x 100 mL $ 950

Individual Sulfur Standards
100 mL Bottle
1 - 10 units $ 55 ea
10+ units $ 50 ea

Standards of Interest

For the mandatory real world QC samples stipulated in the Method, see beginning of this section.

Custom Concentrations

AccuStandard can custom design a sulfur set for your specific needs. Contact our Technical Service Department for assistance or additional information.

Δ Hazardous Shipping Fees apply to 100 mL Sulfur Standards in Kerosene.

Antek 900 Series Sulfur Analyzer

XOS Optical Systems, Sufur Analyzer (Monochromatic Wavelength-Dispersive X-Ray Fluorescence Spectrometer)

ASTM D2622, D4294 Sulfur Calibration

Sulfur Calibration Standards in Isooctane for Gasoline & Reformulated Gasoline Analysis

In Isooctane

Sulfur Conc.	Sulfur Wt.%	Cat. No. (100 mL)
Blank	0.0	STP-BL-100ML
10 µg/g	0.001	STP-1X-100ML
20 µg/g	0.002	STP-2X-100ML
30 µg/g	0.003	STP-3X-100ML
50 µg/g	0.005	STP-5X-100ML
100 µg/g	0.010	STP-10X-100ML
200 µg/g	0.020	STP-20X-100ML
300 µg/g	0.030	STP-30X-100ML
400 µg/g	0.040	STP-40X-100ML
600 µg/g	0.060	STP-60X-100ML
1000 µg/g	0.10	STP-100X-100ML
2000 µg/g	0.20	STP-200X-100ML
3000 µg/g	0.30	STP-300X-100ML

STP-CAL-100ML-SET $ 650 / **13 x 100 mL**
In Isooctane Set of 13 individual bottles

Standards can be mixed for quantity discounts
1 to 4 units $ 60 each
5 to 10 units $ 55 each
more than 10 units $ 50 each

Hazardous Shipping Fees apply to 100 mL Sulfur Standards in Isooctane.

Technical Note

A well characterized di-*n*-butyl sulfide starting material is used with a low sulfur Isooctane matrix for RFG/gasoline sulfur standards.

ASTM D3120, D3246 Sulfur Calibration

Sulfur Calibration Set

D-3120-92-CAL-SET $ 75 / **8 x 1 mL**
In Isooctane

Sulfur Conc.	Sulfur Wt. %	Cat. No (1 mL)
Blank	———	D-3120-92-BL
1 µg/g	0.0001	D-3120-92-1X
3 µg/g	0.0003	D-3120-92-3X
10 µg/g	0.0010	D-3120-92-10X
30 µg/g	0.0030	D-3120-92-30X
50 µg/g	0.0050	D-3120-92-50X
75 µg/g	0.0075	D-3120-92-75X
100 µg/g	0.010	D-3120-92-100X

Technical Note

Well characterized di-*n*-butyl sulfide is used in a low sulfur Isooctane matrix for this calibration set.

ASTM D2622, D6334, D6445 Sulfur Calibration

Sulfur Calibration Standards used on XRF Energy Dispersive or Wavelength Instruments

Low Level

In Isooctane:Toluene (3:1)

Sulfur Conc.	Sulfur Wt.%	Cat. No. (100 mL)
Blank	0.0	D-2622-LL-BL-100ML
5 µg/g	0.0005	D-2622-LL-5X-100ML
10 µg/g	0.0010	D-2622-LL-10X-100ML
30 µg/g	0.0030	D-2622-LL-30X-100ML
50 µg/g	0.0050	D-2622-LL-50X-100ML
75 µg/g	0.0075	D-2622-LL-75X-100ML
100 µg/g	0.010	D-2622-LL-100X-100ML
300 µg/g	0.030	D-2622-LL-300X-100ML
500 µg/g	0.050	D-2622-LL-500X-100ML
1000 µg/g	0.100	D-2622-LL-1000X-100ML

D-2622-LL-CAL-100ML-SET $ 450 / **10 x 100 mL**
In Isooctane:Toluene (3:1) Set of 10 individual bottles

Mid Level Additions

200 µg/g	0.020	D-2622-LL-200X-100ML
400 µg/g	0.040	D-2622-LL-400X-100ML
600 µg/g	0.060	D-2622-LL-600X-100ML
700 µg/g	0.070	D-2622-LL-700X-100ML
800 µg/g	0.080	D-2622-LL-800X-100ML
900 µg/g	0.090	D-2622-LL-900X-100ML
1100 µg/g	0.110	D-2622-LL-1100X-100ML
1200 µg/g	0.120	D-2622-LL-1200X-100ML

Standards can be mixed for quantity discounts
1 to 4 units $ 60 each
5 to 10 units $ 55 each
more than 10 units $ 50 each

Hazardous Shipping Fees apply to 100 mL Sulfur Standards in Isooctane:Toluene.

Technical Note

Well characterized Thiophene & 2-Methyl thiophene are used as starting material in these products.

Standards of Interest

For the mandatory real world QC samples stipulated in many ASTM Sulfur Methods, see beginning of this section.

ASTM Methods - Sulfur in Oil

Sulfur in Crude Oil Standards

µg/g	Wt. %	Cat. No. (100 mL)
1,000	0.10	SCO-10X-100ML
2,500	0.25	SCO-25X-100ML
5,000	0.50	SCO-50X-100ML
10,000	1.00	SCO-100X-100ML
20,000	2.00	SCO-200X-100ML
30,000	3.00	SCO-300X-100ML
40,000	4.00	SCO-400X-100ML
50,000	5.00	SCO-500X-100ML

SCO-CAL-100ML-SET $ 675 / 8 x 100 mL
In Crude oil Set of 8 individual bottles

Individual Sulfur	1 -10 units	10 +units
100 mL Bottle	$ 105 ea	$ 85 ea

Sulfur in Residual Oil Standards

µg/g	Wt. %	Cat. No. (100 mL)
3,500	0.35	SRO-35X-100ML
7,000	0.70	SRO-70X-100ML
10,000	1.00	SRO-100X-100ML
15,000	1.50	SRO-150X-100ML
20,000	2.00	SRO-200X-100ML
30,000	3.00	SRO-300X-100ML
40,000	4.00	SRO-400X-100ML

SRO-CAL-100ML-SET $ 640 / 7 x 100 mL
In Residual oil Set of 7 individual bottles

Individual Sulfur	1 -10 units	10 +units
100 mL Bottle	$ 105 ea	$ 95 ea

Standards of Interest

We can provide **Ready-to-Inject** working level calibration standards to meet unique laboratory applications. Call or fax us your standard requirements.

ASTM Methods Sulfur in Aromatic Hydrocarbons

Total Sulfur in Aromatic Compounds by Hydrogenolysis & Rateometric Colorimetry

ASTM-P-0010-PAK $ 75 / **5 x 1 mL**
1000 µg/mL in Toluene

Sulfur (as Thiophene)

Trace Quantities of Sulfur in Liquid Aromatic Hydrocarbons by Oxidative Microcoulometry

ASTM-P-0020-PAK $ 75 / **5 x 1 mL**
1000 µg/mL in Xylenes

Sulfur (as Dibenzothiophene)

ASTM-SSTD-A/B-SET $ 100 / **10 x 2 mL**
Set contains the following 10 standards in isooctane

Description	Cat. No. (2 mL)
Sulfur Blank	ASTM-SSTDA-BL
Sulfur @ 0.5 µg/g in Isooctane	ASTM-SSTDA-01
Sulfur @ 1.0 µg/g in Isooctane	ASTM-SSTDA-02
Sulfur @ 2.5 µg/g in Isooctane	ASTM-SSTDA-03
Sulfur @ 5.0 µg/g in Isooctane	ASTM-SSTDA-04
Sulfur Blank	ASTM-SSTDB-BL
Sulfur @ 5.0 µg/g in Isooctane	ASTM-SSTDB-04
Sulfur @ 10.0 µg/g in Isooctane	ASTM-SSTDB-05
Sulfur @ 25.0 µg/g in Isooctane	ASTM-SSTDB-06
Sulfur @ 50.0 µg/g in Isooctane	ASTM-SSTDB-07

AccuStandard is an active member in ASTM and strives to keep abreast of ASTM method revisions. If our listed formulation does not meet the most recent method revision, please contact Technical Support for an updated product.

AccuStandard's Environmental Efforts

1. As part of a recent facility expansion, and in cooperation with the local utilities, AccuStandard invested almost $100,000 on energy conservation and controls. The estimated impact on the environment is similar to that of planting 19 acres of trees.

2. Many customers avoid the environmental impact and cost of disposing of unused standards. One of the only standards manufacturers to offer this, Accustandard's "On-Going Stability Program" allows us to extend the expiration date on a standard if our testing over time on a specific lot warrants it.

3. Many every day steps such as using recycled paper for the tens of thousands of catalogs every year, educating customers on the value of using standards as pre-made solutions rather than buying large quantities of neats.

ASTM

PIANO, PONA, PNA

The **PIANO** line of quantitative and qualitative petrochemical standards for analysis of naphthas, gasolines, reformates and other complex hydrocarbons mixtures. **PIANO** analysis involves the determination of the percentage of the following five fractions Paraffins, Isoparaffins, Aromatics, Naphthenes, and Olefins. **PONA** analysis involves analyzing the naphtha sample for Paraffins, Olefins, Naphthenes, and Aromatics. If the Isoparaffins and Olefins are not present, the analysis is just for **PNA**.

The **PIANO** line of standards is used to determine quantitative and qualitative retention times and indices as well as to monitor response factors within the hydrocarbon blend. These complex mixes are prepared from materials of the highest available purity, accurate to four decimal places, and include a detailed data sheet on the formulation composition. The typical range for the analytes in each formulation has been provided for each catalog item. The exact composition on a weight % basis for each analyte has been provided on the certificate, and a disk deliverable spreadsheet is available on request.

Updated PIANO Full Analytical Data Package (FAP) includes:

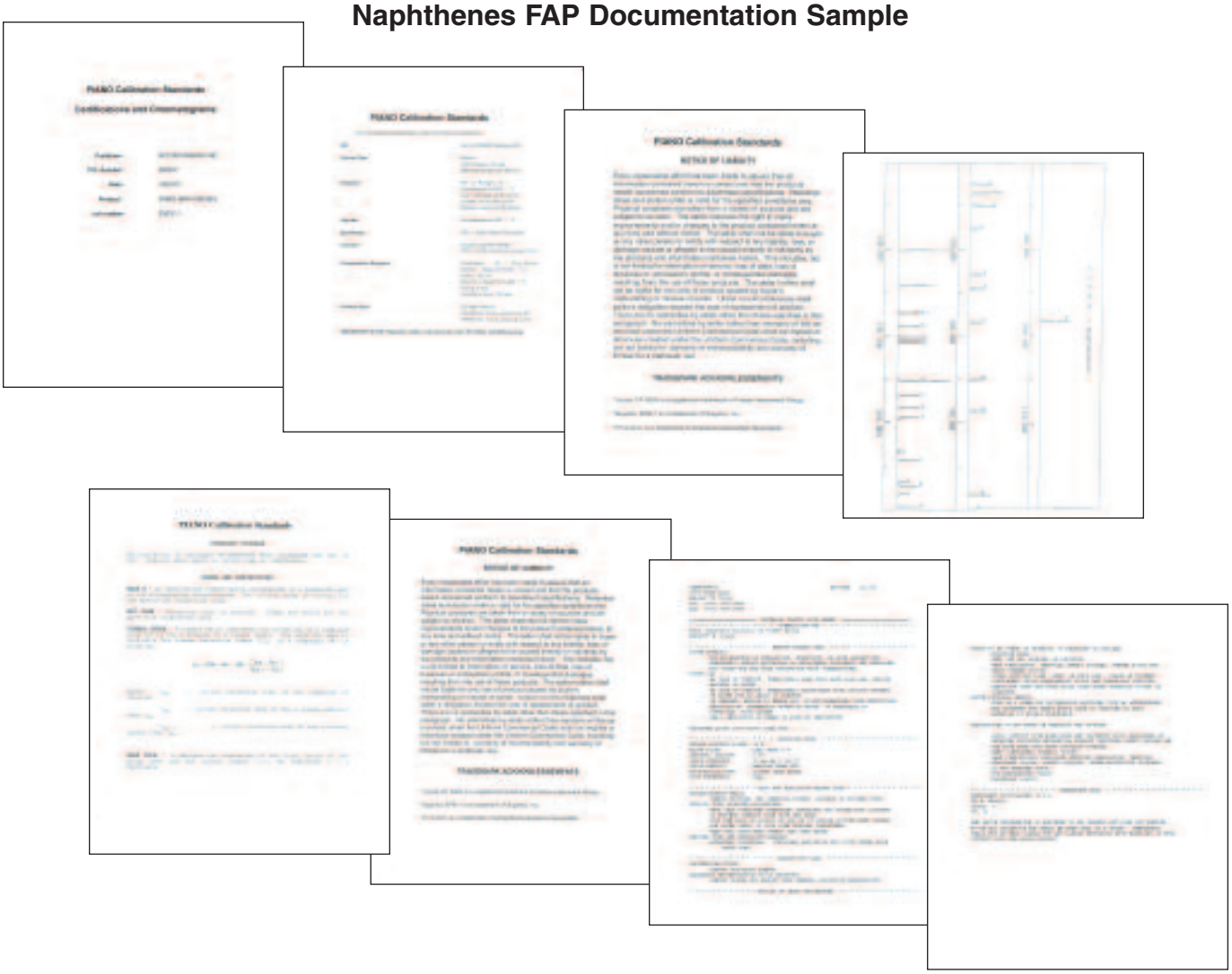
- **Detailed analytical contitions**
- **Certification of all components**
- **Chromatograms all products**

Products are prepared and certified gravimetrically.

1. All weights are traceable through National Institute of Standards & Technology.
2. Certified Analyte Concentration = Purity x Prepared Concentration.
3. The uncertainty value is ±2% and is determined in accordance with the CITAC guide to Quantifying Uncertainty in Analytical Measurement and is reported as an Expanded Uncertainty ($U(C_{cd})$). Assuming a normal distribution, a coverage factor of K=2 (95% confidence level) is used in the calculation.

Partnering with Air Liquide to provide these materials enables AccuStandard to provide a detailed certification package to meet your needs.

Naphthenes FAP Documentation Sample



PIANO, PONA, PNA Analysis

PIANO *n*-Paraffins Mix

ASTM-P-0031-FAP $ 220 / **100 µL**

11 paraffins listed below at varying Wt. % typically in the range from 7.0 to 11.0 Wt. %. The actual certificate will have the exact Wt. % for each analyte.

	Typ. Wt. %
n-Pentane	9.4375
n-Hexane	9.5661
n-Heptane	9.8048
n-Octane	9.5518
n-Nonane	9.0482
n-Decane	9.2517
n-Undecane	9.3172
n-Dodecane	9.1855
n-Tridecane	8.9332
n-Tetradecane	8.7989
n-Pentadecane	7.1057

PIANO Isoparaffins Mix

ASTM-P-0032-FAP $ 240 / **100 µL**

35 Isoparaffins listed below at varying Wt. % typically in the range from 0.5 to 6.0 Wt. %. The actual certificate will have the exact Wt. % for each analyte.

	Typ. Wt. %		Typ. Wt. %		Typ. Wt. %
Isopentane	2.1928	2,2-Dimethylhexane	1.3061	2,3-Dimethylheptane	1.4870
2,3-Dimethylbutane	0.4466	2,5-Dimethyl hexane	3.6975	3,4-Dimethylheptane	3.7450
2-Methylpentane	3.2815	2,2,3-Trimethylpentane	1.7371	2-Methyloctane	3.7576
3-Methylpentane	5.3865	2,4-Dimethylhexane	1.6252	3-Methyloctane	5.6020
2,2-Dimethylpentane	1.7747	2,3-Dimethylhexane	1.6212	3,3-Diethylpentane	1.5755
2,4-Dimethylpentane	3.6993	2-Methylheptane	4.4073	2,2-Dimethyloctane	3.4135
2,2,3-Trimethylbutane	3.9291	4-Methylheptane	3.2015	3,3-Dimethyloctane	3.2582
3,3-Dimethylpentane	1.1848	3-Methylheptane	5.5186	2,3-Dimethyloctane	3.8842
2-Methylhexane	2.2384	3-Ethylhexane	0.6999	3-Ethyloctane	3.7482
2,3-Dimethylpentane	1.7883	3,3-Dimethylheptane	1.7011	2-Methylnonane	3.7144
3-Methylhexane	1.6708	2,5-Dimethylheptane	5.6731	3-Methylnonane	5.7687
3-Ethylpentane	0.5080	3,5-Dimethylheptane	0.7565		

PIANO Aromatics Mix

ASTM-P-0033-FAP $ 240 / **100 µL**

38 Aromatics listed below at varying Wt. % typically in the range from 0.2 to 7.0 Wt. %. The actual certificate will have the exact Wt. % for each analyte.

	Typ. Wt. %
Benzene	3.45
Toluene	4.5738
EthylBenzene	6.7670
m-Xylene	2.2259
p-Xylene	4.4815
o-Xylene	2.2519
Isopropylbenzene	2.2248
n-Propylbenzene	4.4979
1-Methyl-3-ethylbenzene	2.2243
1-Methyl-4-ethylbenzene	2.2206
1,3,5-Trimethylbenzene	1.1076
1-Methyl-2-ethylbenzene	2.2611
1,2,4-Trimethylbenzene	2.2535
tert-Butylbenzene	4.5310
Isobutylbenzene	4.4216
sec-Butylbenzene	2.2368
1-Methyl-3-isopropylbenzene	1.1066
1-Methyl-4-isopropylbenzene	1.0668
1-Methyl-2-isopropylbenzene	1.1241
1-Methyl-3-*n*-propylbenzene	2.1135
1-Methyl-4-*n*-propylbenzene	2.2336
n-Butylbenzene	2.2087
1,2-Diethylbenzene	1.0947
1-Methyl-2-*n*-propylbenzene	2.2641
1,4-Dimethyl-2-ethylbenzene	2.2803
1,3-Dimethyl-5-ethylbenzene	2.2858
1,2-Dimethyl-4-ethylbenzene	2.2558
1,3-Dimethyl-2-ethylbenzene	1.1416
1,2-Dimethyl-3-ethylbenzene	2.1864
1,2,4,5-Tetramethylbenzene	0.2360
2-Methylbutylbenzene	1.1453
1-tert-Butyl-2-methylbenzene	0.7641
n-Pentylbenzene	4.4828
1-tert-Butyl,3,5-dimethylbenzene	2.1641
1-tert-Butyl-4-ethylbenzene	2.2322
1,3,5-Triethylbenzene	4.5671
1,2,4-Triethylbenzene	1.1087
n-Hexylbenzene	4.5029

PIANO Naphthenes Mix

ASTM-P-0034-FAP $ 240 / **100 µL**

30 Napthenes listed below at varying Wt. % typically in the range from 0.5 to 8.0 Wt. %. The actual certificate will have the exact Wt. % for each analyte.

	Typ. Wt. %
Cyclopentane	4.9143
Methylcyclopentane	3.2829
Cyclohexane	5.3268
1,1-Dimethylcyclopentane	3.4612
cis-1,3-Dimethylcyclopentane	0.5963
trans-1,2-Dimethylcyclopentane	1.4715
trans-1,3-Dimethylcyclopentane	2.7531
Methylcyclohexane	5.6091
Ethylcyclopentane	3.5534
ctc-1,2,3-Trimethylcyclopentane	1.5859
cct-1,2,4-Trimethylcyclopentane	3.7208
ctc-1,2,4-Trimethylcyclopentane	1.6467
trans-1,4-Dimethylcyclohexane	3.6499
1-Ethyl-1-methylcyclopentane	1.0554
trans-1,2-Dimethylcyclohexane	1.6537
ccc-1,2,3-Trimethylcyclopentane	0.7971
Isopropylcyclopentane	3.5042
cis-1,2-Dimethylcyclohexane	3.7159
n-Propylcyclopentane	3.6438
ccc-1,3,5-Trimethylcyclohexane	3.5263
1,1,4-Trimethylcyclohexane	3.6791
ctt-1,2,4-Trimethylcyclohexane	3.6107
ctc-1,2,4-Trimethylcyclohexane	3.5069
1,1,2-Trimethylcyclohexane	3.3354
Isobutylcyclopentane	3.7123
Isopropylcyclohexane	5.7233
n-Butylcyclopentane	3.6944
Isobutylcyclohexane	5.6729
t-1-Methyl-2-propylcyclohexane	3.8434
t-1-Methyl-2-(4MP)cyclopentane	3.7534

PIANO Olefins Mix

ASTM-P-0035-FAP $ 240 / **100 µL**

25 Olefins listed below at varying Wt. % typically in the range from 1.2 to 9.0 Wt. %. The actual certificate will have the exact Wt. % for each analyte.

	Typ. Wt. %
3-Methyl-1-butene	1.9396
1-Pentene	4.1355
2-Methyl-1-butene	1.4440
2-Methyl-1,3-butadiene	2.3889
trans-2-Pentene	1.8034
cis-2-Pentene	1.9792
4-Methylpentene-1	3.4372
1-Hexene	7.0484
trans-2-Hexene	1.7302
2-Methylpentene-2	3.3901
cis-2-Hexene	3.8765
1-Heptene	7.6134
trans-3-Heptene	3.3469
cis-3-Heptene	5.8657
trans-2-Heptene	3.7217
cis-2-Heptene	5.7679
1-Octene	7.6901
trans-2-Octene	1.9432
cis-2-Octene	3.9502
1-Nonene	7.6425
trans-3-Nonene	1.9972
cis-3-Nonene	4.0042
trans-2-Nonene	1.9848
cis-2-Nonene	2.7952
1-Decene	8.2053

Technical Note

We may add and/or subtract PIANO Analytes and vary the weight % for each Analyte. The certificate will reflect the exact Analyte composition.

PIANO Mixture

ASTM-P-0030-FAP $ 660 / **100 µL** (139 comps.)

The PIANO formulation contains the *n*-Paraffins, Isoparaffins,Aromatics, Naphthenes, and Olefins: **ASTM-P-0031-FAP, ASTM-P-0032-FAP, ASTM-P-0033-FAP, ASTM-P-0034-FAP, ASTM-P-0035-FAP**. Approximate weight %'s for the total: *n*-Paraffins 18.5%, Isoparaffins 17.9%, Aromatics 23.6%, Naphthenes 20.9%, Olefins 19.0%. The certificate lists the weight % for all analytes in the formulation.

PIANO Mix Set

ASTM-PIANO-FAP-SET $ 1320 / **6 x 100 µL**

Set includes the following **ASTM-P-0030, ASTM-P-0031, ASTM-P-0032, ASTM-P-0033, ASTM-P-0034, ASTM-P-0035**

ASTM D2789 Hydrocarbon Types in Low Olefinic Gas by MS

Hydrocarbon Mixture

D-2789-CTM $ 40 / **1 x 1 mL**
D-2789-CTM-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
9 comps.

	Vol. %		Vol. %
2-Methylpentane	7.2	*cis*-1,2-Dimethylcyclohexane	15.5
2,4-Dimethylpentane	9.4	Benzene	7.7
n-Octane	16.6	Toluene	10
Methylcyclopentane	7.1	*p*-Xylene	16.5
Methylcyclohexane	10		

Technical Note

Both the actual volume percent ratio and the final weight fractions for each analyte will be listed on the certificate.

ASTM D2887 Boiling Range Distribution of Petroleum Fractions by GC

Calibration Mixture

DRH-002N $ 30 / **100 mg**
DRH-002N-10X $ 40 / **1 gm**
17 comps.

	Wt. %		Wt. %
n-Hexane	6	*n*-Octadecane	5
n-Heptane	6	*n*-Eicosane	2
n-Octane	8	*n*-Tetracosane	2
n-Nonane	8	*n*-Octacosane	1
n-Decane	12	*n*-Dotriacontane	1
n-Undecane	12	*n*-Hexatriacontane	1
n-Dodecane	12	*n*-Tetracontane	1
n-Tetradecane	12	*n*-Tetratetracontane	1
n-Hexadecane	10		

Hydrocarbon Window Defining Standard

DRH-008S-R2 $ 65 / **1 x 1 mL**
DRH-008S-R2-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
500 µg/mL each in Chloroform 35 comps.

Octane	Nonadecane	Triacontane
Nonane	Phytane	*n*-Hentriacontane
Decane	Eicosane	Dotriacontane
Undecane	Heneicosane	Tritriacontane
Dodecane	Docosane	Tetratriacontane
Tridecane	Tricosane	Pentatriacontane
Tetradecane	Tetracosane	Hexatriacontane
Pentadecane	Pentacosane	Heptatriacontane
Hexadecane	Hexacosane	Octatriacontane
Heptadecane	Heptacosane	Nonatriacontane
Octadecane	Octacosane	Tetracontane
Pristane	Nonacosane	

Fuel Oil Degradation/Retention Time Mix for Quantification of C_{17}/Pristane & C_{18}/Phytane ratios

DRH-005S-10X $ 20 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2:CS_2 (1:1) 4 comps.
DRH-005S-R1-10X $ 25 / **1 x 1 mL**
DRH-005S-R1-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2.0 mg/mL each in Chloroform 4 comps.

Heptadecane
Octadecane
Phytane *(2,6,10,14-Tetramethylhexadecane)*
Pristane *(2,6,10,14-Tetramethylpentadecane)*

Technical Note

AccuStandard offers a hydrocarbon window defining standard with the C_8 to C_{40} odd and even alkanes. As an added benefit, pristane and phytane are included in the formulation. Use of this one standard measuring the C_{17}/ pristane and C_{18}/ phytane ratio can be used to estimate degradation of fuel oil.

Also available is a fuel oil degradation mixture containing just the four required analytes to determine the C_{17}/pristane and C_8/ phytane ratio (DRH-005S-10X).

Column Test Mixture

D-2887 $ 10 / **1 x 1 mL**
1% v/v in n-Octane 2 comps.

n-Hexadecane *n*-Octadecane

Reference Gas Oil Sample Lot #2

D-2887-REFOIL $ 35 / **1 x 1 mL**

Calibration Solutions

DRH-002S-R1 $ 50 / **1 x 1 mL**
DRH-002S-R1-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
At stated conc. in Chloroform 17 comps.

	µg/mL		µg/mL
n-Hexane	600	*n*-Octadecane	500
n-Heptane	600	*n*-Eicosane	200
n-Octane	800	*n*-Tetracosane	200
n-Nonane	800	*n*-Octacosane	100
n-Decane	1200	*n*-Dotriacontane	100
n-Undecane	1200	*n*-Hexatriacontane	100
n-Dodecane	1200	*n*-Tetracontane	100
n-Tetradecane	1200	*n*-Tetratetracontane	100
n-Hexadecane	1000		

DRH-002S-R2 $ 50 / **1 x 1 gm**
DRH-002S-R2-PAK *SAVE 20%* $ 200 / **5 x 1 gm**
0.1 % Wt./Wt. each in Chloroform 20 comps.

n-Tetratetracontane	*n*-Octadecane	*n*-Octane
n-Tetracontane	*n*-Hexadecane	*n*-Heptane
n-Hexatriacontane	*n*-Tetradecane	*n*-Hexane
n-Dotriacontane	*n*-Dodecane	*n*-Pentane
n-Octacosane	*n*-Undecane	*n*-Pentadecane
n-Tetracosane	*n*-Decane	*n*-Heptadecane
n-Eicosane	*n*-Nonane	

Can be shipped by Air and Sea

Simulated Distillation (SIM DIS) and Proposed Motor Oil Volatility Method

AccuStandard has developed an extensive line of SIM DIS standards for normal and high temperature analytical requirements when generating boiling point versus retention time calibration curves. Since normal paraffins above Alkane C60 are not readily available, Polywax 500, 655, 850 and 1000 standards have been incorporated to perform SIM DIS analysis of heavy petroleum fractions with boiling points up to 1350°F.

SIM DIS Simulated Distillation Standards

Stock SIM DIS Paraffin Solution

ASTM-P-0050 $ 85 / **1 x 5 mL**
14 comps.

	Wt. %		Wt. %
n-Pentane	6.66	*n*-Dodecane	13.33
n-Hexane	6.66	*n*-Tetradecane	6.66
n-Heptane	6.66	*n*-Pentadecane	6.66
n-Octane	6.66	*n*-Hexadecane	6.66
n-Nonane	6.66	*n*-Heptadecane	6.66
n-Decane	6.66	*n*-Octadecane	6.66
n-Undecane	6.66	*n*-Eicosane	6.66

Working Level SIM DIS Paraffin Solution with Polywax 500

ASTM-P-0052 $ 40 / **1 x 1 mL**
ASTM-P-0052-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
At stated conc. in Carbon disulfide 15 comps.

	Wt. %		Wt. %
n-Pentane	0.0333	*n*-Tetradecane	0.0333
n-Hexane	0.0333	*n*-Pentadecane	0.0333
n-Heptane	0.0333	*n*-Hexadecane	0.0333
n-Octane	0.0333	*n*-Heptadecane	0.0333
n-Nonane	0.0333	*n*-Octadecane	0.0333
n-Decane	0.0333	*n*-Eicosane	0.0333
n-Undecane	0.0333	Polywax 500	0.5
n-Dodecane	0.0666		

Polywax 850®

ASTM-P-0137N-2G $ 20 / **2 grams**

Polywax 850

Polywax 1000®

ASTM-P-0138N-2G $ 20 / **2 grams**

Polywax 1000

Polywax 500®

ASTM-P-0051N-2G $ 20 / **2 grams**

Polywax 500

Polywax 655®

ASTM-P-0053N-2G $ 20 / **2 grams**

Polywax 655

Standards of Interest

See ASTM Methods D3710, D5307, D5442, D6352 for additional calibration standards for hydrocarbon analysis.

ASTM D3120 & D3246 Trace Quantities of Sulfur in Light Liquid Petroleum Hydrocarbons by Oxidative Microcoulometry

Sulfur Calibration Set

D-3120-92-CAL-SET $ 75 / **set of 8 x 1 mL**
In Isooctane

Sulfur Conc.	Sulfur Wt. %	Cat. No (1 mL)	Sulfur Conc.	Sulfur Wt. %	Cat. No (1 mL)
Blank	———	D-3120-92-BL	30 µg/g	0.0030	D-3120-92-30X
1 µg/g	0.0001	D-3120-92-1X	50 µg/g	0.0050	D-3120-92-50X
3 µg/g	0.0003	D-3120-92-3X	75 µg/g	0.0075	D-3120-92-75X
10 µg/g	0.0010	D-3120-92-10X	100 µg/g	0.010	D-3120-92-100X

Technical Note

Well characterized di-n-butyl sulfide is used in a low sulfur Isooctane matrix for this calibration set.

ASTM D3230 Determination of Salts in Crude Oil

see ASTM methods in Inorganic Table of Contents

ASTM D3231 Determination of Phosphorus in Gasoline

see Single Element ICP standards in Inorganic Table of Contents

ASTM D3237 Lead in Gasoline by AA Spectroscopy

see ASTM methods in Inorganic Table of Contents

ASTM D3246 Sulfur in Petroleum Gas by Oxidative Microcoulometry

see Table of Contents for Sulfur Standards

ASTM D3340 Li & Na in Lubricating Greases by Flame Photometer

see Single Element AA standards in Inorganic Table of Contents

ASTM D3524 Diesel Fuel Diluent in Used Diesel Engine Oils by GC

Calibration Curve

D-3524-CAL-5ML-SET $ 150 / **6 x 5 mL**
D-3524-CAL-10ML-SET $ 250 / **6 x 10 mL**

Analyte Target Wt. %	Std. 1	Std. 2 Target Wt. %	Std. 3 Target Wt. %	Std. 4 Target Wt. %	Std. 5 Target Wt. %	Std. 6 Target Wt. %
# 2 Diesel	10	7.5	5.0	2.5	1.0	0
30 W Motor oil	90	92.5	95	97.5	99	100

Internal Standard

D-3524-IS-10ML $ 20 / **1 x 10 mL**
D-3524-IS-10ML-PAK *SAVE 20%* $ 100 / **5 x 10 mL**
At stated conc. in n-Heptane 2 comps.

	Wt./Wt. %
n-Decane	1.0
n-Octadecane	0.2

Mid Level Daily QC Solution

D-3524-QC-10ML $ 30 / **1 x 10 mL**
At stated conc. 2 comps.

	Wt. / Wt. %
# 2 Diesel	5.0
30 W Motor oil	95.0

Column Resolution Mix

D-3524-CR $ 10 / **1 x 1 mL**
D-3524-CR-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
At stated conc. in n-Heptane 2 comps.

	Wt. / Wt. %
n-Hexadecane	1.0
n-Octadecane	1.0

ASTM D3605 Trace Metals in Gas Turbine Fuels by AA & Flame Emission & Spectroscopy

see ASTM methods in Inorganic T of C

ASTM D3606 Benzene & Toluene in Finished Motor & Aviation Gasoline by GC

Aromatics Quantitative Calibration Standards

Without Internal Standards

D-3606-25ML-SET — $ 800 / **7 x 25 mL**

D3606 Meets EPA Guidelines for RFG Analysis

	Analyte Calibr. range	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %	Std. 6 Vol. %	Std. 7 Vol. %
Benzene	0.06 - 5.0	5.00	2.50	1.25	0.67	0.33	0.12	0.06
Toluene	0.5 - 20	20.00	15.00	10.00	5.00	2.50	1.00	0.50
Isooctane		75.00	82.50	88.75	94.33	97.17	98.88	99.44

With Internal Standard: MEK

D-3606/IS-SET — $ 115 / **7 x 1 mL**
D-3606/IS-2ML-SET — $ 190 / **7 x 2 mL**
D-3606/IS-2ML-SET-PAK — $ 760 / **5 x (7 x 2) mL**

	Analyte Calibr. range	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %	Std. 6 Vol. %	Std. 7 Vol. %
Benzene	0.06 - 5.0	4.8	2.4	1.2	0.6432	0.3168	0.1152	0.0576
Toluene	0.5 - 20	19.2	14.4	9.6	4.8000	2.4000	0.9600	0.4800
Isooctane		72.0	79.2	85.2	90.5568	93.2832	94.9248	95.4624
Methyl ethyl ketone (Internal Std.)		4.0	4.0	4.0	4.0	4.0	4.0	4.0

Aromatics Quantitative Calibration Standard

With Internal Standard: sec Butanol

D-3606/IS2-SET — $ 115 / **7 x 1 mL**
D-3606/IS2-SET-PAK — $ 460 / **5 x (7 x 1) mL**

	Analyte Calibr. range	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %	Std. 6 Vol. %	Std. 7 Vol. %
Benzene	0.06 - 5.0	4.8	2.4	1.2	0.6432	0.3168	0.1152	0.0576
Toluene	0.5 - 20	19.2	14.4	9.6	4.8000	2.4000	0.9600	0.4800
Isooctane		72.0	79.2	85.2	90.5568	93.2832	94.9248	95.4624
sec Butanol (Internal Std.)		4.0	4.0	4.0	4.0	4.0	4.0	4.0

Aromatics Quantitative Calibration Curve

D-3606/IS2-R1-SET — NEW — $ 115 / **set of 7 x 1 mL**

	Analyte Calibr. range	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %	Std. 6 Vol. %	Std. 7 Vol. %
Benzene	0.06 - 5.0	5	4.2	3.4	2.6	1.7	0.9	0.1
Toluene	0.5 - 20	20	17	14	11	8	5	2
Isooctane		75	78.8	82.6	86.4	90.3	94.1	97.9
sec Butanol (Internal Std.)		4	4	4	4	4	4	4

Technical Note

Due to the possible use of other oxygenates (i.e. ethanol) in gasoline, a calibration curve using sec-butanol as an internal standard has been formulated. The use of this internal standard minimizes coelution caused by the oxygenate(s) and pre column - standard column configuration in the GC system.

Daily Gasoline Refinery Quality Control Standards

With Internal Standard: sec Butanol

D-3606-QC-IS2-25ML — $ 125 / **1 x 25 mL**
D-3606-QC-IS2-25ML-PAK — $ 600 / **5 x 25 mL**
Each at stated quantities — 4 comps.

Compound	Target Vol. %
Benzene	0.6432
Toluene	4.8000
Isooctane	90.5568
sec-Butanol (Internal Std.)	4.0
	100

With Internal Standard: MEK

D-3606-QC/IS-10ML — $ 75 / **1 x 10 mL**
D-3606-QC/IS-10ML-PAK — $ 300 / **5 x 10 mL**
Each at stated quantities — 4 comps.

Compound	Target Vol. %
Benzene	0.6432
Toluene	4.8000
Isooctane	90.5568
Methyl ethyl ketone (Internal Std.)	4.0
	100

Without Internal Standard

D-3606-QC-25ML — $ 125 / **1 x 25 mL**
D-3606-QC-25ML-PAK — $ 500 / **5 x 25 mL**
Each at stated quantities — 3 comps.

Compound	Target Vol. %
Benzene	0.67
Toluene	5.00
Isooctane	94.33
	100

ASTM D3610 Total Cobalt in Alumina-Base Cobalt-Molybdenum Catalyst by Potentiometric Titration

Cobalt Oxide Standard

D-3610-93-1 — $ 50 / **1 x 100 mL**

Cobalt oxide @ 1500 µg/mL in Water

ASTM D3710 Boiling Range Distribution of Gasoline & Gasoline Fractions by GC

This **SIM DIS** (Simulated Distillation or GCD) Method is used to determine the boiling range distribution of gasoline and gasoline components. ASTM Method D3710 is used for petroleum products and fractions with a final boiling point of 500°F (260°C) or lower. By having an insight into the composition of the gasoline blend, essential data for the calculation of vapor pressure and a prediction of the D86 distillation curve can be made.

Qualitative Calibration Standard

D-3710-QUAL $ 50 / **1 x 1 mL**
D-3710-QUAL-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
19 comps.

	Approx. Wt./ Wt. %		Approx. Wt./ Wt. %
n-Butane	4.5	*n*-Octane	5.4
n-Butylbenzene	3.2	*n*-Pentadecane	2.2
n-Decane	3.2	*n*-Pentane	7.6
2,4-Dimethylpentane	5.4	*n*-Propane	1.5
n-Dodecane	3.2	*n*-Propylbenzene	4.3
n-Heptane	9.7	*n*-Tetradecane	2.2
n-Hexane	5.4	Toluene	10.8
2-Methylbutane	9.7	*n*-Tridecane	2.2
2-Methylpentane	5.4	*p*-Xylene	13
2-Methylpropane	1.5		

Quanitative Calibration Standard

D-3710 $ 40 / **1 x 1 mL**
D-3710-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
16 comps.

	Vol./Vol. %		Vol./Vol. %
n-Butylbenzene	3.5	*n*-Octane	5.8
n-Decane	3.5	*n*-Pentadecane	2.3
2,4-Dimethylpentane	5.8	*n*-Pentane	8.1
n-Dodecane	3.5	*n*-Propylbenzene	4.7
n-Heptane	10.5	*n*-Tetradecane	2.3
n-Hexane	5.8	Toluene	11.6
2-Methylbutane	10.5	*n*-Tridecane	2.3
2-Methylpentane	5.8	*p*-Xylene	14.0

ASTM D2887 Boiling Range Distribution of Petroleum Fractions by GC

Calibration Solution

DRH-002S-R1 $ 50 / **1 x 1 mL**
DRH-002S-R1-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
At stated conc. in Chloroform 17 comps.

	µg/mL		µg/mL		µg/mL		µg/mL
n-Hexane	600	*n*-Undecane	1200	*n*-Octadecane	500	*n*-Dotriacontane	100
n-Heptane	600	*n*-Dodecane	1200	*n*-Eicosane	200	*n*-Hexatriacontane	100
n-Octane	800	*n*-Tetradecane	1200	*n*-Tetracosane	200	*n*-Tetracontane	100
n-Nonane	800	*n*-Hexadecane	1000	*n*-Octacosane	100	*n*-Tetratetracontane	100
n-Decane	1200						

Can be shipped by Air and Sea

ASTM D3798 Analysis of p-Xylene by GC

p-Xylene Impurity Standards

With Internal Standard

D-3798-IS $ 30 / **1 x 1 mL**
D-3798-IS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. by weight 11 comps.

	Wt./Wt. %		Wt./Wt. %
n-Pentane	0.15	*o*-Xylene	0.15
n-Octane	0.15	Cumene	0.15
Benzene	0.15	Propylbenzene	0.15
Toluene	0.15		
Ethylbenzene	0.15	Total Analytes	100
p-Xylene	98.65	plus *n*-Undecane* (ISTD)	0.500
m-Xylene	0.15	grams	

Without Internal Standard

D-3798-10ML $ 65 / **1 x 10 mL**
D-3798-10ML-PAK *SAVE 20%* $ 260 / **5 x 10 mL**
At stated conc. by weight 10 comps.

	Wt./Wt. %		Wt./Wt. %
n-Pentane	0.15	*p*-Xylene	98.65
n-Octane	0.15	*m*-Xylene	0.15
Benzene	0.15	*o*-Xylene	0.15
Toluene	0.15	Cumene	0.15
Ethylbenzene	0.15	Propylbenzene	0.15

Technical Note

Other internal standards can be used in conjunction with the bulk packaged D-3798 (1 x 10 mL) to meet your specfic application. If you prefer to eliminate making standards, contact our Technical Service Department with your unique formulation for a custom quotation. A custom quotation request form is located in the back of this catalog.

ASTM D3831 Manganese in Gasoline by AA Spectroscopy

see ASTM methods in Inorganic Table of Contents

ASTM D4059 Polychlorinated Biphenyls in Insulating Liquids by GC

Solutions in PCB-Free Transformer Oil (Individuals, 2 Concentrations)

Aroclor # CAS No.	Conc. ppm w/w	Individual Cat. No.	Price 1 mL	PAK *SAVE 20%* Cat. No.	Price 5 x 1 mL
Aroclor 1016	50	C-216-ST-1	$ 30	C-216-ST-1-PAK	$ 120
12674-11-2	500	C-216-ST-2	50	C-216-ST-2-PAK	200
Aroclor 1221	50	C-221-ST-1	30	C-221-ST-1-PAK	120
11104-28-2	500	C-221-ST-2	50	C-221-ST-2-PAK	200
Aroclor 1232	50	C-232-ST-1	50	C-232-ST-1-PAK	200
11141-16-5	500	C-232-ST-2	75	C-232-ST-2-PAK	300
Aroclor 1242	50	C-242-ST-1	30	C-242-ST-1-PAK	120
53469-21-9	500	C-242-ST-2	50	C-242-ST-2-PAK	200
Aroclor 1248	50	C-248-ST-1	30	C-248-ST-1-PAK	120
12672-29-6	500	C-248-ST-2	50	C-248-ST-2-PAK	200
Aroclor 1254	50	C-254-ST-1	30	C-254-ST-1-PAK	120
11097-69-1	500	C-254-ST-2	50	C-254-ST-2-PAK	200
Aroclor 1260	50	C-260-ST-1	30	C-260-ST-1-PAK	120
11096-82-5	500	C-260-ST-2	50	C-260-ST-2-PAK	200
Aroclor 1262	50	C-262-ST-1	$ 30	C-262-ST-1-PAK	$ 120
37324-23-5	500	C-262-ST-2	50	C-262-ST-2-PAK	200
Aroclor 1268	50	C-268-ST-1	30	C-268-ST-1-PAK	120
11100-14-4	500	C-268-ST-2	75	C-268-ST-2-PAK	300

Neats (Individuals)

Aroclor #	Cat. No.	Price / Unit
Aroclor 1016	C-216N	$ 40 / 50 mg
Aroclor 1221	C-221N-50MG	50 / 50 mg
Aroclor 1242	C-242N-50MG	25 / 50 mg
Aroclor 1248	C-248N-50MG	40 / 50 mg
Aroclor 1254	C-254N-50MG	55 / 50 mg
Aroclor 1260	C-260N-50MG	40 / 50 mg
Aroclor 1262	C-262N-50MG	40 / 50 mg

Aroclor-free Transformer Oil

T-W130 $ 10 / **1 x 1 mL**

ASTM D4291 Trace Ethylene Glycol in Used Engine Oil

D-4291-93 $ 20 / **5 x 1 mL**
D-4291-93-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2000 µg/mL in water

Ethylene glycol

ASTM D4294 Sulfur in Petroleum Products by ED-XRF Spectroscopy

See Table of Contents for Sulfur Standards

ASTM D4377 Water in Crude oils by Potentiometric Karl Fischer Titration

See Table of Contents for Karl Fischer Water Standards

ASTM D4420 Aromatics in Finished Gasoline by GC

Aromatics in Gasoline by GC/TC

D-4420-CAL-SET $ 105 / **set of 7 x 1 mL**

Analyte	Std. 1 Target Vol. %	Std. 2 Target Vol. %	Std. 3 Target Vol. %	Std. 4 Target Vol. %	Std. 5 Target Vol. %	Std. 6 Target Vol. %	Std. 7 Target Vol. %
Benzene	0.05	0.10	0.25	0.75	1.25	2.50	5.00
Toluene	0.5	1.00	2.50	5.00	10.00	15.00	25.00
Total Xylenes (C_8 aromatics)	5	10.00	15.00	20.00	25.00	1.00	3.00
n-Butylbenzene (C_9 + aromatics)	30.00	25.00	20.00	10.00	5.00	15.00	2.50
Isooctane	64.45	63.90	62.25	64.25	58.75	66.50	64.50

D-4420-94 $ 20 / **1 x 1 mL**
D-4420-94-PAK *SAVE 20%* $ 80 / **5 x 1 mL**

	5 comps. Vol. %
Benzene	3.00
Toluene	10.00
Total Xylenes (C_8 aromatics)	15.00
n-Butylbenzene(C_9 + aromatics)	15.00
Isooctane	57.00

ASTM D4628 Barium, Calcium, Magnesium & Zinc in Unused Lubricating Oil

see ASTM methods in Inorganic Table of Contents

ASTM D4629 Trace Nitrogen in Liquid Petroleum Hydrocarbons by Syringe/Inlet Oxidative Combustion and Chemiluminescence Detection. IP 379/88

D4629 is used to determine trace total nitrogen naturally found in liquid hydrocarbons boiling from 50 to 400°C with viscosities between 0.2 and 10 cSt. This method monitors feed stocks for nitrogen to prevent the poisoning of some process catalysts when trace nitrogenous materials are present.

Nitrogen Calibration Set - Low Boiling Solvents

D-4629-LB-CAL-R1-SET $ 85 / **8 x 1 mL**
Nitrogen introduced using Pyridine Set includes the following Cat. No.s

Each in Isooctane	Cat. No.	Price / 1 mL	Each in Isooctane	Cat. No.	Price / 1 mL
Blank	D-4629-91-LB-BL	$ 20	Nitrogen @ 25 µg/mL	D-4629-91-LB-25X	$ 20
Nitrogen @ 0.3 µg/mL	D-4629-91-LB-0.3X	20	Nitrogen @ 50 µg/mL	D-4629-91-LB-50X	20
Nitrogen @ 1 µg/mL	D-4629-91-LB-1X	20	Nitrogen @ 75 µg/mL	D-4629-91-LB-75X	20
Nitrogen @ 10 µg/mL	D-4629-91-LB-10X	20	Nitrogen @ 100 µg/mL	D-4629-91-LB-100X	20

Stock Nitrogen Solution Low Boiling Solvents

D-4629-91-LB-CON $ 20 / **1 x 1 mL**
D-4629-91-LB-CON-PAK $ 80 / **5 x 1 mL**
1000 µg/mL in Isooctane

Nitrogen introduced using Pyridine

Nitrogen Calibration Set - High Boiling Solvents

D-4629-HB-CAL-R1-SET $ 85 / **set of 8 x 1 mL**
Nitrogen introduced using Carbazole Set includes the following Cat. No.s

Each in Toluene	Cat. No.	Price / 1 mL	Each in Toluene	Cat. No.	Price / 1 mL
Blank	D-4629-91-HB-BL	$ 20	Nitrogen @ 25 µg/mL	D-4629-91-HB-25X	$ 20
Nitrogen @ 0.3 µg/mL	D-4629-91-HB-0.3X	20	Nitrogen @ 50 µg/mL	D-4629-91-HB-50X	20
Nitrogen @ 1 µg/mL	D-4629-91-HB-1X	20	Nitrogen @ 75 µg/mL	D-4629-91-HB-75X	20
Nitrogen @ 10 µg/mL	D-4629-91-HB-10X	20	Nitrogen @ 100 µg/mL	D-4629-91-HB-100X	20

Stock Nitrogen Solution High Boiling Solvents

D-4629-91-HB-CON $ 20 / **1 x 1 mL**
D-4629-91-HB-CON-PAK $ 80 / **5 x 1 mL**
1000 µg/mL in Toluene:Acetone (9:1)

Nitrogen introduced using Carbazole

Nitrogen Calibration Set - Low Level

ASTM-P-0070-SET $ 75 / **6 x 1 mL**
Nitrogen introduced using Aniline Set includes the following Cat. No.s

Each in Isooctane	Cat. No.	Unit	Each in Isooctane	Cat. No.	Unit
Isooctane Blank	ASTM-P-0070-BL	1 mL	Nitrogen @ 2.0 µg/g	ASTM-P-0070-4X	1 mL
Nitrogen @ 0.5 µg/g	ASTM-P-0070-1X	1 mL	Nitrogen @ 5.0 µg/g	ASTM-P-0070-10X	1 mL
Nitrogen @ 1.0 µg/g	ASTM-P-0070-2X	1 mL	Nitrogen @ 10.0 µg/g	ASTM-P-0070-20X	1 mL

Low Level Nitrogen & Sulfur Calibration Set

ASTM-P-0071-SET $ 50 / **4 x 1 mL**
The Nitrogen is introduced using Aniline and the Sulfur is introduced using di-n-butyl sulfide Set includes the following Cat. No.s

Concentration in Benzene	Cat. No.	Unit
Benzene Blank	ASTM-P-0071-BL	1 mL
Nitrogen @ 0.25 µg/g & Sulfur @ 0.25 µg/g	ASTM-P-0071-01	1 mL
Nitrogen @ 0.50 µg/g & Sulfur @ 0.50 µg/g	ASTM-P-0071-02	1 mL
Nitrogen @ 1.00 µg/g & Sulfur @ 1.00 µg/g	ASTM-P-0071-03	1 mL

ASTM D4815 MtBE, EtBE, TAME, DIPE, Tertiary-amyl & C_1 to C_4 Alcohols in Gasoline by GC

Oxygenate Quantitative Calibration Mixtures

D4815 Meets EPA Guidelines for RFG Analysis

Without Internal Standard

D-4815-10ML-SET $ 300 / **set of 5 x 10 mL** of 5 component mix

Analyte	Std. 1 Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
	Target Concentrations				
Ethanol	3.00	0.10	6.00	9.00	12.00
t-Butanol	0.10	3.00	6.00	8.00	12.00
Methyl *t*-butyl ether *(MtBE)*	20.0	15.00	10.00	5.00	0.10
t-Pentanol	1.25	5.00	2.50	3.75	0.10
Isooctane/xylene (65:35)	75.65	76.90	75.50	74.25	75.80

With Internal Standard

D-4815/IS-SET of 6 component mix $ 125 / **set of 5 x 1 mL**
D-4815/IS-SET-PAK $ 500 / **set of 5 x (5 x 1 mL)**

Analyte	Calibration Range	Std. 1 Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
		Target Concentrations				
Ethanol	0.1 - 11.40	2.85	0.10	5.70	8.55	11.40
t-Butanol	0.1 - 11.40	0.10	2.85	5.70	7.60	11.40
Methyl *t*-butyl ether *(MtBE)*	0.1 - 19.0	19.00	14.25	9.50	4.75	0.10
t-Pentanol	0.1 - 4.79	1.19	4.75	2.38	3.56	0.10
1,2-Dimethoxyethane *(DME)* (Internal Std.)		5.00	5.00	5.00	5.00	5.00
Isooctane/xylene (65:35)		71.86	73.05	71.72	70.54	72.0
Total Oxgenates & Internal Standard		**28.14**	**26.95**	**28.28**	**29.46**	**28.00**

Quantitative Peak ID and Retention Time Mixture

D-4815-RT $ 25 / **1 x 1 mL**
D-4815-RT-PAK *SAVE 20%* $ 100 / **5 x 1 mL**

16 comp. core mix

Compound	Wt. %
Methylcyclopentane	4.00
Methanol	7.30
Ethanol	7.30
Isopropanol	7.30
tert-Butanol	7.30
n-Propanol	7.30
Methyl *tert*-butyl ether *(MtBE)*	4.00
sec-Butanol	7.30
Diisopropyl ether *(DIPE)*	4.00
Isobutanol	7.30
Ethyl *tert*-butyl ether *(EtBE)*	4.00
tert-Pentanol	7.30
1,2-Dimethoxyethane (ISTD)	6.00
n-Butanol	7.30
Benzene	5.00
tert-Amyl methyl ether	7.30
	100

Valve Timing Mixture

D-4815-VT $ 25 / **1 x 1 mL**
D-4815-VT-PAK *SAVE 20%* $ 100 / **5 x 1 mL**

5 comps.

Compound	Wt. %
Methylcyclopentane	10.00
Diisopropyl ether *(DIPE)*	10.00
Ethyl *tert*-butyl ether *(EtBE)*	10.00
Methyl *tert*-butyl ether *(MtBE)*	10.00
n-Hexane	60.00

Oxygenate Internal Standard

M-GRO-IS-5ML $ 10 / **1 x 5 mL**
M-GRO-IS-5ML-PAK *SAVE 20%* $ 40 / **5 x 5 mL**

1,2-Dimethoxyethane (neat)

Oxygenate Free Refinery Gasoline Blank

RFA-BLNK-10ML $ 10 / **1 x 10 mL**
RFA-BLNK-10ML-PAK *SAVE 20%* $ 40 / **5 x 10 mL**

RFA Gasoline (neat)

ASTM D4927 Elemental Analysis of Lubricant and Additive Components - Barium, Calcium, Phosphorus, Sulfur, and Zinc by WD-XRF Spectroscopy

see ASTM methods in Inorganic Table of Contents

ASTM D4928 Water in Crude oils by Potentiometric Karl Fischer Titration

See Table of Contents for Karl Fischer Water Standards

ASTM D4929 Organic Chloride Content in Crude Oil - Test Method B Combustion and Microcoulometry

Working Level Chlorine Standard

D-4929-94 $ 10 / **1 x 5 mL**
D-4929-94-PAK *SAVE 20%* $ 40 / **5 x 5 mL**
10 µg/mL in Isooctane

Chlorine

Stock Chlorine Standard

D-4929-94-100X $ 15 / **1 x 5 mL**
D-4929-94-100X-PAK *SAVE 20%* $ 60 / **5 x 5 mL**
1000 µg/mL in Isooctane

Chlorine

Standards of Interest

See catalog number index for ASTM-P-0092 - Chlorine in Lube Oil standard.

ASTM D4951 Additive Elements in Lubricating Oils by Inductively Coupled Plasma Atomic Emission Spectrometry

see ASTM methods in Inorganic Table of Contents

ASTM D5056 Trace Metals in Petroleum Coke by AA

see Single Element AA standards in Inorganic Table of Contents

ASTM D5059 Lead in Gasoline by X-Ray Spectroscopy IP Designation 228/79

Part A - Lead in Gasoline Standards

D-5059-A-CAL-100ML-SET $ 450 / **7 x 100 mL**
7 solutions in Isooctane

Lead Concentration g Pb/US gal	g Pb/ UK gal	mg Pb/mL	Cat. No.	Price 100 mL
0.0000	0.000	0.000	D-5059-A-01-100ML	$ 10
0.1000	0.120	0.026	D-5059-A-02-100ML	80
1.0000	1.200	0.264	D-5059-A-03-100ML	80
2.0000	2.400	0.528	D-5059-A-04-100ML	80
3.0000	3.600	0.793	D-5059-A-05-100ML	80
4.0000	4.800	1.057	D-5059-A-06-100ML	80
5.0000	6.000	1.321	D-5059-A-07-100ML	80

Part C - Lead in Gasoline Standards

D-5059-C-CAL-100ML-SET $ 450 / **set of 7 x 100 mL**
The set contains the following 7 solutions in Isooctane

Lead Concentration g Pb/US gal	g Pb/ UK gal	µg Pb/mL	Cat. No.	Price 100 mL
0.0000	0.000	0.000	D-5059-C-01-100ML	$ 10
0.0010	0.001	0.264	D-5059-C-02-100ML	80
0.0050	0.006	1.321	D-5059-C-03-100ML	80
0.0100	0.012	2.642	D-5059-C-04-100ML	80
0.0500	0.060	13.209	D-5059-C-05-100ML	80
0.1000	0.120	26.417	D-5059-C-06-100ML	80
0.3000	0.360	79.252	D-5059-C-07-100ML	80

Internal Standard

D-5059-IS-100ML $ 80 / **1 x 100 mL**
D-5059-IS-10ML-PAK $ 60 / **5 x 10 mL ampules**
0.793 mg/mL in Mineral Oil

Bismuth

D5059 Meets EPA Guidelines for RFG Analysis

Technical Note

AccuStandard has formulated D5059 standards to measure the lead content in gasoline for both high and low concentrations using bismuth as an internal standard. The 100 mL quantities are designed for laboratories analyzing many samples while the 10 mL ampules are for laboratories that have limited requests for the test method. Should you require bulk quantities of the internal standard packaged in single-use ampules, contact our Technical Service Department for a quotation.

Technical Note

Certificates for D5059 standards have the lead content listed in 3 concentration units.

ASTM D5134 Petroleum Naphthas through n-Nonane by Capillary GC

Qualitative Reference Petroleum Set

D-5134-92-SET $ 75 / **3 x 1 mL**

Qualitative Reference Standards	Cat. No.	Price / 1 mL
Alkylate Standard neat fraction approx. 30 comps. identified	D-5134-92-ALK	$ 30
Naphtha Standard neat fraction approx. 70 comps. identified	D-5134-92-NAP	30
Reformate Standard neat fraction approx. 100 comps. identified	D-5134-92-REF	20

Column Evaluation Mix

D-5134-92-CEM $ 35 / **1 x 1 mL**
7 comps.

	Wt. / Wt. %		Wt. / Wt. %
Toluene	0.5	4-Methylheptane	1.0
n-Heptane	1.0	*n*-Octane	1.0
2,3,3-Trimethylpentane	1.0	2-Methylpentane	94.5
2-Methylheptane	1.0		

Linearity Check Mix

D-5134-92-LCM-PAK $ 55 / **5 x 50 mg**
10% w/w each component 10 comps.

Benzene	2-Methylheptane
2,4-Dimethylheptane	2-Methylhexane
2,4-Dimethylhexane	*n*-Nonane
n-Heptane	*n*-Octane
n-Hexane	Toluene

ASTM D5184 Al and Si in Fuel Oils by Ashing, Fusion, ICP-AES & AA Spectrometry

see ICP misc. standards in Inorganic T of C

ASTM D5185 Additive Elements, Wear Metals & Contaminants in Used Lubricating Oils by ICP-AES

see ASTM methods in Inorganic Table of Contents

ASTM D5186 Aromatic Content & Polynuclear Aromatic Content of Diesel Fuels & Aviation Turbine Fuels by SFC

Performance Solution

D-5186-96-PM $ 40 / **1 x 1 mL**
D-5186-96-PM-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
At stated approx. Wt. % 4 comps.

	Wt./Wt. %		Wt./Wt. %
n-Hexadecane	75	Tetralin	3.0
Naphthalene	2.0	Toluene	20

Detector Linearity Check Solution Set

D-5186-96-DLC-SET $ 30 / **2 x 1 mL**
Set includes the below two Cat. No.'s

#2 Diesel Fuel in n-Hexadecane	
25% w/w	**D-5186-96-DLC-25X**
50% w/w	**D-5186-96-DLC-50X**

Docosane

D-5186-91-PM-0.4X $ 20 / **1 x 1 mL**
20% w/w in Toluene

ASTM D5188 Vapor - Liquid Ratio Temperature Standards

Performance Check Samples for daily monitoring of instrument performance

Volume/Liquid Temp	Cat. No.	Price / Set
36.1˚C (96.9˚F)	ASTM-P-125-01-VAP	$ 45 / 5 x 20 mL
68.0˚C (155.7˚F)	ASTM-P-125-02-VAP	45 / 5 x 20 mL

ASTM D5191 & D-5482 Vapor Pressure Standards

Vapor Pressure Quality Control Samples

Vapor Pressure	Cat. No.	Price / Set
68.3kPa (9.91 psi)	ASTM-P-124-01-VAP	$ 65 / 10 x 10 mL
68.0kPa (9.86 psi)	ASTM-P-124-02-VAP	75 / 10 x 10 mL
51.1kPa (7.41 psi)	ASTM-P-124-03-VAP	70 / 10 x 10 mL
46.7kPa (6.77 psi)	ASTM-P-124-04-VAP	129 / 10 x 10 mL
22.5kPa (3.26 psi)	ASTM-P-124-05-VAP	50 / 10 x 10 mL
7.1kPa (1.03 psi)	ASTM-P-124-06-VAP	50 / 10 x 10 mL

Technical Note

Consists of pure solvents with known vapor pressures.

Value Added PAK

Packaged in ready to use quantities.

ASTM D5307 Boiling Range Distribution of Crude Petroleum by GC

Quantitative Paraffins Standard

D-5307-QUANT $ 60 / **1 x 2 mL**
D-5307-QUANT-PAK *SAVE 20%* $ 240 / **5 x 2 mL**
Equal Wt. % 16 comps.

n-Decane	*n*-Octadecane
n-Undecane	*n*-Eicosane
n-Dodecane	*n*-Tetracosane
n-Tridecane	*n*-Octacosane
n-Tetradecane	*n*-Dotriacontane
n-Pentadecane	*n*-Hexatriacontane
n-Hexadecane	*n*-Tetracontane
n-Heptadecane	*n*-Tetratetracontane

Qualitative Paraffins Standard

D-5307-QUAL $ 40 / **1 x 1 mL**
D-5307-QUAL-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
At stated approx. Wt. % 7 comps.

	Wt./Wt. %		Wt./Wt. %
Propane	10	*n*-Heptane	15
Butane	15	*n*-Octane	15
n-Pentane	15	*n*-Nonane	15
n-Hexane	15		

Internal Standard

D-5307-IS-10ML $ 30 / **1 x 10 mL**
D-5307-IS-10ML-PAK *SAVE 20%* $ 120 / **5 x 10 mL**
4 comps.

	Wt./Wt. %		Wt./Wt. %
n-Tetradecane	25	*n*-Hexadecane	25
n-Pentadecane	25	*n*-Heptadecane	25

Column Resolution Mix

D-5307-CR $ 15 / **1 x 1 mL**
D-5307-CR-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
At stated approx. Wt. % 3 comps.

	Wt./Wt. %
n-Hexadecane	1.0
n-Octadecane	1.0
n-Octane	98.0

ASTM D5441 Analysis of Methyl tert-butyl ether (MtBE) by GC

ASTM Committee D02 on Petroleum Products and Lubricants has issued the Standard Method D5441 for the determination of the purity of methyl tert-butyl ether (MtBE) by Gas Chromatography. This method provides a procedure to measure impurities in MtBE such as C_4 to C_{12} olefins, methyl, isopropyl and tert-butyl alcohols, methyl sec-butyl & methyl tert-amyl ethers, acetone, and methyl ethyl ketones. The presence of these impurities in MtBE can have a direct effect upon the value of the MtBE as a gasoline additive. The following reference standards have been formulated to meet the method specifications. Different packaging sizes are available to meet various sample testing capacities.

MtBE Contaminant Standard
Low Concentration

D-5441		$ 30 / **1 x 1 mL**
D-5441-PAK	*SAVE 20%*	$ 120 / **5 x 1 mL**
D-5441-5ML		$ 100 / **1 x 5 mL**
D-5441-5ML-PAK	*SAVE 20%*	$ 400 / **5 x 5 mL**
0.1% Wt./Wt. each in MtBE		12 comps.

tert-Amyl methyl ether
tert-Butanol
tert-Butyl ethyl ether
4,4-Dimethyl-2-neopentyl-1-pentene
Methanol
2-Methylbutane
2-Methyl-2-butene
2,2',4,6,6'-Pentamethyl-3-heptene
Pentane
cis-2-Pentene
trans-2-Pentene
2,4,4-Trimethyl-1-pentene

MtBE Contaminant Standard
High Concentration

D-5441-10X		$ 30 / **1 x 1 mL**
D-5441-10X-PAK	*SAVE 20%*	$ 120 / **5 x 1 mL**
D-5441-10X-5ML		$ 100 / **1 x 5 mL**
D-5441-10X-5ML-PAK	*SAVE 20%*	$ 400 / **5 x 5 mL**
1% Wt./Wt. each in MtBE		12 comps.

tert-Amyl methyl ether
tert-Butanol
tert-Butyl ethyl ether
4,4-Dimethyl-2-neopentyl-1-pentene
Methanol
2-Methylbutane
2-Methyl-2-butene
2,2',4,6,6'-Pentamethyl-3-heptene
Pentane
cis-2-Pentene
trans-2-Pentene
2,4,4-Trimethyl-1-pentene

Qualitative Standard

D-5441-QUAL	$ 145 / **1 x 1 mL**
0.1% Wt./Wt. each in n-Dodecane	33 comps.

Methanol
Isobutylene
n-Butane
trans-2-butene
cis-2-butene
3-Methyl-1-butene
Acetone
Isopentane
2-Propanol
1-Pentene
2-Methyl-1-butene
n-Pentane
trans-2-Pentene
t-Butanol
cis-2-Pentene
2-Methyl-2-butene
Cyclopentene
MtBE
2,3-Dimethyl-1-butene
4-Methyl-cis-2-pentene
2-Methylpentane
Methylethyl ketone
3-Methylpentane
sec-Butyl methyl ether
ETBE
TAME
3,5-Dimethyl-1-hexene
2,4,4-Trimethyl-1-pentene
2,4,4-Trimethyl-2-pentene
3,4,4-Trimethyl-trans-2-pentene
2,3,4-Trimethyl-2-pentene
4,4-Dimethyl-2-neopentyl-1-pentene
2,2',4,6,6'-Pentamethyl-3-heptene

Quantitative Standard

D-5441-QUANT-R1	$ 130 / **1 x 1 mL**
0.1% Wt./Wt. each in n-Dodecane	29 comps.

Methanol (0.04 Wt/Wt)
3-Methyl-1-butene
Acetone
Isopentane
2-Propanol
1-Pentene
2-Methyl-1-butene
n-Pentane
trans-2-Pentene
t-Butanol
cis-2-Pentene
2-Methyl-2-butene
Cyclopentene
MtBE
2,3-Dimethyl-1-butene
4-Methyl-*cis*-2-pentene
2-Methylpentane
Methyl ethyl ketone
3-Methylpentane
sec-Butyl methyl ether
Ethyl tert-butyl ether
TAME
3,5-Dimethyl-1-hexene
2,4,4-Trimethyl-1-pentene
2,4,4-Trimethyl-2-pentene
3,4,4-Trimethyl-trans-2-pentene
2,3,4-Trimethyl-2-pentene
4,4-Dimethyl-2-neopentyl-1-pentene
2,2',4,6,6'-Pentamethyl-3-heptene

MtBE Resolution Test Mix

D-5441-RES		$ 20 / **1 x 1 mL**
D-5441-RES-PAK	*SAVE 20%*	$ 80 / **5 x 1 mL**
D-5441-RES-5ML		$ 60 / **1 x 5 mL**
D-5441-RES-5ML-PAK	*SAVE 20%*	$ 240 / **5 x 5 mL**
1% Wt./Wt. each in MtBE		3 comps.

trans-2-Pentene
tert-Butanol
cis-Pentene

AccuStandard is an active member in ASTM and strives to keep abreast of ASTM method revisions. If our listed formulation does not meet the most recent method revision, please contact Technical Support, for an updated product.

ASTM D5442 Analysis of Petroleum Waxes by GC

Quantitative Wax Standard

D-5442 $ 25 / **1 x 1 mL**
D-5442-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated Wt. % in Cyclohexane 16 comps.

	Wt./Wt. %		Wt./Wt.
n-Dodecane	0.02	*n*-Octacosane	0.12
n-Tetradecane	0.03	*n*-Triacontane	0.10
n-Hexadecane	0.04	*n*-Dotriacontane	0.08
n-Octadecane	0.05	*n*-Hexatriacontane	0.06
n-Eicosane	0.06	*n*-Tetracontane	0.05
n-Docosane	0.08	*n*-Tetratetracontane	0.04
n-Tetracosane	0.10	*n*-Pentacontane	0.03
n-Hexacosane	0.12	*n*-Hexacontane	0.02

Column Resolution Standard

D-5442-CR-PAK $ 40 / **5 x 1 mL**
At stated Wt. % in Cyclohexane 2 comps.

	Wt./Wt. %
n-Eicosane	0.05
n-Tetracontane	0.05

Hydrocarbon Standard Brownfield Regulation

D-5442-R1 $ 60 / **1 x 1 mL**
100 µg/mL each in Cyclohexane 18 comps.

n-Decane	n-Octacosane
n-Dodecane	n-Triacontane
n-Tetradecane	n-Dotriacontane
n-Hexadecane	n-Tetratriacontane
n-Octadecane	n-Hexatriacontane
n-Eicosane	n-Octatriacontane
n-Docosane	n-Tetracontane
n-Tetracosane	n-Tetratetracontane
n-Hexacosane	n-Pentacontane

Retention Time Standard Mix 1

D-5442-RT1 $ 50 / **500 mg**
Equal parts by weight 12 comps.

n-Hexadecane (c16)	*n*-Octacosane (c28)
n-Octadecane (c18)	*n*-Triacontane (c30)
n-Eicosane (c20)	*n*-Dotriacontane (c32)
n-Docosane(c22)	*n*-Hexatriacontane (c36)
n-Tetracosane (c24)	*n*-Tetracontane (c40)
n-Hexacosane (c26)	*n*-Tetratetracontane (c44)

Retention Time Standard Mix 2

D-5442-RT2 $ 55 / **500 mg**
Equal parts by weight 16 comps.

n-Dodecane (c12)	*n*-Octacosane (c28)
n-Tetradecane (c14)	*n*-Triacontane (c30)
n-Hexadecane (c16)	*n*-Dotriacontane (c32)
n-Octadecane (c18)	*n*-Hexatriacontane (c36)
n-Eicosane (c20)	*n*-Tetracontane (c40)
n-Docosane (c22)	*n*-Tetratetracontane (c44)
n-Tetracosane (c24)	*n*-Pentacontane (c50)
n-Hexacosane (c26)	*n*-Hexacontane (c60)

Standards of Interest

See ASTM Methods D3710, D5307, and D6352 for additional calibration standards for hydrocarbon analysis.

ASTM D5443 Paraffin, Naphthene and Aromatic Hydrocarbon Type Analysis in Petroleum Distillates through 200°C by Multi-dimensional GC

Hydrocarbon Test Mixture

D-5443-93-HTM $ 100 / **1 x 1 mL**
At stated Wt. % 28 comps.

	Wt./Wt. %		Wt./Wt. %		Wt./Wt. %
Cyclopentane	1.00	1cis,2-Dimethylcyclohexane	5.00	*trans*-Decahydronaphthelene	4.25
n-Pentane	1.00	Isooctane	5.00	*n*-Tetradecane	4.50
Cyclohexane	2.00	*n*-Octane	5.00	Ethylbenzene	4.50
2,3-Dimethylbutane	2.00	1cis,2 cis,4-Trimethylcyclohexane	4.25	*o*-Xylene	4.25
n-Hexane	2.00	*n*-Nonane	4.50	*n*-Propylbenzene	5.00
n-Hexene	1.50	*n*-Decane	4.25	1,2,4-Trimethylbenzene	4.50
Methylcyclohexane	4.25	*n*-Undecane	3.50	1,2,3-Trimethylbenzene	5.00
4-Methyl-1-hexene	1.50	*n*-Dodecane	3.25	1,2,4,5-Tetramethylbenzene	5.00
n-Heptane	3.50	Benzene	2.25	Pentamethylbenzene	5.00
		Toluene	2.25		

ASTM D5453 Total Sulfur in Light Hydrocarbons, Motor Fuels and Oils by Ultraviolet Fluorescence

Low Level Sulfur Set

D-5453-LL-SET $ 90 / **5 x 2 mL**
Contains the following 5 standards in Isooctane

Description	Unit
Sulfur Blank	2 mL
Sulfur @ 0.5 ng/µL	2 mL
Sulfur @ 2.5 ng/µL	2 mL
Sulfur @ 5.0 ng/µL	2 mL
Sulfur @ 10.0 ng/µL	2 mL

Mid Level Sulfur Set

D-5453-ML-SET $ 90 / **6 x 2 mL**
Contains the following 5 standards in Isooctane

Description	Unit
Sulfur Blank	2 mL
Sulfur @ 5.0 ng/µL	2 mL
Sulfur @ 25 ng/µL	2 mL
Sulfur @ 50 ng/µL	2 mL
Sulfur @ 100 ng/µL	2 mL
Sulfur @ 200 ng/µL	2 mL

High Level Sulfur Set

D-5453-HL-SET $ 90 / **5 x 2 mL**
Contains the following 5 standards in Isooctane

Description	Unit
Sulfur Blank	2 mL
Sulfur @ 100 ng/µL	2 mL
Sulfur @ 250 ng/µL	2 mL
Sulfur @ 500 ng/µL	2 mL
Sulfur @ 1000 ng/µL	2 mL

Standards of Interest

ASTM Method D5453 Sulfur as Di-n-butyl sulfide in Biodiesel see ASTM D6751.

Real World Sulfur in Various Gasoline & Fuels QC Samples

SBPT-LSGAS-VAP $ 25 / **2 x 15 mL**

Parameter	Method	Approx .Range
Sulfur	D-5453-00	0 - 50 µg/g

ASTM D5480 Engine Oil Volatility by GC

Stock Column Resolution Standard

D-5480-CR-PAK $ 40 / **5 x 1 mL**
10 µg/mL each in Carbon disufide 5 comps.
D-5480-CR-100X-PAK $ 50 / **5 x 1 mL**
1000 µg/mL each in Carbon disufide 5 comps.

n-Decane, *n*-Octadecane, *n*-Dodecane, *n*-Tetracosane, *n*-Hexadecane

Tetracosane (Solution A)

D-5480-C40-5ML $ 15 / **1 x 5 mL**
D-5480-C40-5ML-PAK *SAVE 20%* $ 60 / **5 x 5 mL**
500 µg/mL in Carbon disufide
D-5480-C40-R1-5ML *NEW* $ 15 / **1 x 5 mL**
D-5480-C40-R1-5ML-PAK *SAVE 20%* $ 60 / **5 x 5 mL**
500 µg/mL in Chloroform

n-Tetracosane

Internal Standard Solution

D-5480-IS-5ML $ 30 / **1 x 5 mL**
D-5480-IS-5ML-PAK *SAVE 20%* $ 120 / **5 x 5 mL**
Each comp. at equal weights 3 comps.

n-Decane, *n*-Dodecane, *n*-Undecane

ASTM D5482 & D5191 Vapor Pressure Standards

Vapor Pressure Quality Control Samples

Vapor Pressure.	Cat. No	Price / Set of 10
68.3kPa (9.91 psi)	ASTM-P-124-01	$ 65 / 10 x 10 mL
68.0kPa (9.86 psi)	ASTM-P-124-02	75 / 10 x 10 mL
51.1kPa (7.41 psi)	ASTM-P-124-03	70 / 10 x 10 mL
46.7kPa (6.77 psi)	ASTM-P-124-04	125 / 10 x 10 mL
22.5kPa (3.26 psi)	ASTM-P-124-05	50 / 10 x 10 mL
7.1kPa (1.03 psi)	ASTM-P-124-06	50 / 10 x 10 mL

ASTM D5501 Ethanol Content of Denatured Fuel Ethanol by GC

Denatured Fuel Ethanol Calibration Set

D-5501-94-SET $ 75 / **7 x 1 mL**

Comp.1	Wt./ Wt.%	Comp.2	Wt./ Wt.%	Comp.3	Wt./ Wt.%	Unit
Ethanol	92	Methanol	0.6	Heptane	7.4	1 mL
Ethanol	93	Methanol	0.5	Heptane	6.5	1 mL
Ethanol	94	Methanol	0.4	Heptane	5.6	1 mL
Ethanol	95	Methanol	0.3	Heptane	4.7	1 mL
Ethanol	96	Methanol	0.2	Heptane	3.8	1 mL
Ethanol	97	Methanol	0.1	Heptane	2.9	1 mL
Ethanol	98	Methanol	0.05	Heptane	1.95	1 mL

Technical Note

Additional Oxygenate calibration, check standards, and independent reference standards can be found in ASTM method D4815 or D5622. The required QA/QC procedures in EPA methods stipulate a calibration check standard be used once per analytical batch or per 10 sample set. AccuStandard has bulk packaged check standards to meet this increased usage.

ASTM D5580 Benzene, Toluene, Ethylbenzene, m/p-Xylene, o-Xylene, C_9 & Heavier Aromatics & Total Aromatics in Finished Gasoline by GC

Aromatics Quantitative Calibration Mixes

Without Internal Standard

D-5580-95-CAL-10ML-SET $ 300 / **5 x 10 mL** (of 6 component mix)

Analyte	Analyte Calibration range	Std. 1 Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
Benzene	0.10 - 5.00	0.10	0.50	1.00	2.00	5.00
Toluene	1.00 - 15.00	15.00	10.00	5.00	2.50	1.00
Ethylbenzene	0.50 - 10.00	0.50	1.00	2.50	5.00	10.00
o-Xylene	0.50 - 10.00	1.00	2.50	10.00	5.00	0.50
1,2,4-Trimethylbenzene	0.50 - 10.00	1.00	10.00	0.50	5.00	2.50
Isooctane		82.40	76.00	81.00	80.50	81.00

With Internal Standard

D-5580-95-CAL-IS-SET $ 100 / **5 x 1 mL** (of 7 component mix)

Analyte	Analyte Calibration range	Std. 1 Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
Benzene	0.09 - 4.50	0.09	0.45	0.90	1.80	4.50
Toluene	0.90 - 13.50	13.50	9.00	4.50	2.25	0.90
Ethylbenzene	0.45 - 9.00	0.45	0.90	2.25	4.50	9.00
o-Xylene	0.45 - 9.00	0.90	2.25	9.00	4.50	0.45
1,2,4-Trimethylbenzene	0.45 - 9.00	0.90	9.00	0.45	4.50	2.25
2-Hexanone (Internal Standard)		10.00	10.00	10.00	10.00	10.00
Isooctane		74.16	68.40	72.90	72.45	72.90

Standard 2 D-5580-95-CAL-IS-2 $ 25 / 1 mL

Technical Note

The configuration of the instrument valve time switching and the pre-column incorporated determines which QA/QC standard provides optimum performance when analyzing gasolines samples by Method D5580. Use of the D5580 standards in conjunction with the real world gasoline standards can provide added assurance that the analytical results generated are reproducible and the analytical system is performing to method specifications.

Valve Timing Calibration Mixes

With Internal Standard

M-GRA-VT/IS-AS $ 25 / **1 x 1 mL**
M-GRA-VT/IS-AS-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
Each at stated conc. 6 comps.

	Wt./Wt. %
Benzene	4.5
Toluene	4.5
Ethylbenzene	9.0
o-Xylene	9.0
2-Hexanone (Internal Std.)	10.0
Isooctane	63.0

Without Internal Standard

M-GRA-VT-AS-10ML $ 100 / **1 x 10 mL**
M-GRA-VT-AS-10ML-PAK *SAVE 20%* $ 400 / **5 x 10 mL**
Each at stated conc. 5 comps.

	Wt./Wt. %
Benzene	5.0
Toluene	5.0
Ethylbenzene	10.0
o-Xylene	10.0
Isooctane	70.0

Internal Standard

M-GRA-IS-AS-5ML $ 20 / **1 x 5 mL**
M-GRA-IS-AS-5ML-PAK *SAVE 20%* $ 80 / **5 x 5 mL**

2-Hexanone (Neat)

Selectivity Check Standard

M-GRA-SCS-AS $ 10 / **1 x 1 mL**
M-GRA-SCS-AS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
Each at stated conc. 2 comps.

	Wt./Wt. %
n-Dodecane	1.5
Isooctane	98.5

Daily Quality Control Standard

Without Internal Standard

D-5580-QC-R1-10ML $ 125 / **1 x 10 mL**
D-5580-QC-R1-10ML-PAK *SAVE 20%* $ 500 / **5 x 10 mL**
14 comps.

	Wt./Wt. %		Wt./Wt. %
n-Hexane	12	Toluene	9
n-Heptane	20	Ethylbenzene	2
n-Octane	15	*p*-Xylene	3
n-Decane	10	*o*-Xylene	2
n-Dodecane	1	1,2,4-Trimethylbenzene	3
Isooctane	20	1,2,4,5-Tetramethylbenzene	1
Benzene	1	Naphthalene	1

Daily Quality Control Standard

Without Internal Standard

D-5580-QC-10ML $ 125 / **1 x 10 mL**
D-5580-QC-10ML-PAK *SAVE 20%* $ 500 / **5 x 10 mL**
14 comps.

	Wt./Wt. %		Wt./Wt. %
n-Hexane	12	Toluene	9
n-Heptane	20	Ethylbenzene	2
n-Octane	15	*p*-Xylene	3
n-Decane	10	*o*-Xylene	2
n-Triadecane	1	1,2,4-Trimethylbenzene	3
Isooctane	20	1,2,4,5-Tetramethylbenzene	1
Benzene	1	Naphthalene	1

ASTM D5599 Oxygenates in Gas by GC & O-FID

Oxygenates Calibration Curves

With Internal Standard

M-GRO-CAL/IS-SET $ 250 / **8 x 1 mL**
M-GRO-CAL/IS-SET-PAK *SAVE 20%* $ 1,000 / **5 x (8 x 1) mL**
of 15 Comp. Mix

Analyte	Calibration range	Std. 1 Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %	Std. 6 Wt. %	Std. 7 Wt. %	Std. 8 Wt. %
Methanol	0.1 - 5.0	---	0.1	2.5	---	5	0.5	1	---
Ethanol	1.0 - 12.0	12	---	3	---	8	5	1	---
Isopropanol	0.1 - 2.0	2	1	---	0.1	0.3	---	0.5	---
t-Butanol	0.1 - 2.0	0.5	0.1	1	---	2	0.3	---	---
Propanol	0.2 - 2.0	2	---	0.7	0.2	1	---	0.4	---
MtBE	1.0 - 17.0	5	17	---	---	1	2.5	10	---
sec-Butanol	0.1 - 2.5	1	---	0.5	0.1	---	2.5	0.7	---
Diisopropyl ether	0.1 - 2.0	---	0.5	0.3	0.1	2	1	---	---
iso-Butanol	0.1 - 2.0	2	0.5	---	1	0.1	0.3	---	---
EtBE	1.0 - 18.0	---	3.5	18	7.5	---	1	12	---
t-Pentanol	0.1 - 2.0	0.3	1	---	0.5	0.1	2	---	---
Butanol	0.1 - 2.0	1	---	0.3	---	0.5	0.1	2	---
TAME	1.0 - 18.0	---	3.5	1	18	7.5	12	---	---
1,2- Dimethoxyethane (ISTD)		4	4	4	4	4	4	4	---
RFA Gasoline		70.2	68.8	68.7	68.5	68.5	68.8	68.4	100
Total oxygenates & ISTD		**29.8**	**31.2**	**31.3**	**31.5**	**31.5**	**31.2**	**31.6**	**0**

Technical Note

This certified oxygenate calibration curve can be used in combination with other aromatic standards for combined oxygenate/aromatic analysis, to change the amount of internal standard added, or to incorporate alternative internal standard analytes.

With Internal Standard

M-GRO-CAL/IS-R1-SET $ 250 / **8 x 1 mL**

NEW

M-GRO-CAL/IS Analyte	Calibration range	01-R1 Wt. %	02-R1 Wt. %	03-R1 Wt. %	04-R1 Wt. %	05-R1 Wt. %	06-R1 Wt. %	07-R1 Wt. %	08-R1 Wt. %
Methanol	0.1 - 5.0	--	0.1	2.5	--	5	0.5	1	--
Ethanol	1.0 - 12.0	12	--	3	--	8	5	1	--
Isopropanol	0.1 - 2.0	2	1	--	0.1	0.3	--	0.5	--
t-Butanol	0.1 - 2.0	0.5	0.1	1	--	2	0.3	--	--
Propanol	0.2 - 2.0	2	--	0.7	0.2	1	--	0.4	--
MtBE	1.0 - 17.0	5	17	--	--	1	2.5	10	--
sec-Butanol	0.1 - 2.5	1	--	0.5	0.1	--	2.5	0.7	--
Diisopropyl ether	0.1 - 2.0	--	0.5	0.3	0.1	2	1	--	--
Isobutanol	0.1 - 2.0	2	0.5	--	1	0.1	0.3	--	--
EtBE	1.0 - 18.0	--	3.5	18	7.5	--	1	12	--
tert-Pentanol	0.1 - 2.0	0.3	1	--	0.5	0.1	2	--	--
Butanol	0.1 - 2.0	1	--	0.3	--	0.5	0.1	2	--
TAME	1.0 - 18.0	--	3.5	1	18	7.5	12	--	--
1,2-Dimethoxyethane (ISTD)		4	4	4	4	4	4	4	--
RFA Gasoline		74.2	72.8	72.7	72.5	72.5	72.8	72.4	100
Total oxygenates & ISTD		**28.6**	**30.0**	**30.1**	**30.3**	**30.3**	**30.0**	**30.4**	**0**

Technical Note

The revised Set formulates the product components and gasoline to 100 mL volume and then adds the Internal Standard for a total volume of 104 mL.

D5599 Meets EPA Guidelines for RFG Analysis

Without Internal Standard

M-GRO-CAL-SET $ 850 / **8 x 10 mL**
of 14 Comp. Mix

Analyte	Calibration range	Std. 1 Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %	Std. 6 Wt. %	Std. 7 Wt. %	Std. 8 Wt. %
Methanol	0.1 - 5.0	---	0.1	2.5	---	5	0.5	1	---
Ethanol	1.0 - 12.0	12	---	3	---	8	5	1	---
Isopropanol	0.1 - 2.0	2	1	---	0.1	0.3	---	0.5	---
t-Butanol	0.1 - 2.0	0.5	0.1	1	---	2	0.3	---	---
Propanol	0.2 - 2.0	2	---	0.7	0.2	1	---	0.4	---
MtBE	1.0 - 17.0	5	17	---	---	1	2.5	10	---
sec-Butanol	0.1 - 2.5	1	---	0.5	0.1	---	2.5	0.7	---
Diisopropyl ether	0.1 - 2.0	---	0.5	0.3	0.1	2	1	---	---
iso-Butanol	0.1 - 2.0	2	0.5	---	1	0.1	0.3	---	---
EtBE	1.0 - 18.0	---	3.5	18	7.5	---	1	12	---
t-Pentanol	0.1 - 2.0	0.3	1	---	0.5	0.1	2	---	---
Butanol	0.1 - 2.0	1	---	0.3	---	0.5	0.1	2	---
TAME	1.0 - 18.0	---	3.5	1	18	7.5	12	---	---
RFA Gasoline		74.2	72.8	72.7	72.5	72.5	72.8	72.4	100
Total oxygenates		**25.8**	**27.2**	**27.3**	**27.5**	**27.5**	**27.2**	**27.6**	**0**

ASTM D5599 (Continued) Oxygenates in Gas by GC & O-FID

Daily QC Standard
Without Internal Standard

M-GRO-QC-10ML $ 100 / **1 x 10 mL**
M-GRO-QC-10ML-PAK *SAVE 20%* $ 400 / **5 x 10 mL**
14 comps.

Oxygenate	Target Wt. %	Compound Oxygenate	Target Wt. %
Methanol	1	*Di*-isopropyl ether	3
Ethanol	1	iso-Butanol	1
Isopropanol	1	EtBE	3
t-Butanol	1	*t*-Pentanol	1
Propanol	1	Butanol	1
MtBE	3	TAME	3
sec-Butanol	1	RFA Gasoline	79

Daily QC Standard
With Internal Standard

M-GRO-QC/IS-5ML $ 75 / **1 x 5 mL**
M-GRO-QC/IS-5ML-PAK *SAVE 20%* $ 300 / **5 x 5 mL**
15 comps.

Internal Standard 1,2-Dimethoxyethane is combined in a 4 to 100 weight ratio.

Oxygenate	Target Wt. %	Oxygenate	Target Wt. %
Methanol	1	*Di*-isopropyl ether	3
Ethanol	1	iso-Butanol	1
Isopropanol	1	EtBE	3
t-Butanol	1	*t*-Pentanol	1
Propanol	1	Butanol	1
MtBE	3	TAME	3
sec-Butanol	1	RFA Gasoline	79

Gasoline Refinery Blank
With Internal Standard

M-GRO-BLNK/IS-10ML $ 15 / **1 x 10 mL**
M-GRO-BLNK/IS-10ML-PAK *SAVE 20%* $ 60 / **5 x 10 mL**
2 comps.

	Wt. %
1,2-Dimethoxyethane (ISTD)	4
RFA Gasoline	96

O-FID Gasoline Refinery Blank

RFA-BLNK-10ML $ 10 / **1 x 10 mL**
RFA-BLNK-10ML-PAK *SAVE 20%* $ 40 / **5 x 10 mL**

RFA Gasoline (neat)

Revised Daily QC Standard
Without Internal Standard

M-GRO-QC-R-10ML $ 100 / **1 x 10 mL**
M-GRO-QC-R-10ML-PAK *SAVE 20%* $ 400 / **5 x 10 mL**
14 comps.

Oxygenate	Target Wt. %	Oxygenate	Target Wt. %
Methanol	1	*Di*-isopropyl ether	1
Ethanol	1	iso-Butanol	1
Isopropanol	1	EtBE	3
t-Butanol	1	*t*-Pentanol	1
Propanol	1	Butanol	1
MtBE	3	TAME	3
sec-Butanol	1	RFA Gasoline	81

Revised Daily QC Standard
With Internal Standard

M-GRO-QC-R/IS-5ML $ 75 / **1 x 5 mL**
M-GRO-QC-R/IS-5ML-PAK *SAVE 20%* $ 300 / **5 x 5 mL**
15 comps.

Internal Standard 1,2-Dimethoxyethane is combined in a 4 to 100 weight ratio.

Oxygenate	Target Wt. %	Oxygenate	Target Wt. %
Methanol	1	*Di*-isopropyl ether	1
Ethanol	1	iso-Butanol	1
Isopropanol	1	EtBE	3
t-Butanol	1	*t*-Pentanol	1
Propanol	1	Butanol	1
MtBE	3	TAME	3
sec-Butanol	1	RFA Gasoline	81

O-FID/EPA Gasoline Refinery
Internal Standard

M-GRO-IS-5ML $ 10 / **1 x 5 mL**
M-GRO-IS-5ML-PAK *SAVE 20%* $ 40 / **5 x 5 mL**

1,2-Dimethoxyethane (Internal Standard)

D5599 Meets EPA Guidelines for RFG Analysis

Technical Note

Additional Oxygenate calibration, check standards, and independent reference standards can be found in ASTM method D4815 or D5622. The required QA/QC procedures in EPA methods stipulate a calibration check standard be used once per analytical batch or per 10 sample set. AccuStandard has bulk packaged check standards to meet this increased usage.

ASTM D5599 EPA Gasoline Refinery Oxygenates Calibration Curves

EPA O-FID Quantitative Calibration Mixes

Without Internal Standard

M-GRO-CAL-EPA-10ML-SET $ 350 / **5 x 10 mL**
5 comps.

	Analyte Calibr. range	Std. 1 Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
Methanol	0.30 - 12.00	6.00	12.00	3.00	0.30	9.00
Ethanol	0.30 - 12.00	0.30	3.00	6.00	9.00	12.00
t-Butanol	0.30 - 12.00	0.30	6.00	9.00	12.00	3.00
MtBE	0.30 - 15.00	15.00	7.50	11.25	3.75	0.30
RFA Gasoline		78.40	71.50	70.75	74.95	75.70

With Internal Standard

M-GRO-CAL-IS/EPA-SET $ 175 / **5 x 1 mL**
6 comps.

	Analyte Calibr. range	Std. 1 Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
Methanol	0.29 - 11.40	5.70	11.40	2.85	0.29	8.55
Ethanol	0.29 - 11.40	0.29	2.85	5.70	8.55	11.40
t-Butanol	0.29 - 11.40	0.29	5.70	8.55	11.40	2.85
MtBE	0.29 - 14.29	14.25	7.13	10.69	3.56	0.29
1,2-Dimethoxyethane (ISTD)		5.00	5.00	5.00	5.00	5.00
RFA Gasoline		74.48	67.93	67.31	71.20	71.92

Technical Note

EPA O-FID Oxygenate Petrochemical Standards
This second oxygenate version has been formulated to meet the specific analyte requirements of the EPA methodology.

EPA O-FID Quantitative Calibration Check Standard

Without Internal Standard

M-GRO-EPA-CC-10ML $ 50 / **1 x 10 mL**
M-GRO-EPA-CC-10ML-PAK *SAVE 20%* $ 200 / **5 x 10 mL**
5 comps.

	Wt./Wt. %		Wt./Wt. %
Methanol	4.0	Methyl *tert*-butyl ether	12.0
Ethanol	8.0	RFA gasoline	71.0
tert-Butanol	5.0		

EPA O-FID Quantitative Calibration Check Standard

With Internal Standard

M-GRO-EPACC/IS-5ML $ 35 / **1 x 5 mL**
M-GRO-EPACC/IS-5ML-PAK *SAVE 20%* $ 150 / **5 x 5 mL**
6 comps.

	Wt./Wt. %		Wt./Wt. %
Methanol	3.80	Methyl tert-butyl ether	11.40
Ethanol	7.60	RFA gasoline	67.45
tert-Butanol	4.75	DME (Internal Standard)	5.0

EPA O-FID Spiking Solution

M-GRO-EPA-SP-5ML $ 50 / **1 x 5 mL**
M-GRO-EPA-SP-5ML-PAK *SAVE 20%* $ 200 / **5 x 5 mL**
4 comps.

	Wt./Wt. %		Wt./Wt. %
Methanol	14.3	*tert*-Butanol	14.3
Ethanol	28.6	Methyl tert-butyl ether	42.8

Oxygenate Free Gasoline Refinery Blank

RFA-BLNK-10ML $ 10 / **1 x 10 mL**
RFA-BLNK-10ML-PAK *SAVE 20%* $ 40 / **5 x 10 mL**

RFA Gasoline (neat)

Technical Note

Additional Oxygenate calibration, check standards, and independent reference standards can be found in ASTM method D4815 or D5622. The required QA/QC procedures in EPA methods stipulate a calibration check standard be used once per analytical batch or per 10 sample set. AccuStandard has bulk packaged check standards to meet this increased usage.

Internal Standard

M-GRO-IS-5ML $ 10 / **1 x 10 mL**
M-GRO-IS-5ML-PAK *SAVE 20%* $ 40 / **5 x 10 mL**

1,2-Dimethoxyethane (Internal Standard)

ASTM D5600 Trace Metals in Petroleum Coke by ICP-AES

See ICP misc. standards in Inorganic Table of Contents

ASTM D5622 Total Oxygen in Gasoline & MeOH Fuels by Reductive Pyrolysis

Description (2 x 10 mL, plus an RFA gasoline blank)	Oxygenate Wt. %	Cat. No.	Price / Unit
Ethanol in Oxygenate free RFA gasoline	5.0	ASTM-P-0061-SET	$ 50 / 3 x 10 mL
Ethanol in Oxygenate free RFA gasoline	10.0	ASTM-P-0062-SET	50 / 3 x 10 mL
t-Amyl methyl ether in Oxygenate free RFA gasoline	10.0	ASTM-P-0063-SET	50 / 3 x 10 mL
t-Amyl methyl ether in Oxygenate free RFA gasoline	15.0	ASTM-P-0064-SET	50 / 3 x 10 mL
Ethyl t-butyl ether in Oxygenate free RFA gasoline	10.0	ASTM-P-0065-SET	50 / 3 x 10 mL
Ethyl t-butyl ether in Oxygenate free RFA gasoline	15.0	ASTM-P-0066-SET	50 / 3 x 10 mL
Methyl t-butyl ether in Oxygenate free RFA gasoline	10.0	ASTM-P-0067-SET	50 / 3 x 10 mL
Methyl t-butyl ether in Oxygenate free RFA gasoline	15.0	ASTM-P-0068-SET	50 / 3 x 10 mL
Methanol & t-Butanol in Oxygenate free RFA gasoline	10.0 & 5.0	ASTM-P-0069-SET	50 / 3 x 10 mL

Technical Note

All oxygenate blends come with a certificate to maintain traceability links to NIST SRMs (when available). The 10 mL size eliminates the need for special packaging and hazardous material fees.

Oxygenate Free Gasoline Refinery Blank

RFA-BLNK-10ML $ 10 / **1 x 10 mL**

RFA Gasoline (neat)

ASTM D5623 Sulfur Compounds in Light Petroleum Liquids by GC & Sulfur Selective Detection

ASTM-P-0091-10X-SET $ 625 / **set of 22 x 1 mL**

Approx. 2.0 mg/mL each in Toluene

Compound	Cat. No.	Price / 1 mL
Hydrogen sulfide	ASTM-P-0091-01-10X	$ 35
Carbonyl sulfide (Carbon oxysulfide)	ASTM-P-0091-02-10X	35
Methyl mercaptan (Methanethiol)	ASTM-P-0091-03-10X	35
Ethyl mercaptan (Ethanethiol)	ASTM-P-0091-04-10X	35
Methyl sulfide (Dimethyl sulfide)	ASTM-P-0091-05-10X	35
Carbon disulfide	ASTM-P-0091-06-10X	35
2-Propanethiol (Isopropyl mercaptan)	ASTM-P-0091-07-10X	35
2-Methyl-2-propanethiol (t-butyl mercaptan)	ASTM-P-0091-08-10X	35
1-Propanethiol (Propyl mercaptan)	ASTM-P-0091-09-10X	35
Ethyl methyl sulfide	ASTM-P-0091-10-10X	35
1-Methyl-1-propanethiol (2-butanethiol)	ASTM-P-0091-11-10X	35
Thiophene	ASTM-P-0091-12-10X	35
2-Methyl-1-propanethiol (Isobutyl mercaptan)	ASTM-P-0091-13-10X	35
Diethyl sulfide	ASTM-P-0091-14-10X	35
1-Butanethiol (Butyl mercaptan)	ASTM-P-0091-15-10X	35
Methyl disulfide (Dimethyl disulfide)	ASTM-P-0091-16-10X	35
2-Methylthiophene	ASTM-P-0091-17-10X	35
3-Methylthiophene	ASTM-P-0091-18-10X	35
Diethyl disulfide (Ethyl disulfide)	ASTM-P-0091-19-10X	35
3-Methylbenzo(b)thiophene	ASTM-P-0091-20-10X	35
5-Methylbenzo(b)thiophene	ASTM-P-0091-21-10X	75
Diphenyl sulfide	ASTM-P-0091-22-10X	35

Technical Note

This set of qualitative Sulfur Standards is formulated for research evaluation of the presence of the sulfur analytes or their breakdown products.

ASTM D5708 Nickel, Vanadium, & Iron in Crude Oils & Residual Fuels by ICP-AES see ASTM methods in Inorganic Table of Content

ASTM D5762 Nitrogen in Petroleum & Petroleum Products by Boat-Inlet Chemiluminescence

Nitrogen Calibration Set

D-5762-95-CAL-SET $ 75 / **6 x 1 mL**

Nitrogen introduced using Acridine

Description	Cat. No.	Price / 1 mL
Xylene Blank	D-5762-95-BL	$ 10
Nitrogen @ 1.0 µg/mL in Xylene	D-5762-95-1X	15
Nitrogen @ 5.0 µg/mL in Xylene	D-5762-95-5X	15
Nitrogen @ 10 µg/mL in Xylene	D-5762-95-10X	15
Nitrogen @ 50 µg/mL in Xylene	D-5762-95-50X	15
Nitrogen @ 100 µg/mL in Xylene	D-5762-95-100X	15

Nitrogen Calibration Set - Low Level

ASTM-P-0070-SET $ 75 / **6 x 1 mL**

Nitrogen introduced using Aniline

Description	Cat. No. (1 mL)
Isooctane Blank	ASTM-P-0070-BL
Nitrogen @ 0.5 µg/g in Isooctane	ASTM-P-0070-1X
Nitrogen @ 1.0 µg/g in Isooctane	ASTM-P-0070-2X
Nitrogen @ 2.0 µg/g in Isooctane	ASTM-P-0070-4X
Nitrogen @ 5.0 µg/g in Isooctane	ASTM-P-0070-10X
Nitrogen @ 10.0 µg/g in Isooctane	ASTM-P-0070-20X

Low Level Nitrogen & Sulfur Calibration Set

ASTM-P-0071-SET $ 50 / **4 x 1 mL**

The Nitrogen is introduced using Aniline and the Sulfur is introduced using di-n-butyl sulfide

Description	Cat. No. (1 mL)
Benzene Blank	ASTM-P-0071-BL
Nitrogen @ 0.25 µg/g & Sulfur @ 0.25 µg/g in Benzene	ASTM-P-0071-01
Nitrogen @ 0.50 µg/g & Sulfur @ 0.50 µg/g in Benzene	ASTM-P-0071-02
Nitrogen @ 1.00 µg/g & Sulfur @ 1.00 µg/g in Benzene	ASTM-P-0071-03

Stock Nitrogen Standard

D-5762-95-500X-PAK $ 60 / **5 x 1 mL**

Nitrogen @ 500 µg/mL in Xylene (Acridine @ 6397 µg/mL)

Custom Services

Custom Synthesis

The AccuStandard Synthesis Department employs PhD Organic Chemists with many years of academic and industrial experience. This experienced team has developed hundreds of pure chemical compounds for companies and governmental agencies around the world. AccuStandard specializes in synthesizing chemicals of high purity to be used as reference standards, for milligram to kilogram batches. AccuStandard is the only company to synthesize all 209 individual PCB congeners as well as over 180 individual PBDE congeners.

Synthesis Experience

- PCBs (all 209 congeners), PBBs, PCB Metabolites
- Explosives - TNT, RDX, HMX, TATP, HND, HMTD
- PBDEs (over 180 congeners)
- PBDE Metabolites
- FBDEs
- Halo-Dibenzodioxins
- Halo-Dibenzofurans
- PAHs, Nitro-PAHs
- Substituted Diphenylethers
- Pesticides and Metabolites
- Forensics
- Wear Metals
- Pharmaceuticals and Other Rare Chemicals

Lab Resources

- Milligram to Kilogram Scale Glassware
- Equipment to work under N_2/Ar
- Liquid Solid Phase Chrom. (mg to 2 kg)
- Flash Chrom. (mg to 2 kg) including Horizon High Performance Flash Chrom. System
- Microwave Synthesis System
- Preparative TLC
- Buchi Rotary Evaporators
- Vacuum Drying Oven
- Parr Pressure Reactor (high pressure reaction, hydrogenation)
- Distillation Equipment - High Vacuum Distillation, Molecular Distillation (Kugelrohr), and Spinning Band Columns

Analytical Resources

- ^{1}H-NMR spectrometer - 400 MHZ
- GC/MS, GC/FID, GC/ECD, GC/NPD
- HPLC
- ICP
- ICP/MS
- Low Sulfur Analyzers (Antek, X-Ray Optical)
- LC/MS/MS
- Hg Analyzer

Custom Formulations

With over 40,000 custom and catalog standards, there is a good chance that AccuStandard will have a catalog item to meet your needs. However, if your laboratory requires something specific, our Chemists will manufacture a Custom Standard to meet your unique requirements. Custom Standards are an economical and time saving way to have a Standard prepared for your individual needs.

Custom QC options

1. Gravimetric/Volumetric Certification: Each purity is measured gravimetrically and QC verified instrumentally (where available). Every component in the Standard is guaranteed to be within +/-0.5% of the requested value unless otherwise stated on the Certificate of Analysis. The solutions are diluted to volume using Class A glassware. A Certificate of Analysis accompanies each Standard and documents the gravimetric values used.
2. Full Quantitative Certification: This QA/QC method includes extended GC analysis using both internal calibration standards plus statistical analysis. A data package containing analytical and gravimetric data can be provided if requested during the quotation phase (Organic Customs only).

Custom Packaging & Bulk Quantity Requirements

AccuStandard has the resources and equipment to meet your custom packaging requirements.

- Automated ampule filling & sealing 0.2 mL up to 20 mL and ampule sizes from 1 mL to 20 mL
- Quantities from 500 to over 500,000 ampules
- Homogeneity testing
- Amber ampules for added product stability
- Private labeling and packaging (OEM)

We can reduce your costs using the Cozzoli Auto Filling/Sealing Machine to package just the right size product for your application. OEM Standards - Privately labeled standards manufactured and tested to your specifications. Cold and under-Nitrogen sealing available.

ASTM D5769 Benzene, Toluene & Total Aromatics in Finished Gasoline by GC/MS

These standards and methods are used in the monitoring of total aromatics according to the methods and amendments to the US Clean Air Act. Amendments containing more stringent specifications are in effect and can be found listed under this method. **Standards for Method D5769 listed on the following pages**.

Calibration Curve with 3 Component Deuterated Internal Standard Added

Aromatics Calibration Standards Kit
Internal Standard Version

M-GRA-CAL/IS-SET $ 375 / **set of 5 x 1 mL**

Core Calibration Mix 24 Comps.	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %
Benzene	3	1.50	0.75	0.375	0.1875
Toluene	19	9.50	4.75	2.375	1.1875
Ethylbenzene	5	2.50	1.25	0.625	0.3125
m-Xylene	6	3.00	1.50	0.750	0.3750
p-Xylene	6	3.00	1.50	0.750	0.3750
o-Xylene	6	3.00	1.50	0.750	0.3750
Isopropylbenzene	3	1.50	0.75	0.375	0.1875
n-Propylbenzene	3	1.50	0.75	0.375	0.1875
1-Methyl-3-ethylbenzene	3	1.50	0.75	0.375	0.1875
1-Methyl-4-ethylbenzene	3	1.50	0.75	0.375	0.1875
1,3,5-Trimethylbenzene	3	1.50	0.75	0.375	0.1875
1-Methyl-2-ethylbenzene	3	1.50	0.75	0.375	0.1875
1,2,4-Trimethylbenzene	5	2.50	1.25	0.625	0.3125
1,2,3-Trimethylbenzene	3	1.50	0.75	0.375	0.1875
Indan	3	1.50	0.75	0.375	0.1875
1,4-Diethylbenzene	3	1.50	0.75	0.375	0.1875
n-Butylbenzene	3	1.50	0.75	0.375	0.1875
1,2-Diethylbenzene	3	1.50	0.75	0.375	0.1875
1,2,4,5-Tetramethylbenzene	2	1.00	0.50	0.250	0.1250
1,2,3,5-Tetramethylbenzene	2	1.00	0.50	0.250	0.1250
Naphthalene	2	1.00	0.50	0.250	0.1250
Pentamethylbenzene	2	1.00	0.50	0.250	0.1250
1-Methylnaphthalene	2	1.00	0.50	0.250	0.1250
2-Methylnaphthalene	2	1.00	0.50	0.250	0.1250
Isooctane	--	Bal	Bal	Bal	Bal
Internal Standard (M-GRA-IS)					
Benzene-d_6	2	2	2	2	2
Ethylbenzene-d_{10}	2	2	2	2	2
Naphthalene-d_8	1	1	1	1	1

Optional Sixth Standard
Internal Standard Added

M-GRA-ADD/IS $ 100 / **1 x 1 mL**

Core Calibr. Mix 24 Comps.	Optional Std. 6 Target Vol. %
Benzene	2.25
Toluene	15
Ethylbenzene	3.75
m-Xylene	4.50
p-Xylene	4.50
o-Xylene	4.50
Isopropylbenzene	2.25
n-Proplylbenzene	2.25
3-Ethyltoluene	2.25
4-Ethyltoluene	2.25
1,3,5-Trimethylbenzene	2.25
2-Ethyltoluene	2.25
1,2,4-Trimethylbenzene	3.75
1,2,3-Trimethylbenzene	2.25
Indan	2.25
1,4-Diethylbenzene	2.25
n-Butylbenzene	2.25
1,2-Diethylbenzene	2.25
1,2,4,5-Tetramethylbenzene	4.0
1,2,3,5-Tetramethylbenzene	1.5
Naphthalene	1.5
Pentamethylbenzene	1.5
1-Methylnaphthalene	1.5
2-Methylnaphthalene	1.5
Isooctane	Bal
Internal Standard (M-GRA-IS)	
Benzene-d_6	2
Ethylbenzene-d_{10}	2
Naphthalene-d_8	1

Disk Deliverable
(At no additional charge)

CALAMTS®
(Disk containing "Calibration Amounts")
Eliminates hand keyed-in data.

Each analyte in each standard is individually weighed. Actual weights and weight percents are provided.

Daily Quality Control Standard
Without Internal Standard

M-GRA-QC-10ML $ 125 / **1 x 10 mL**
M-GRA-QC-10ML-PAK *SAVE 20%* $ 500 / **5 x 10 mL**
13 comps.

	Wt. Ratio		Wt. Ratio
n-Hexane	12	Toluene	9
n-Heptane	17	Ethylbenzene	3
n-Octane	17	*m*-Xylene	3
n-Decane	12	*o*-Xylene	3
n-Dodecane	5	1,2,4-Trimethylbenzene	3
Isooctane	12	1,2,4,5-Tetramethylbenzene	3
Benzene	1		

Daily Quality Control Standard
With Internal Standard

M-GRA-QC/IS-5ML $ 100 / **1 x 5 mL**
M-GRA-QC/IS-5ML-PAK *SAVE 20%* $ 400 / **5 x 5 mL**
16 comps.

	Wt. Ratio	Compound	Wt. Ratio
n-Hexane	12	Toluene	9
n-Heptane	17	Ethylbenzene	3
n-Octane	17	*m*-Xylene	3
n-Decane	12	*o*-Xylene	3
n-Dodecane	5	1,2,4-Trimethylbenzene	3
Isooctane	12	1,2,4,5-Tetramethylbenzene	3
Benzene	1		
		13 comp. Core Mix	100

Technical Note

Use with any M-GRA Calibration Curve.

Includes **M-GRA-IS** (3 comp. Internal Standards mix) combined with the above 13 comp. Core Mix in a 5 to 100 weight ratio.

ASTM/EPA Sensitivity Test Solution

M-GRA-ST $ 10 / **1 x 1 mL**
M-GRA-ST-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
100 µg/mL in Isooctane

1,4-Diethylbenzene

3 Comp. Deuterated Internal Std. Mix

M-GRA-IS-5ML $ 158 / **1 x 5 mL**
M-GRA-IS-5ML-PAK *SAVE 20%* $ 632 / **5 x 5 mL**
3 comps.

	Mix Ratio		Mix Ratio
Benzene-d_6	2 mL	Naphthalene-d_8	1 gm
Ethylbenzene-d_{10}	2 mL		

ASTM D5769 continued on Next Pages

ASTM D5769 Benzene, Toluene & Total Aromatics in Finished Gasoline by GC/MS

Calibration Curve with 4 Component Deuterated Internal Standard Added

Aromatics Calibration Standards Kit
With Internal Standard

M-GRA-CAL-R/IS-R-SET $ 425 / **set of 5 x 1 mL**

Core Calibr. Mix 24 comps.	Std. 1 Target Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
Benzene	3.13	1.78	0.95	0.490	0.2490
Toluene	19.65	11.11	5.90	3.058	1.5547
Ethylbenzene	5.12	2.92	1.55	0.805	0.4090
m-Xylene	6.27	3.50	1.86	0.962	0.4891
p-Xylene	6.33	3.50	1.86	0.962	0.4891
o-Xylene	6.51	3.56	1.89	0.980	0.4981
Isopropylbenzene	3.06	1.74	0.93	0.480	0.2439
n-Propylbenzene	3.04	1.74	0.93	0.480	0.2440
3-Ethyltoluene	3.08	1.75	0.93	0.481	0.2446
4-Ethyltoluene	3.05	1.74	0.93	0.479	0.2437
1,3,5-Trimethylbenzene	3.07	1.75	0.93	0.481	0.2448
2-Ethyltoluene	3.14	1.78	0.95	0.490	0.2492
1,2,4-Trimethylbenzene	5.18	2.95	1.57	0.812	0.4130
1,2,3-Trimethylbenzene	3.19	1.81	0.96	0.498	0.2530
Indan	3.46	1.95	1.04	0.536	0.2726
1,4-Diethylbenzene	3.04	1.74	0.93	0.480	0.2439
n-Butylbenzene	3.05	1.74	0.92	0.479	0.2434
1,2-Diethylbenzene	3.22	1.78	0.95	0.490	0.2489
1,2,4,5-Tetramethylbenzene	2.10	1.20	0.64	0.329	0.1674
1,2,3,5-Tetramethylbenzene	2.09	1.20	0.64	0.330	0.1679
Naphthalene	2.35	1.34	0.71	0.369	0.1877
Pentamethylbenzene	2.16	1.23	0.66	0.340	0.1727
1-Methylnaphthalene	2.32	1.34	0.71	0.369	0.1877
2-Methylnaphthalene	2.41	1.37	0.73	0.378	0.1922
Isooctane	-----	43.47	69.96	84.441	92.0905

Internal Standard (M-GRA-IS-R)	Mix Ratio					
Benzene-d_6	(2 mL)	16.57	16.57	16.57	16.57	16.57
Ethylbenzene-d_{10}	(2 mL)	16.76	16.76	16.76	16.76	16.76
Naphthalene-d_8	(1 gm)	8.78	8.78	8.78	8.78	8.78
Toluene-d_8	(7 mL)	57.88	57.88	57.88	57.88	57.88

Optional Sixth Standard
With Internal Standard

M-GRA-ADD/IS-R $ 100 / **1 x 1 mL**

Core Calibr. Mix 24 comps.	Optional Std. 6 Target Wt. %
Benzene	2.48
Toluene	16.29
Ethylbenzene	4.07
m-Xylene	4.87
p-Xylene	4.87
o-Xylene	4.96
Isopropylbenzene	2.43
n-Propylbenzene	2.43
3-Ethyltoluene	2.44
4-Ethyltoluene	2.43
1,3,5-Trimethylbenzene	2.44
2-Ethyltoluene	2.48
1,2,4-Trimethylbenzene	4.11
1,2,3-Trimethylbenzene	2.52
Indan	2.71
1,4-Diethylbenzene	2.43
n-Butylbenzene	2.42
1,2-Diethylbenzene	2.48
1,2,4,5-Tetramethylbenzene	4.44
1,2,3,5-Tetramethylbenzene	1.67
Naphthalene	1.87
Pentamethylbenzene	1.72
1-Methylnaphthalene	1.87
2-Methylnaphthalene	1.91
Isooctane	17.67

Internal Standard (M-GRA-IS-R)	Mix Ratio	
Benzene-d_6	(2 mL)	16.57
Ethylbenzene-d_{10}	(2 mL)	16.76
Naphthalene-d_8	(1 mL)	8.78
Toluene-d_8	(7 mL)	57.88

Technical Note

A sixth standard has been formulated to improve the linearity at the high end of the calibration curve. This can be especially helpful in the quantification of gasoline containing high levels of toluene.

Technical Note

This set of calibration solutions was formulated to improve quantification for Toluene by using Toluene-d_8 as an additional Internal Standard.

The 4 component internal standard mix (M-GRA-IS-R) is combined with the 25 component core calibration curve mixtures in a 12 to 100 weight ratio to formulate a complete calibration solution containing 29 components.

Daily Quality Control Standard
Without Internal Standard

M-GRA-QC-10ML $ 125 / **1 x 10 mL**
M-GRA-QC-10ML-PAK *SAVE 20%* $ 500 / **5 x 10 mL**
13 comps.

	Wt. Ratio		Wt. Ratio
n-Hexane	12	Toluene	9
n-Heptane	17	Ethylbenzene	3
n-Octane	17	*m*-Xylene	3
n-Decane	12	*o*-Xylene	3
n-Dodecane	5	1,2,4-Trimethylbenzene	3
Isooctane	12	1,2,4,5-Tetramethylbenzene	3
Benzene	1		

Daily Quality Control Standard
With Internal Standard

M-GRA-QC/IS-R-5ML $ 125 / **1 x 5 mL**
M-GRA-QC/IS-R-5ML-PAK *SAVE 20%* $ 500 / **5 x 5 mL**
17 comps.

	Wt. Ratio		Wt. Ratio
n-Hexane	12	Toluene	9
n-Heptane	17	Ethylbenzene	3
n-Octane	17	*m*-Xylene	3
n-Decane	12	*o*-Xylene	3
n-Dodecane	5	1,2,4-Trimethylbenzene	3
Isooctane	12	1,2,4,5-Tetramethylbenzene	3
Benzene	1		
		13 comp. Core Mix	100

Includes **M-GRA-IS-R** (4 comp. Internal Standard Mix) combined with the above 13 comp. Core Mix in a 12 to 100 weight ratio.

4 comp. Deuterated Internal Std. Mix

M-GRA-IS-R-10ML $ 225 / **1 x 10 mL**
M-GRA-IS-R-10ML-PAK *SAVE 20%* $ 900 / **5 x 10 mL**
4 comps.

	Mix Ratio		Mix Ratio
Benzene-d_6	2 mL	Naphthalene-d_8	1 gm
Ethylbenzene-d_{10}	2 mL	Toluene-d_8	7 mL

ASTM/EPA Sensitivity Test Solution

M-GRA-ST $ 10 / **1 x 1 mL**
M-GRA-ST-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
100 µg/mL in Isooctane

1,4-Diethylbenzene

ASTM D5769 Benzene, Toluene & Total Aromatics in Finished Gasoline by GC/MS

Calibration Curve with No Internal Standard

Calibration Curve
Without Internal Standard

D-5769-CAL-5ML-SET $ 1500 / **set of 5 x 5 mL**
D-5769-CAL-10ML-SET $ 2750 / **set of 5 x 10 mL**

Core Calibr. Mix 23 Comps.	Std. 1 Target Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
Benzene	5.25	2.95	1.575	0.8144	0.4143
Toluene	19.67	11.06	5.898	3.0505	1.5519
Ethylbenzene	5.18	2.91	1.552	0.8026	0.4083
m-Xylene	6.19	3.48	1.856	0.9598	0.4883
p-Xylene	6.19	3.48	1.856	0.9598	0.4883
o-Xylene	6.30	3.54	1.890	0.9776	0.4973
Isopropylbenzene	3.09	1.74	0.925	0.4786	0.2435
n-Propylbenzene	3.09	1.74	0.926	0.4787	0.2435
3-Ethyltoluene	3.10	1.74	0.928	0.4801	0.2442
4-Ethyltoluene	3.08	1.73	0.925	0.4782	0.2433
1,3,5-Trimethylbenzene	3.10	1.74	0.929	0.4804	0.2444
2-Ethyltoluene	3.15	1.77	0.945	0.4890	0.2488
1,2,4-Trimethylbenzene	5.23	2.94	1.567	0.8104	0.4123
1,2,3-Trimethylbenzene	3.20	1.80	0.960	0.4965	0.2526
Indan	3.45	1.94	1.034	0.5350	0.2722
1,4-Diethylbenzene	3.09	1.74	0.925	0.4786	0.2435
n-Butylbenzene	3.08	1.73	0.923	0.4776	0.2430
1,2-Diethylbenzene	3.15	1.77	0.945	0.4885	0.2485
1,2,4,5-Tetramethylbenzene	2.12	1.19	0.635	0.3284	0.1671
1,2,3,5-Tetramethylbenzene	2.12	1.19	0.637	0.3295	0.1676
Naphthalene	2.37	1.34	0.712	0.3683	0.1874
1-Methylnaphthalene	2.37	1.34	0.712	0.3683	0.1874
2-Methylnaphthalene	2.43	1.37	0.730	0.3773	0.1919
Isooctane	-----	43.77	70.015	84.4922	92.1105

Optional Sixth Standard
Without Internal Standard

D-5769-ADD-5ML $ 150 / **1 x 5 mL**
D-5769-ADD-10ML $ 300 / **1 x 10 mL**

Core Calibration Mix 23 Comps.	Target Wt. %
Benzene	4.16
Toluene	16.41
Ethylbenzene	4.10
m-Xylene	4.91
p-Xylene	4.91
o-Xylene	5.00
Isopropylbenzene	2.45
n-Propylbenzene	2.45
3-Ethyltoluene	2.45
4-Ethyltoluene	2.44
1,3,5-Trimethylbenzene	2.46
2-Ethyltoluene	2.50
1,2,4-Trimethylbenzene	4.14
1,2,3-Trimethylbenzene	2.54
Indan	2.73
1,4-Diethylbenzene	2.45
n-Butylbenzene	2.44
1,2-Diethylbenzene	2.50
1,2,4,5-Tetramethylbenzene	1.68
1,2,3,5-Tetramethylbenzene	1.68
Naphthalene	1.88
1-Methylnaphthalene	1.88
2-Methylnaphthalene	1.93
Isooctane	19.92

Disk Deliverable
(At no additional charge)

CALAMTS®
(Disk containing "Calibration Amounts")
Eliminates hand keyed-in data.

Each analyte in each standard is individually weighed. Actual weights and weight percents are provided.

Daily Quality Control Standard
Without Internal Standard

D-5769-QC-10ML $ 125 / **1 x 10 mL**
D-5769-QC-10ML-PAK *SAVE 20%* $ 500 / **5 x 10 mL**
14 comps.

	Wt. Ratio		Wt. Ratio
n-Hexane	12	Toluene	9
n-Heptane	17	Ethylbenzene	3
n-Octane	17	*m*-Xylene	3
n-Decane	12	*o*-Xylene	3
n-Dodecane	5	1,2,4-Trimethylbenzene	3
Isooctane	12	1,2,4,5-Tetramethylbenzene	2
Benzene	1	Naphthalene	1

4 comp. Deuterated Internal Std. Mix

M-GRA-IS-R-10ML $ 225 / **1 x 10 mL**
M-GRA-IS-R-10ML-PAK *SAVE 20%* $ 900 / **5 x 10 mL**
4 comps.

	Mix Ratio		Mix Ratio
Benzene-d_6	2 mL	Naphthalene-d_8	1 gm
Ethylbenzene-d_{10}	2 mL	Toluene-d_8	7 mL

3 comp. Deuterated Internal Std. Mix

M-GRA-IS-5ML $ 158 / **1 x 5 mL**
M-GRA-IS-5ML-PAK *SAVE 20%* $ 632 / **5 x 5 mL**
3 comps.

	Mix Ratio
Benzene-d_6	2 mL
Ethylbenzene-d_{10}	2 mL
Naphthalene-d_8	1 gm

ASTM D5769 Benzene, Toluene & Total Aromatics in Finished Gasoline by GC/MS

With 3 Component Internal Standard

Calibration Curve
With Internal Standard

D-5769-CAL/IS-SET $ 375 / **5 x 1 mL**

Core Calibr. Mix 24 Comps.	Std. 1 Target Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
Benzene	5.25	2.95	1.575	0.8144	0.4143
Toluene	19.67	11.06	5.898	3.0505	1.5519
Ethylbenzene	5.18	2.91	1.552	0.8026	0.4083
m-Xylene	6.19	3.48	1.856	0.9598	0.4883
p-Xylene	6.19	3.48	1.856	0.9598	0.4883
o-Xylene	6.30	3.54	1.890	0.9776	0.4973
Isopropylbenzene	3.09	1.74	0.925	0.4786	0.2435
n-Propylbenzene	3.09	1.74	0.926	0.4787	0.2435
3-Ethyltoluene	3.10	1.74	0.928	0.4801	0.2442
4-Ethyltoluene	3.08	1.73	0.925	0.4782	0.2433
1,3,5-Trimethylbenzene	3.10	1.74	0.929	0.4804	0.2444
2-Ethyltoluene	3.15	1.77	0.945	0.4890	0.2488
1,2,4-Trimethylbenzene	5.23	2.94	1.567	0.8104	0.4123
1,2,3-Trimethylbenzene	3.20	1.80	0.960	0.4965	0.2526
Indan	3.45	1.94	1.034	0.5350	0.2722
1,4-Diethylbenzene	3.09	1.74	0.925	0.4786	0.2435
n-Butylbenzene	3.08	1.73	0.923	0.4776	0.2430
1,2-Diethylbenzene	3.15	1.77	0.945	0.4885	0.2485
1,2,4,5-Tetramethylbenzene	2.12	1.19	0.635	0.3284	0.1671
1,2,3,5-Tetramethylbenzene	2.12	1.19	0.637	0.3295	0.1676
Naphthalene	2.37	1.34	0.712	0.3683	0.1874
1-Methylnaphthalene	2.37	1.34	0.712	0.3683	0.1874
2-Methylnaphthalene	2.43	1.37	0.730	0.3773	0.1919
Isooctane	-----	43.77	70.015	84.4922	92.1105

Optional Sixth Standard
With Internal Standard

D-5769-ADD/IS $ 100 / **1 x 1 mL**

Core Calibration Mix 24 Comps.	Target Wt. %
Benzene	4.16
Toluene	16.41
Ethylbenzene	4.10
m-Xylene	4.91
p-Xylene	4.91
o-Xylene	5.00
Isopropylbenzene	2.45
n-Propylbenzene	2.45
3-Ethyltoluene	2.45
4-Ethyltoluene	2.44
1,3,5-Trimethylbenzene	2.46
2-Ethyltoluene	2.50
1,2,4-Trimethylbenzene	4.14
1,2,3-Trimethylbenzene	2.54
Indan	2.73
1,4-Diethylbenzene	2.45
n-Butylbenzene	2.44
1,2-Diethylbenzene	2.50
1,2,4,5-Tetramethylbenzene	1.68
1,2,3,5-Tetramethylbenzene	1.68
Naphthalene	1.88
1-Methylnaphthalene	1.88
2-Methylnaphthalene	1.93
Isooctane	19.92

Technical Note

A sixth standard has been formulated to improve the linearity at the high end of the calibration curve. This can be especially helpful in the quantification of gasoline containing high levels of toluene.

Internal Standard
M-GRA-IS

	Mix ratio
Benzene-d_6	2 mL
Ethylbenzene-d_{10}	2 mL
Naphthalene-d_8	1 gm

The 3 comp. Internal Standard Mix (M-GRA-IS) is combined with the 24 component Core Calibration Curve Mixes above in a 5 to 100 weight ratio to formulate these 27 comp. calibration solutions.

Daily Quality Control Standard
With Internal Standard

D-5769-QC/IS-5ML $ 100 / **1 x 5 mL**
D-5769-QC/IS-5ML-PAK *SAVE 20%* $ 400 / **5 x 5 mL**
17 comps.

	Wt. Ratio		Wt. Ratio
n-Hexane	12	Toluene	9
n-Heptane	17	Ethylbenzene	3
n-Octane	17	*m*-Xylene	3
n-Decane	12	*o*-Xylene	3
n-Dodecane	5	1,2,4-Trimethylbenzene	3
Isooctane	12	1,2,4,5-Tetramethylbenzene	2
Benzene	1	Naphthalene	1

Includes M-GRA-IS (3 comp. mix) added in 5 to 100 weight ratio

Resolution Standard
M-GRA-RES $ 30 / **1 x 1 mL**
M-GRA-RES-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
3 comps.

	Wt. %
1,3,5-Trimethylbenzene	3.0
1-Methyl-2-ethylbenzene	3.0
Isooctane	94.0

3 comp. Deuterated Internal Std. Mix
M-GRA-IS-5ML $ 158 / **1 x 5 mL**
M-GRA-IS-5ML-PAK *SAVE 20%* $ 632 / **5 x 5 mL**
3 comps.

Compound	Mix Ratio
Benzene-d_6	2 mL
Ethylbenzene-d_{10}	2 mL
Naphthalene-d_8	1 gm

Sensitivity Test Solution
M-GRA-ST $ 10 / **1 x 1 mL**
M-GRA-ST-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
100 µg/mL in Isooctane

1,4-Diethyl benzene

Fragmentation Pattern Standard
M-GRA-FP $ 20 / **1 x 1 mL**
M-GRA-FP-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
3.0% w/w in Isooctane

1,2,3-Trimethylbenzene

Mass Scan Range Standard
M-GRA-MSR $ 20 / **1 x 1 mL**
M-GRA-MSR-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
3.0% w/w in Isooctane

Toluene

ASTM D5769 Benzene, Toluene & Total Aromatics in Finished Gasoline by GC/MS

With 4 Component Internal Standard (includes Toluene-d_4)

Calibration Curve with Deuterated Toluene
With Internal Standard

D-5769-CAL/IS-R-SET $ 425 / **5 x 1 mL**

Core Calibr. Mix 24 Comps.	Std. 1 Target Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
Benzene	5.25	2.95	1.575	0.8144	0.4143
Toluene	19.67	11.06	5.898	3.0505	1.5519
Ethylbenzene	5.18	2.91	1.552	0.8026	0.4083
m-Xylene	6.19	3.48	1.856	0.9598	0.4883
p-Xylene	6.19	3.48	1.856	0.9598	0.4883
o-Xylene	6.30	3.54	1.890	0.9776	0.4973
Isopropylbenzene	3.09	1.74	0.925	0.4786	0.2435
n-Propylbenzene	3.09	1.74	0.926	0.4787	0.2435
3-Ethyltoluene	3.10	1.74	0.928	0.4801	0.2442
4-Ethyltoluene	3.08	1.73	0.925	0.4782	0.2433
1,3,5-Trimethylbenzene	3.10	1.74	0.929	0.4804	0.2444
2-Ethyltoluene	3.15	1.77	0.945	0.4890	0.2488
1,2,4-Trimethylbenzene	5.23	2.94	1.567	0.8104	0.4123
1,2,3-Trimethylbenzene	3.20	1.80	0.960	0.4965	0.2526
Indan	3.45	1.94	1.034	0.5350	0.2722
1,4-Diethylbenzene	3.09	1.74	0.925	0.4786	0.2435
n-Butylbenzene	3.08	1.73	0.923	0.4776	0.2430
1,2-Diethylbenzene	3.15	1.77	0.945	0.4885	0.2485
1,2,4,5-Tetramethylbenzene	2.12	1.19	0.635	0.3284	0.1671
1,2,3,5-Tetramethylbenzene	2.12	1.19	0.637	0.3295	0.1676
Naphthalene	2.37	1.34	0.712	0.3683	0.1874
1-Methylnaphthalene	2.37	1.34	0.712	0.3683	0.1874
2-Methylnaphthalene	2.43	1.37	0.730	0.3773	0.1919
Isooctane	-----	43.77	70.015	84.4922	92.1105

Optional Sixth Standard
With Internal Standard

D-5769-ADD/IS-R $ 100 / **1 x 1 mL**

Core Calibration Mix 24 Comp.	Target Wt. %
Benzene	4.16
Toluene	16.41
Ethylbenzene	4.10
m-Xylene	4.91
p-Xylene	4.91
o-Xylene	5.00
Isopropylbenzene	2.45
n-Propylbenzene	2.45
3-Ethyltoluene	2.45
4-Ethyltoluene	2.44
1,3,5-Trimethylbenzene	2.46
2-Ethyltoluene	2.50
1,2,4-Trimethylbenzene	4.14
1,2,3-Trimethylbenzene	2.54
Indan	2.73
1,4-Diethylbenzene	2.45
n-Butylbenzene	2.44
1,2-Diethylbenzene	2.50
1,2,4,5-Tetramethylbenzene	1.68
1,2,3,5-Tetramethylbenzene	1.68
Naphthalene	1.88
1-Methylnaphthalene	1.88
2-Methylnaphthalene	1.93
Isooctane	19.92

Internal Standard
M-GRA-IS-R

	Mix ratio
Benzene-d_6	2 mL
Ethylbenzene-d_{10}	2 mL
Naphthalene-d_8	1 gm
Toluene-d_8	7 mL

The 4 comp. Internal Standard Mix (M-GRA-IS-R) is combined with the 24 component core calibration curve mixtures above in a 12 to 100 weight ratio to formulate these 28 component calibration solutions.

Daily Quality Control Standard
With Internal Standard

D-5769-QC/IS-R-5ML $ 100 / **1 x 5 mL**
D-5769-QC/IS-R-5ML-PAK *SAVE 20%* $ 400 / **5 x 5 mL**
18 comps.

Compound	Wt. Ratio	Compound	Wt. Ratio
n-Hexane	12	Toluene	9
n-Heptane	17	Ethylbenzene	3
n-Octane	17	*m*-Xylene	3
n-Decane	12	*o*-Xylene	3
n-Dodecane	5	1,2,4-Trimethylbenzene	3
Isooctane	12	1,2,4,5-Tetramethylbenzene	2
Benzene	1	Naphthalene	1

Includes M-GRA-IS-R (4 comp. mix) added in 12 to 100 weight ratio

Sensitivity Test Solution
M-GRA-ST $ 10 / **1 x 1 mL**
M-GRA-ST-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
100 µg/mL in Isooctane

1,4-Diethyl benzene

Resolution Standard
M-GRA-RES $ 30 / **1 x 1 mL**
M-GRA-RES-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
3 comps.

	Wt. %
1,3,5-Trimethylbenzene	3.0
1-Methyl-2-ethylbenzene	3.0
Isooctane	94.0

4 comp. Deuterated Internal Std. Mix
M-GRA-IS-R-10ML $ 225 / **1 x 10 mL**
M-GRA-IS-R-10ML-PAK *SAVE 20%* $ 900 / **5 x 10 mL**

	Mix Ratio		Mix Ratio
Benzene-d_6	2 mL	Naphthalene-d_8	1 gm
Ethylbenzene-d_{10}	2 mL	Toluene-d_8	7 mL

Fragmentation Pattern Standard
M-GRA-FP $ 20 / **1 x 1 mL**
M-GRA-FP-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
3.0 w/w in Isooctane

1,2,3-Trimethylbenzene

ASTM D5769 Benzene, Toluene & Total Aromatics in Finished Gasoline by GC/MS

Proposed / Promulgated Method Modifications

Calibration Curve
With Chlorinated Internal Standard

D-5769-CAL/IS-R2-SET $ 375 / **5 x 1 mL**

Core Calibr. Mix 24 Comps.	Std. 1 Target Wt. %	Std. 2 Wt. %	Std. 3 Wt. %	Std. 4 Wt. %	Std. 5 Wt. %
Benzene	5.25	2.95	1.575	0.8144	0.4143
Toluene	19.67	11.06	5.898	3.0505	1.5519
Ethylbenzene	5.18	2.91	1.552	0.8026	0.4083
m-Xylene	6.19	3.48	1.856	0.9598	0.4883
p-Xylene	6.19	3.48	1.856	0.9598	0.4883
o-Xylene	6.30	3.54	1.890	0.9776	0.4973
Isopropylbenzene	3.09	1.74	0.925	0.4786	0.2435
n-Propylbenzene	3.09	1.74	0.926	0.4787	0.2435
3-Ethyltoluene	3.10	1.74	0.928	0.4801	0.2442
4-Ethyltoluene	3.08	1.73	0.925	0.4782	0.2433
1,3,5-Trimethylbenzene	3.10	1.74	0.929	0.4804	0.2444
2-Ethyltoluene	3.15	1.77	0.945	0.4890	0.2488
1,2,4-Trimethylbenzene	5.23	2.94	1.567	0.8104	0.4123
1,2,3-Trimethylbenzene	3.20	1.80	0.960	0.4965	0.2526
Indan	3.45	1.94	1.034	0.5350	0.2722
1,4-Diethylbenzene	3.09	1.74	0.925	0.4786	0.2435
n-Butylbenzene	3.08	1.73	0.923	0.4776	0.2430
1,2-Diethylbenzene	3.15	1.77	0.945	0.4885	0.2485
1,2,4,5-Tetramethylbenzene	2.12	1.19	0.635	0.3284	0.1671
1,2,3,5-Tetramethylbenzene	2.12	1.19	0.637	0.3295	0.1676
Naphthalene	2.37	1.34	0.712	0.3683	0.1874
1-Methylnaphthalene	2.37	1.34	0.712	0.3683	0.1874
2-Methylnaphthalene	2.43	1.37	0.730	0.3773	0.1919
Isooctane	-----	43.77	70.015	84.4922	92.1105

Optional Sixth Standard
With Internal Standard

D-5769-ADD/IS-R2 $ 100 / **1 x 1 mL**

Core Calibration Mix 24 Components	Target Wt.%
Benzene	4.16
Toluene	16.41
Ethylbenzene	4.10
m-Xylene	4.91
p-Xylene	4.91
o-Xylene	5.00
Isopropylbenzene	2.45
n-Propylbenzene	2.45
3-Ethyltoluene	2.45
4-Ethyltoluene	2.44
1,3,5-Trimethylbenzene	2.46
2-Ethyltoluene	2.50
1,2,4-Trimethylbenzene	4.14
1,2,3-Trimethylbenzene	2.54
Indan	2.73
1,4-Diethylbenzene	2.45
n-Butylbenzene	2.44
1,2-Diethylbenzene	2.50
1,2,4,5-Tetramethylbenzene	1.68
1,2,3,5-Tetramethylbenzene	1.68
Naphthalene	1.88
1-Methylnaphthalene	1.88
2-Methylnaphthalene	1.93
Isooctane	19.92

Disk Deliverable
(At no additional charge)

CALAMTS®
(Disk containing "Calibration Amounts")
Eliminates hand keyed-in data.

Each analyte in each standard is individually weighed. Actual weights and weight percents are provided.

Internal Standard
M-GRA-IS-R2

	Mix ratio
Chlorobenzene	2 mL
1,2-Dichlorobenzene	2 mL
1,2,4-Trichlorobenzene	1 mL

The 3 comp. Internal Standard Mix (M-GRA-IS-R2) is combined with the 24 Comp. Core Calibration Curve mixtures above in a 5 to 100 weight ratio to formulate these 27 Comp. calibration solutions.

Daily QC Standard
With Internal Standard

D-5769-QC/IS-R2-5ML $ 100 / **1 x 5 mL**
D-5769-QC/IS-R2-5ML-PAK *SAVE 20%* $ 400 / **5 x 5 mL**

17 comps.

Compound	Wt. Ratio	Compound	Wt. Ratio
n-Hexane	12	Toluene	9
n-Heptane	17	Ethylbenzene	3
n-Octane	17	*m*-Xylene	3
n-Decane	12	*o*-Xylene	3
n-Dodecane	5	1,2,4-Trimethylbenzene	3
Isooctane	12	1,2,4,5-Tetramethylbenzene	2
Benzene	1	Naphthalene	1

Includes M-GRA-IS-R2 added in 5 to 100 weight ratio.

Sensitivity Test Solution

M-GRA-ST $ 10 / **1 x 1 mL**
M-GRA-ST-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
100 µg/mL in Isooctane

1,4-Diethyl benzene

Fragmentation Pattern Standard

M-GRA-FP $ 20 / **1 x 1 mL**
M-GRA-FP-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
3.0 w/w in Isooctane

1,2,3-Trimethylbenzene

3 comp. Chlorinated Internal Std. Mix

M-GRA-IS-R2-VAP $ 125 / **set of 25 x 1 mL**
M-GRA-IS-R2-25ML $ 100 / **1 x 25 mL**

3 comps.

Compound	Mix Ratio
Chlorobenzene	2 mL
1,2-Dichlorobenzene	2 mL
1,2,4-Trichlorobenzene	1 mL

Resolution Standard

M-GRA-RES $ 30 / **1 x 1 mL**
M-GRA-RES-PAK *SAVE 20%* $ 120 / **5 x 1 mL**

3 comps.

	Wt. %
1,3,5-Trimethylbenzene	3.0
1-Methyl-2-ethylbenzene	3.0
Isooctane	94

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

ASTM D5769 Benzene, Toluene & Total Aromatics in Finished Gasoline by GC/MS

Special QA/QC Formulations

Daily QC Standard
Without Internal Standard

M-GRA-QC-R-10ML $ 125 / **1 x 10 mL**
M-GRA-QC-R-10ML-PAK *SAVE 20%* $ 500 / **5 x 10 mL**
15 comps.

	Wt. Ratio		Wt. Ratio
n-Hexane	12	Ethylbenzene	3
n-Heptane	17	*m*-Xylene	3
n-Octane	17	*o*-Xylene	3
n-Decane	12	1,2,4-Trimethylbenzene	3
n-Dodecane	5	1,2,4,5-Tetramethylbenzene	1
Isooctane	12	Pentamethylbenzene	1
Benzene	1	1-Methylnaphthalene	1
Toluene	9		

For use with any M-GRA Calibration Curve

Daily QC Standard
With Internal Standard M-GRA-IS

M-GRA-QC-R/IS-5ML $ 100 / **1 x 5 mL**
M-GRA-QC-R/IS-5ML-PAK *SAVE 20%* $ 400 / **5 x 5 mL**
18 comps.

	Wt. Ratio		Wt. Ratio
n-Hexane	12	Ethylbenzene	3
n-Heptane	17	*m*-Xylene	3
n-Octane	17	*o*-Xylene	3
n-Decane	12	1,2,4-Trimethylbenzene	3
n-Dodecane	5	1,2,4,5-Tetramethylbenzene	1
Isooctane	12	Pentamethylbenzene	1
Benzene	1	1-Methylnaphthalene	1
Toluene	9		

Includes M-GRA-IS combined with the above 15 comp. Core Mix in a 5 to 100 weight ratio.

3 comp. Deuterated Internal Std. Mix

M-GRA-IS-5ML $ 158 / **1 x 5 mL**
M-GRA-IS-5ML-PAK *SAVE 20%* $ 632 / **5 x 5 mL**
3 comps.

	Mix Ratio
Benzene-d_6	2 mL
Ethylbenzene-d_{10}	2 mL
Naphthalene-d_8	1 gm

4 comp. Deuterated Internal Std. Mix

M-GRA-IS-R-10ML $ 225 / **1 x 10 mL**
M-GRA-IS-R-10ML-PAK *SAVE 20%* $ 900 / **5 x 10 mL**
4 comps.

	Mix Ratio
Benzene-d_6	2 mL
Ethylbenzene-d_{10}	2 mL
Naphthalene-d_8	1 gm
Toluene-d_8	7 mL

Daily QC Standard
With Internal Standard M-GRA-IS-R

M-GRA-QCR/IS-R-5ML $ 125 / **1 x 5 mL**
M-GRA-QCR/IS-R-5ML-PAK *SAVE 20%* $ 500 / **5 x 5 mL**
19 comps.

	Wt. Ratio		Wt. Ratio
n-Hexane	12	Ethylbenzene	3
n-Heptane	17	*m*-Xylene	3
n-Octane	17	*o*-Xylene	3
n-Decane	12	1,2,4-Trimethylbenzene	3
n-Dodecane	5	1,2,4,5-Tetramethylbenzene	1
Isooctane	12	Pentamethylbenzene	1
Benzene	1	1-Methylnaphthalene	1
Toluene	9		

Includes M-GRA-IS-R combined with the above 15 comp. Core Mix in a 12 to 100 weight ratio.

Aromatics for Analysis by GC/MS (Daily QC Standards) Set

Original Formulations
M-GRA-K1-SET $ 600 / **Set**

Set includes:	Units	Function
M-GRA-CAL/IS-SET	5 x 1 mL	5 Point Curve with 3 Internal Standards
M-GRA-QC/IS-5ML	1 x 5 mL	Daily QC with 3 Internal Standards
M-GRA-IS-5ML	1 x 5 mL	3 Component Internal Standard
M-GRA-ST	1 x 1 mL	Sensitivity Test Solution

Revision 5 F
M-GRA-K2-SET $ 700 / **Set**

Set includes:	Units	Function
M-GRA-CAL/IS-SET	5 x 1 mL	5 Point Curve with 3 Internal Standards
M-GRA-ADD/IS	1 x 1 mL	6th Standard for Revison 5 F
M-GRA-QC/IS-5ML	1 x 5 mL	Daily QC with 3 Internal Standards
M-GRA-IS-5ML	1 x 5 mL	3 Component Internal Standard
M-GRA-ST	1 x 1 mL	Sensitivity Test Solution

4 Component Internal Standard Formulations
M-GRA-K4-SET $ 850 / **Set**

Set includes:	Units	Function
M-GRA-CAL-R/IS-R-SET	5 x 1 mL	5 Point Curve with 4 Internal Standards
M-GRA-ADD/IS-R	1 x 1 mL	6th Standard for Revison 5 F
M-GRA-QC-R/IS-R-5ML	1 x 5 mL	Daily QC with 4 Internal Standards
M-GRA-IS-R-10ML	1 x 10 mL	4 Component Internal Standard
M-GRA-ST	1 x 1 mL	Sensitivity Test Solution

Technical Note

Used to meet the Toluene-d_8 internal standard version recommended by a network of major petroleum refineries.

Modifications to D5769

- Calibration standards when combined with internal standards are diluted into significantly more isooctane.
- The analytes in the Performance Standard have been expanded to better tune the GC/MS system for optimum performance.
- The number of components in the QA/QC mix has been reduced with new QA/QC tolerances.
- The number of analytes in the calibration mix has been reduced.
- Samples that exceed the linear range are to be diluted, reducing the number of extra calibration points required.

ASTM D5769-XX Calibration Curve with No Internal Standard Added

ASTM-P-0140-SET $ 1500 / **5 x 5 mL**
Level 1, 2, 3, 4, 5

Core Calibr. Mix Compound	Level 1 Target Mass %	Level 2 Mass %	Level 3 Mass %	Level 4 Mass %	Level 5 Mass %
Benzene	5	3	1	0.5	0.1
Toluene	12	9	6	3	0.5
Ethylbenzene	5	3.75	2.5	1.25	0.2
1,3-Dimethylbenzene	10	7.5	5	2.5	0.2
1,4-Dimethylbenezene	5	3.75	2.5	1.25	0.2
1,2-Dimethylbenezene	5	3.75	2.5	1.25	0.2
(1-Methylethyl)-benzene	3	2.25	1.5	0.75	0.2
1-Methyl-3-ethylbenzene	3	2.25	1.5	0.75	0.2
1-Methyl-4-ethylbenzene	3	2.25	1.5	0.75	0.2
1,3,5-Trimethylbenzene	3	2.25	1.5	0.75	0.2
1-Methyl-2-ethylbenzene	3	2.25	1.5	0.75	0.2
1,2,4-Trimethylbenzene	6	4.5	3	1.5	0.2
1,2,3-Trimethylbenzene	3	2.25	1.5	0.75	0.2
Indan	3	2.25	1.5	0.75	0.2
1,2-Diethylbenzene	2	1.5	1	0.5	0.2
Naphthalene[A]	2	1.5	1	0.5	0.1
2-Methylnaphthalene [A]	2	1.5	1	0.5	0.1
1-Methylnaphthalene [A]	2	1.5	1	0.5	0.1
Isooctane (solvent) *	balance	balance	balance	balance	balance

4 comp. Deuterated Internal Std. Mix

ASTM-P-0140-IS $ 75 / **1 x 10 mL**
ASTM-P-0140-IS-PAK *SAVE 20%* $ 300 / **5 x 10 mL**
4 comps.

Compound	Mass %	Compound	Mass %
Benzene-d_6	2	Naphthalene-d_8	1
Ethylbenzene-d_{10}	2	Isooctane *	balance

4 comp. Deuterated Internal Std. Mix

ASTM-P-0140-IS2 $ 75 / **1 x 10 mL**
ASTM-P-0140-IS2-PAK *SAVE 20%* $ 300 / **5 x 10 mL**
5 comps.

Compound	Mass %	Compound	Mass %
Benzene-d_6	2	Naphthalene-d_8	1
Ethylbenzene-d_{10}	2	Toluene-d_8	7
		Isooctane *	balance

Performance Evalutation Standard

ASTM-P-0140-PES $ 55 / **1 x 1 mL**
ASTM-P-0140-PES-PAK *SAVE 20%* $ 220 / **5 x 1 mL**
11 comps.

	Target Mass %
Benzene	1
1,2-Diethylbenzene	0.005
1,3,5-Trimethylbenzene	1
1-Methyl-2-ethylbenzene	1
Styrene	0.1
Indene	0.1
Biphenyl	0.1
1,2,4,5-Tetramethylbenzene	1
1,2,3,5-Tetramethylbenzene	1
Hexadecane	1
Isooctane:Toluene(1:1) *	balance

Composition of Daily QC Standard

ASTM-P-0140-QC $ 125 / **1 x 10 mL**
ASTM-P-0140-QC-PAK *SAVE 20%* $ 500 / **5 x 10 mL**
9 comps.

	Target Mass %
Benzene	1
Toluene	10
Ethylbenzene	3
1,3-Dimethylbenzene	6
1,2-Dimethylbenzene	3
1,2,4-Trimethylbenzene	3
1,2-Diethylbenzene	0.02
Naphthalene	1
Isooctane (solvent) *	balance

[A] This component is a solid at room temperature

* The isooctane balance is the amount of material to make up a 100 mL calibration standard.
Certificate will reflect actual weight of each component in the 100 mL batch including the isooctane.

ASTM D5771 Cloud Point of Petroleum Products

See Table of Contents for Cloud Point Standards

ASTM D5772 Cloud Point of Petroleum Products (Linear Cooling Rate Method)

See Table of Contents for Cloud Point Standards

ASTM D5773 Cloud Point of Petroleum Products (Constant Cooling Rate Method)

See Table of Contents for Cloud Point Standards

ASTM D5836 Determination of Diisocyanates (1,2-PP Method)

Diisocyanate Sets

D-5836-SET $ 175 / 9 x 1 mL
D-5836-01N, D-5836-02N, D-5836-03N, D-5836-04N,
D-5836-01-DER, D-5836-02-DER, D-5836-03-DER, D-5836-04-DER, D-5836-DER-5ML-VAP

NEW

Diisocyanate Storage - Refrig 0-5° C

Underivatized Diisocyanates

Compound	Unit	Cat. No.	Price
2,4-Toluene diisocyanate	100 mg	D-5836-01N	$ 25
2,6-Toluene diisocyanate	100 mg	D-5836-02N	25
Hexamethylene diisocyanate	100 mg	D-5836-03N	25
4,4'-Methylenebis(phenyl isocyanate)	100 mg	D-5836-04N	25

Derivatized Diisocyanates (Weight Compensated to 1000 µg/mL of each Diisocyanate)

Compound	Cat. No.	Price / 1 mL
N,N'-(4-Methyl-1,3-phenylene)bis[4-2-pyridinyl)-1-piperazinecarboxyamide 72375-21-4 **(2,4-TDIP)**	D-5836-01-DER 2840 µg/mL in DMSO	$ 25
N,N'-(2-Methyl-1,3-phenylene)bis[4-2-pyridinyl)-1-piperazinecarboxyamide **(2,6-TDIP)**	D-5836-02-DER 2840 µg/mL in DMSO	25
N,N'-(1,6-Hexanediylbis[4-(2-pyridinyl)-1-piperazinecarboxyamide 72375-27-0 **(1,6-HDIP)**	D-5836-03-DER 2900 µg/mL in DMSO	25
N,N'-(Methylenediphenylene)bis[4-(2-pyridinyl)-1-piperazinecarboxyamide 72375-24-7 **(4,4'-MDIP)**	D-5836-04-DER 2280 µg/mL in DMSO	25

Derivatizing Agents

1-(2-Pyridyl)piperazine 34803-66-2	D-5836-DER-5ML-VAP 2 mg/mL in CH_2Cl_2	$ 25 / 4 x 5 mL

Individual Derivatized Diisocyanates

N,N'-(4-Methyl-1,3-phenylene)bis[4-2-pyridinyl)-1-piperazinecarboxyamide 72375-21-4 **(2,4-TDIP)**	D-5836-01A-DER 1000 µg/mL in DMSO	$ 25
N,N'-(2-Methyl-1,3-phenylene)bis[4-2-pyridinyl)-1-piperazinecarboxyamide **(2,6-TDIP)**	D-5836-02A-DER 1000 µg/mL in DMSO	$ 25
N,N'-(1,6-Hexanediylbis[4-(2-pyridinyl)-1-piperazinecarboxyamide 72375-27-0 **(1,6-HDIP)**	D-5836-03A-DER 1000 µg/mL in DMSO	$ 25
N,N'-(Methylenediphenylene)bis[4-(2-pyridinyl)-1-piperazinecarboxyamide 72375-24-7 **(4,4'-MDIP)**	D-5836-04A-DER 1000 µg/mL in DMSO	$ 25

ASTM D5863 Ni, V, Fe, & Na in Crude Oils & Residual Fuels by Flame AA Spectrometry

see ASTM methods in Inorganic T of C

ASTM D5901 Freezing Point Aviation Fuels (Automated Optical Method)

See Table of Contents for Cloud Freezing Point Standards

ASTM D5972 Freezing Point Aviation Fuels (Automated Phase Transition Method)

See Table of Contents for Cloud Freezing Pt. Standards

ASTM D5986 Oxygenates, Benzene, Toluene, C_8-C_{12}, Aromatics & Total Aromatics in Finished Gasolines by GC/FTIR

Daily QC Standard

Without Internal Standard

M-GRA-QC-10ML $ 125 / **1 x 10 mL**
M-GRA-QC-10ML-PAK *SAVE 20%* $ 500 / **5 x 10 mL**

Compound	Wt. Ratio	Compound	Wt. Ratio
n-Hexane	12	Toluene	9
n-Heptane	17	Ethylbenzene	3
n-Octane	17	*m*-Xylene	3
n-Decane	12	*o*-Xylene	3
n-Dodecane	5	1,2,4-Trimethylbenzene	3
Isooctane	12	1,2,4,5-Tetramethylbenzene	3
Benzene	1		
		13 Comp. Core Mix	100

Technical Note

This quality control standard was formulated to meet Section 11 of ASTM D-5986 specifications stipulating to "analyze the quality control reference material before every batch of samples. Bracket the samples with the reference materials."

ASTM D6160 Polychlorinated Biphenyls (PCBs in Waste Materials by GC)

Aroclor Standards

Aroclor #	35 µg/mL in Isooctane Cat. No.	1 mL Price	35 µg/mL in MeOH Cat. No.	1 mL Price	1000 µg/mL in Hexane Cat. No.	1 mL Price
Aroclor 1016	C-216S	$ 15	C-216S-M	$ 15	C-216S-H-10X	$ 20
Aroclor 1221	C-221S	15	C-221S-M	15	C-221S-H-10X	20
Aroclor 1232	C-232S	15	C-232S-M	15	C-232S-H-10X	20
Aroclor 1242	C-242S	15	C-242S-M	15	C-242S-H-10X	20
Aroclor 1248	C-248S	15	C-248S-M	15	C-248S-H-10X	20
Aroclor 1254	C-254S	15	C-254S-M	15	C-254S-H-10X	20
Aroclor 1260	C-260S	15	C-260S-M	15	C-260S-H-10X	20
Aroclor 1262	C-262S	15	C-262S-M	15	C-262S-H-10X	20
Aroclor 1268	C-268S	15	C-268S-M	15	C-268S-H-10X	20

ASTM D6258 Solvent Red 164 Dye Concentration in Diesel Fuels

Stock Solvent Red 26 Standard

D-6258-CONC-5ML $ 45 / **1 x 5 mL**

Solvent Red 26 @ 300 µg/mL in Xylene

D-6258 Calibration Curve

D-6258-5ML-SET $ 125 / **6 x 5 mL**

Set includes the following Cat. No.'s

Description	Cat. No	Unit
Xylene Blank	D-6258-BL	1 x 5 mL
Solvent Red 26 Dye @ 3 µg/mL in Xylene	D-6258-01	1 x 5 mL
Solvent Red 26 Dye @ 6 µg/mL in Xylene	D-6258-02	1 x 5 mL
Solvent Red 26 Dye @ 9 µg/mL in Xylene	D-6258-03	1 x 5 mL
Solvent Red 26 Dye @ 12 µg/mL in Xylene	D-6258-04	1 x 5 mL
Solvent Red 26 Dye @ 15 µg/mL in Xylene	D-6258-05	1 x 5 mL

Technical Note

Solvent Red 26 is the azo dye standard against which the concentration of Solvent Red 164 is measured. The visible spectrum of Solvent Red 164 is virtually identical to the spectrum of Solvent Red 26.

ASTM D6277 Benzene in Spark - Ignition Engine Fuels using Mid Infrared Spectroscopy

See Table of Contents for Petro QC Standards

ASTM D6293 Oxygenates & Paraffin, Olefin, Naphthene, Aromatics (O-PONA) Hydrocarbon types in Low-Olefin Spark-Ignition Engine Fuels by GC

O-PONA System Validation Mixture

ASTM-P-0080 $ 135 / **1 x 1 mL**

ASTM-P-0080-PAK *SAVE 20%* $ 540 / **5 x 1 mL**

33 comps.

	Wt./Wt. %		Wt./Wt. %
Cyclopentane	1.5	Benzene	2.5
n-Pentane	1.5	Toluene	2.5
Cyclohexane	2.0	*trans*-Decahydronaphthelene	3.5
2,3-Dimethylbutane	2.0	*n*-Tetradecane	2.0
n-Hexane	2.0	Ethylbenzene	3.5
1-Hexene	1.5	*o*-Xylene	3.0
Methylcyclohexane	3.5	*n*-Propylbenzene	3.5
4-Methyl-1-hexene	1.5	1,2,4-Trimethylbenzene	3.0
n-Heptane	3.0	1,2,3-Trimethylbenzene	2.0
cis-1,2-Dimethylcyclohexane	4.5	1,2,4,5-Tetramethylbenzene	2.0
Isooctane	4.0	Pentamethylbenzene	2.5
n-Octane	4.0	Ethanol	5.0
1,2,4-Trimethylcyclohexane	3.5	*t*-Butanol	4.0
n-Nonane	3.0	MtBE	8.0
n-Decane	3.5	ETBE	3.0
n-Undecane	2.0	TAME	5.0
n-Dodecane	2.0		

O-PONA Olefin Mix

ASTM-P-0081 $ 45 / **1 x 1 mL**

ASTM-P-0081-PAK $ 180 / **5 x 1 mL**

At stated conc. in Hexane:Heptane (1:1)

5 comps.

	Wt./Wt. %
1-Pentene	5.0
1-Hexene	2.0
1-Heptene	2.0
1-Octene	2.0
1-Nonene	3.0

O-PONA Paraffin Mixes

ASTM-P-0082 $ 25 / **1 x 1 mL**

ASTM-P-0082-PAK $ 100 / **5 x 1 mL**

At stated conc. in Hexane:Heptane (1:1)

2 comps.

	Wt./Wt. %
n-Nonane	5.0
n-Decane	2.0

ASTM-P-0082-R1 $ 25 / **1 x 1 mL**

ASTM-P-0082-R1-PAK $ 100 / **5 x 1 mL**

At stated conc. in Hexane:Heptane (1:1)

2 comps.

	Wt./Wt. %
n-Nonane	3.0
n-Decane	3.0

ASTM D6296 Total Olefins in Spark-Ignition Engine Fuels by Multidimensional GC

System Setup & Verification Standard Set

D-6296-VER-SET — $ 40 / **2 x 1 mL** (**D-6296-VER1, D-6296-VER2**)

D-6296-VER-SET-PAK — *SAVE 20%* $ 160 / **5 x (2 x 1 mL)** Set of 5 each (**D-6296-VER1, D-6296-VER2**)

D-6296-VER1 — **1 x 1 mL**, 2 comps.

	Wt. %
MTBE	5%
Isooctane	95%

D-6296-VER2 — **1 x 1 mL**, 2 comps.

	Wt. %
ETBE	5%
Isooctane	95%

Calibration Standard with MTBE

D-6296-CAL1 — $ 65 / **1 x 1 mL**

D-6296-CAL1-PAK — *SAVE 20%* $ 260 / **5 x 1 mL**

10 comps.

	Wt. %		Wt. %
Pentene	1.0	Decene	1.0
Hexene	1.0	Undecane	1.0
Heptene	1.0	Dodecane	1.0
Octene	1.0	Isooctane	87.0
Nonene	1.0	MTBE	5.0

Calibration Standard with ETBE

D-6296-CAL2 — $ 65 / **1 x 1 mL**

D-6296-CAL2-PAK — *SAVE 20%* $ 260 / **5 x 1 mL**

11 comps.

	Wt. %		Wt. %
Pentene	1.0	Decane	1.0
Hexene	1.0	Undecane	1.0
Heptene	1.0	Dodecane	1.0
Octene	1.0	Isooctane	86.0
Nonene	1.0	ETBE	5.0
Decene	1.0		

Isooctane Blank Compensation Standard

D-6296-BL — $ 15 / **1 x 5 mL**

Isooctane (Neat)

ASTM D6304 Determination of Water in Petroleum Products Lubricating oil, and additives by Coulometric Karl Fischer Titration

See Table of Contents for Karl Fischer Standards

ASTM D6334 Sulfur in Gasoline by Wavelength Dispersive X-Ray Fluorescence

See Table of Contents for Sulfur Calibration Standards

ASTM D6352 Boiling Range Distribution of Petroleum Distillates from 174 to 700ºC by GC

Polywax 500®

ASTM-P-0051N-2G — $ 20 / **2 grams**

Polywax 500

Polywax 850®

ASTM-P-0137N-2G — $ 20 / **2 grams**

Polywax 850

Polywax 655®

ASTM-P-0053N-2G — $ 20 / **2 grams**

Polywax 655

Polywax 1000®

ASTM-P-0138N-2G — $ 20 / **2 grams**

Polywax 1000

Hydrocarbon Window Defining Standard

DRH-008S-R2 — $ 65 / **1 x 1 mL**

DRH-008S-R2-PAK — *SAVE 20%* $ 260 / **5 x 1 mL**

500 µg/mL each in Chloroform — 35 comps.

Octane	Nonadecane	Triacontane
Nonane	Phytane	*n*-Hentriacontane
Decane	Eicosane	Dotriacontane
Undecane	Heneicosane	Tritriacontane
Dodecane	Docosane	Tetratriacontane
Tridecane	Tricosane	Pentatriacontane
Tetradecane	Tetracosane	Hexatriacontane
Pentadecane	Pentacosane	Heptatriacontane
Hexadecane	Hexacosane	Octatriacontane
Heptadecane	Heptacosane	Nonatriacontane
Octadecane	Octacosane	Tetracontane
Pristane	Nonacosane	

Calibration Mix

DRH-002N — $ 30 / **100 mg**

DRH-002N-10X — $ 40 / **1 gm**

17 comps.

	Wt. %		Wt. %
n-Hexane	6	*n*-Octadecane	5
n-Heptane	6	*n*-Eicosane	2
n-Octane	8	*n*-Tetracosane	2
n-Nonane	8	*n*-Octacosane	1
n-Decane	12	*n*-Dotriacontane	1
n-Undecane	12	*n*-Hexatriacontane	1
n-Dodecane	12	*n*-Tetracontane	1
n-Tetradecane	12	*n*-Tetratetracontane	1
n-Hexadecane	10		

Column Test Mixture

D-2887 — $ 10 / **1 x 1 mL**

1% wt./v in n-Octane — 2 comps.

n-Hexadecane, *n*-Octadecane

Can be shipped by Air and Sea

ASTM D6378 Vapor Pressure (VPx) of Petroleum Products, Hydrocarbons, & Hydrocarbon-Oxygenate Mixtures (Triple Expansion Method)

See Table of Contents for Vapor Pressure Standards

ASTM D6379 Aromatic Hydrocarbon Types in Aviation Fuels & Petroleum Distillates - HPLC method with Refractive Index

System Resolution Standards

D-6379-SRS $ 40 / **1 x 1 mL**
D-6379-SRS-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
At stated conc. (mg/mL) in n-Heptane 3 comps.

Cyclohexane	10
o-Xylene	0.5
1-Methyl naphthalene	0.05

D-6379-SRS-R1 $ 40 / **1 x 1 mL**
D-6379-SRS-R1-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
At stated conc. (mg/mL) in n-Heptane 3 comps.

Cyclohexane	10
o-Xylene	5
1-Methyl naphthalene	0.5

Calibration Curves

D-6379-SET $ 100 / **4 x 1 mL**
D-6379-SET-PAK *SAVE 20%* $ 400 / **5 x (4 x 1 mL)**
At stated conc. (mg/mL) in n-Heptane

Analyte	Std. 1	Std. 2	Std. 3	Std. 4
Cyclohexane	5	2	0.5	0.1
o-Xylene	15	5	1.0	0.1
1-Methyl naphthalene	5	1.0	0.2	0.05

D-6379-10X-SET $ 100 / **4 x 1 mL**
D-6379-10X-SET-PAK *SAVE 20%* $ 400 / **5 x (4 x 1 mL)**
At stated conc. (mg/mL) in n-Heptane

Analyte	Std. 1	Std. 2	Std. 3	Std. 4
Cyclohexane	50	20	5	1
o-Xylene	150	50	10	1
1-Methyl naphthalene	50	10	2	0.5

ASTM D6417 Estimation of Engine Oil Volatility by Capillary GC

See Table of Contents for Alkane and Polywax Standards

ASTM D6428 Sulfur by Combustion and Electrochemical Detection

D-6428-R1-100ML-SET $ 300 / **7 x 100 mL**
D-6428-R1-SET $ 65 / **7 x 1 mL**
In Isooctane

Description	D-6428-R1-100ML-SET 7 x 100 mL	D-6428-R1-SET 7 x 1 mL
Sulfur Blank	D-6428-BL-100ML	D-6428-BL
Sulfur @ 0.1 µg/g	D-6428-0.1X-100ML	D-6428-0.1X
Sulfur @ 0.5 µg/g	D-6428-0.5X-100ML	D-6428-0.5X
Sulfur @ 1.0 µg/g	D-6428-1X-100ML	D-6428-1X
Sulfur @ 2.5 µg/g	D-6428-2.5X-100ML	D-6428-2.5X
Sulfur @ 5.0 µg/g	D-6428-5X-100ML	D-6428-5X
Sulfur @ 10 µg/g	D-6428-10X-100ML	D-6428-10X

D-6428-R2-100ML-SET $ 275 / **6 x 100 mL**
D-6428-R2-SET $ 65 / **6 x 1 mL**
In Isooctane

Description	D-6428-R2-100ML-SET 6 x 100 mL	D-6428-R2-SET 6 x 1 mL
Sulfur Blank	D-6428-BL-100ML	D-6428-BL
Sulfur @ 10 µg/g	D-6428-10X-100ML	D-6428-10X
Sulfur @ 25 µg/g	D-6428-25X-100ML	D-6428-25X
Sulfur @ 50 µg/g	D-6428-50X-100ML	D-6428-50X
Sulfur @ 75 µg/g	D-6428-75X-100ML	D-6428-75X
Sulfur @ 100 µg/g	D-6428-100X-100ML	D-6428-100X

Technical Note

Sulfur introduced using di-n-butyl sulfide

ASTM D6443 Ca, Cl, Cu, Mg, P, S, Zn in Unused Lubricating Oils & Additives by Wave-length Dispersive X-ray Fluorescence & Spectrometry

see ASTM methods in Inorganic Table of Contents

ASTM D6445 Sulfur in Gasoline by ED - XRF

See Table of Contents for Sulfur Standards

ASTM D6481 P, S, Ca and Zn in Lube Oils by ED-XRF

see ASTM methods in Inorganic Table of Contents

ASTM D6550 Olefin Content of Gasolines by SFC

Stock Olefin Calibration Standard

D-6550-CONC $ 80 / **1 x 1 mL**
D-6550-CONC-5ML $ 350 / **1 x 5 mL**
At stated Conc. by Wt. % 15 comps.

	Wt. %		Wt. %
1-Nonene	2.5	3-Methyl-1,3-pentadiene	2
Cyclohexene	5	2-Methyl-1-butene	25
1-Hexene	5	2-Methyl-2-pentene	10
1-Octene	5	1-Heptene	10
1-Decene	5	2-Methyl-1-octene	2.5
2-Methyl-1,3-butadiene	5	2-Methyl-1-heptene	5
4-Methyl-1-pentene	5	5-Methyl-1-hexene	10
1,5-Hexadiene	3		

ASTM D6584 / EN 14105 Free and Total Glycerin in Biodiesel by GC

Compound	Conc.	Matrix	Cat. No.	Price / Unit
Glycerin	0.5 mg/mL	Pyridine	BF-D-6584-01	$ 25 / 2 mL
Monoolein	5 mg/mL	Pyridine	BF-D-6584-02	25 / 2 mL
1,3-Diolein	5 mg/mL	Pyridine	BF-D-6584-03	25 / 2 mL
Triolein	5 mg/mL	Pyridine	BF-D-6584-04	25 / 2 mL
(S)-(-)-1,2,4-Butanetriol	1 mg/mL	Pyridine	BF-D-6584-05-IS	145 / 5 mL
Tricaprin	8 mg/mL	Pyridine	BF-D-6584-06	145 / 5 mL
MSTFA	5 mL	Neat	BF-D-6584-07N	145 / 5 mL
Set of 7 above compounds			**BF-D-6584-SET**	**450 / 7 units**
Mix of above compounds, on right (MSTFA separate)				
Biofuel 20	0.5 mg/mL	CH_2Cl_2	BF-FU-030-D	10 / 2 mL
	20 mg/mL	CH_2Cl_2	BF-FU-030-D-40X	20 / 2 mL
Biofuel 100 Consumer grade	0.5 mg/mL	CH_2Cl_2	BF-FU-029-D	20 / 2 mL
	20 mg/mL	CH_2Cl_2	BF-FU-029-40X	45 / 2 mL
Biofuel 100	0.5 mg/mL	CH_2Cl_2	BF-FU-032-D	20 / 2 mL
	20 mg/mL	CH_2Cl_2	BF-FU-032-D-40X	45 / 2 mL

ASTM D6584 Mixture

BF-D-6584-MIX $ 225 / **1 x 5 mL**
At stated conc. in Pyridine 6 comps.

Glycerol	0.5 mg/mL
Monoolein	5 mg/mL
1,3-Diolein	5 mg/mL
Trioctadecenoin (Olein)	5 mg/mL
(S)-(-)-1,2,4-Butanetriol	1 mg/mL
Tricaprin	8 mg/mL

Note: MSTFA (BF-D-6584-07N) can be ordered separately.

ASTM D6591 (IP 391) Aromatic Hydrocarbon Types in Middle Distillates - HPLC method with Refractive Index Detection

System Performance Standard

ASTM-P-0135 $ 75 / **1 x 5 mL**
ASTM-P-0135-PAK *SAVE 20%* $ 300 / **5 x 5 mL**
At stated conc. (mg/mL) in n-Heptane 4 comps.

Cyclohexane	10
o-Xylene	5.0
Dibenzothiophene	0.5
9-Methylanthracene	0.5

IP 391-95 Calibration Curve

ASTM-P-0136-SET $ 145 / **4 x 1 mL**
At stated conc.(mg/mL) in n-Heptane

Analyte	Std. 1	Std. 2	Std. 3	Std. 4
Cyclohexane	50	20	5	1
o-Xylene	40	10	2.5	0.5
1-Methyl naphthalene	40	10	2.5	0.2
Phenanthrene	4	2	0.5	0.1

ASTM D6751 & ASTM D5453 Sulfur as Di-n-butyl sulfide in Biodiesel

Sulfur in Biodiesel 5%

ppm (µg/g)	% Wt.	Cat. No.	Price / 100 mL
0	0	BF-5453-B5-BL	$ 65
5	0.0005	BF-5453-B5-5X-SET	80 / 2 x 100 mL
10	0.001	BF-5453-B5-10X-SET	80 / 2 x 100 mL
15	0.0015	BF-5453-B5-15X-SET	80 / 2 x 100 mL
30	0.003	BF-5453-B5-30X	65
50	0.005	BF-5453-B5-50X	65
75	0.0075	BF-5453-B5-75X	65
100	0.01	BF-5453-B5-100X	65
200	0.02	BF-5453-B5-200X	65
500	0.05	BF-5453-B5-500X	65

Sulfur in Biodiesel 100% NEW

ppm (µg/g)	% Wt.	Cat. No.	Price / 100 mL
0	0	BF-5453-B100-BL	$ 65
5	0.0005	BF-5453-B100-5X-SET	80 / 2 x 100 mL
10	0.001	BF-5453-B100-10X-SET	80 / 2 x 100 mL
15	0.0015	BF-5453-B100-15X-SET	80 / 2 x 100 mL
30	0.003	BF-5453-B100-30X	65
50	0.005	BF-5453-B100-50X	65
75	0.0075	BF-5453-B100-75X	65
100	0.01	BF-5453-B100-100X	65
200	0.02	BF-5453-B100-200X	65
500	0.05	BF-5453-B100-500X	65

Sulfur in Biodiesel 20%

0	0	BF-5453-B20-BL	$ 65
5	0.0005	BF-5453-B20-5X-SET	80 / 2 x 100 mL
10	0.001	BF-5453-B20-10X-SET	80 / 2 x 100 mL
15	0.0015	BF-5453-B20-15X-SET	80 / 2 x 100 mL
30	0.003	BF-5453-B20-30X	65
50	0.005	BF-5453-B20-50X	65
75	0.0075	BF-5453-B20-75X	65
100	0.01	BF-5453-B20-100X	65
200	0.02	BF-5453-B20-200X	65
500	0.05	BF-5453-B20-500X	65

Note: 10,000 ppm = 1% Wt.

Technical Note

The 5, 10 and 15 ppm sulfurs are supplied as a set including a blank. We suggest using the blank for analysis to compensate for matrix interferences, such as low levels of native sulfur.

Technical Note

All products are refinery grade stock, unless specifically marked consumer grade.

Physical Standards

Compound	Conc.		Matrix	Cat. No.	Unit	Price
ASTM D2500						
Cloud Point	TBD *	ºC	B5	BF-D-2500-B5	200 mL	$ 120
	TBD *	ºC	B20	BF-D-2500-B20	200 mL	120
	TBD *	ºC	B100	BF-D-2500-B100	200 mL	120
ASTM D93 / EN-ISO 3679						
Flash Point	60	ºC		BF-D-93-60C	200 mL	140
	65	ºC		BF-D-93-65C	200 mL	140
	140	ºC		BF-D-93-140C	200 mL	140
ASTM D4951 / EN 14107						
Phosphorus Content	0.001	% Wt.	B5	BF-D-4951-B5	50 g	75
	0.001	% Wt.	B20	BF-D-4951-B20	50 g	75
	0.001	% Wt.	B100	BF-D-4951-B100	50 g	75
ASTM D6304 / EN ISO 12937						
(KF) Water Content	60	µg/g		BF-KF-0.6X-5ML-VAP	10 x 5 mL	70
	100	µg/g		BF-KF-1X-5ML-VAP	10 x 5 mL	50
	1000	µg/g		BF-KF-10X-5ML-VAP	10 x 5 mL	50
	5000	µg/g		BF-KF-50X-5ML-VAP	10 x 5 mL	50
ASTM D6751 / UOP 391 / EN 14108 / EN 14109						
Sodium / Potassium	100	ppm	B5	BF-UOP-391-B5	50 g	75
	100	ppm	B20	BF-UOP-391-B20	50 g	75
	100	ppm	B100	BF-UOP-391-B100	50 g	75
EN 14538						
Calcium / Magnesium	100	ppm	B5	BF-14538-B5	50 g	75
	100	ppm	B20	BF-14538-B20	50 g	75
	100	ppm	B100	BF-14538-B100	50 g	75

* TBD - These values will be certified on the individual lots and may vary between lots.

AccuStandard stands for accuracy in Cloud Points.

UOP Standards

UOP (Universal Oil Products) methods were developed to facilitate the refining industry in analyzing refinery feeds, products and process streams for compostion, purity and physical and chemical properties. In additional to the products lised below, AccuStandard can custom formulate products to fit your exact needs. Please contact our Technical Service Department for additional information.

UOP Method 543 Standard

Non-Aromatic Hydrocarbons in High-Purity Aromatics by GC.

UOP-M-543-PAK $ 50 / **5 x 1 mL**

At stated Wt./Wt.% 2 comps.

	wt/wt%
n-Dodecane	70
Toluene	30

UOP Method 551 Standard

Hexanes and Lower-Boiling Hydrocarbons in Olefin-Free Gasolines by GC. May also be used for UOP Method 690 - Octanes and Lower Boiling Hydrocarbons in Olefin-Free Gasolines by GC.

UOP-M-551-PAK $ 50 / **5 x 1 mL**

Equal Mass % 7 comps.

n-Hexane	o-Xylene
Benzene	m-Xylene
Toluene	p-Xylene
Ethylbenzene	

UOP Method 660 Standard

UOP-M-660-PAK $ 50 / **5 x 1 mL**

1% in Water

UOP-M-660-10X-PAK $ 50 / **5 x 1 mL**

10% in Water

UOP-M-660-0.1X-PAK $ 50 / **5 x 1 mL**

1000 ppm in Water

Tetramethylene sulfone

UOP Method 720 Standard

Impurities in High Purity p-Xylene by GC.

UOP-M-720-PAK $ 50 / **5 x 1 mL**

At stated Mass % 5 comps.

	Mass %
o-Xylene	0.1
m-Xylene	0.1
Ethylbenzene	0.1
n-Undecane	1.0
p-Xylene	98.7

UOP Method 744 Standard

Aromatics in Hydrocarbons by GC.

UOP-M-744-PAK $ 50 / **5 x 1 mL**

At stated Wt./Wt.% 8 comps.

	Wt./Wt.%
n-Heptane	25
Benzene	15
Toluene	20
m-Xylene	6.7
o-Xylene	6.6
p-Xylene	6.7
o-Ethyltoluene	10
1,2,3,4-Tetramethylbenzene	10

UOP Method 831 Standard

UOP-M-831-PAK $ 50 / **5 x 1 mL**

10 µg/g each in Sulfolane 5 comps.

Benzene	Isopropylbenzene
Toluene	n-Nonane
Ethylbenzene	

NEW

UOP Method 868 Standard

Trace Saturates in High Purity Aromatics by GC.

UOP-M-868-PAK $ 50 / **5 x 1 mL**

Stated conc. in Toluene 10 comps.

	µg/g
n-Butylcyclohexane	500
n-Propylcyclohexane	400
n-Decane	500
n-Nonane	500
n-Octane	300
n-Hexane	100
Ethylcyclohexane	300
Cyclohexane	100
n-Heptane	200
Methylcyclohexane	200

UOP Method 931 Standard

Trace Impurities in Mixed Xylenes by GC.

UOP-M-931-PAK $ 50 / **5 x 1 mL**

At stated Wt./Wt.% 5 comps.

	Wt./Wt.%
Benzene	2.0
Toluene	2.0
o-Ethyltoluene	2.0
n-Undecane	2.0
n-Heptane	92.0

Skinner List for Refinery Waste

Semi-Volatiles

Base/Neutral Extractables

M-005B $ 150 / **1 x 1 mL**
M-005B-PAK *SAVE 20%* $ 600 / **5 x 1 mL**
0.2 mg/mL each in CH_2Cl_2
M-005B-10X $ 200 / **1 x 1 mL**
M-005B-10X-PAK *SAVE 20%* $ 800 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 27 comps.

Anthracene
Benzo[a]anthracene
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[a]pyrene
bis(2-Ethylhexyl)phthalate
Butyl benzyl phthalate
Chrysene
Dibenz[a,h]acridine
Dibenz[a,h]anthracene
o-Dichlorobenzene
m-Dichlorobenzene
p-Dichlorobenzene
Diethyl phthalate
7,12-Dimethylbenz[a]anthracene
Dimethyl phthalate
Di-*n*-butyl phthalate
Di-*n*-octyl phthalate
Indene
Fluoranthene
6-Methylchrysene
1-Methylnaphthalene
Naphthalene
Phenanthrene
Pyrene
Pyridine
Quinoline

Acid Extractables

M-005A $ 35 / **1 x 1 mL**
M-005A-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
0.2 mg/mL each in CH_2Cl_2
M-005A-10X $ 40 / **1 x 1 mL**
M-005A-10X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 8 comps.

o-Cresol
m-Cresol
p-Cresol
2,4-Dimethylphenol
2,4-Dinitrophenol
4-Nitrophenol
Phenol
Thiophenol

Volatiles

M-005V $ 35 / **1 x 1 mL**
M-005V-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
0.2 mg/mL each in MeOH
M-005V-10X $ 40 / **1 x 1 mL**
M-005V-10X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2.0 mg/mL each in MeOH 14 comps.

Benzene
Carbon disulfide
Chlorobenzene
Chloroform
1,2-Dichloroethane
1,4-Dioxane
Ethyl benzene
Ethylene dibromide
Methyl ethyl ketone
Styrene
Toluene
o-Xylene
m-Xylene
p-Xylene

Resolution Check for Fire Debris Analysis

ASTM E1387 Resolution Check Mix

ASTM-E1387 $ 30 / **1 x 1 mL**
ASTM-E1387-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 13 comps.

Decane
Dodecane
Eicosane
2-Ethyltoluene
3-Ethyltoluene
Hexadecane
Hexane
Octadecane
Octane
Tetradecane
Toluene
1,2,4-Trimethylbenzene
p-Xylene

ASTM E1618 Test Mix for Fire Debris Analysis

ASTM-E1618 $ 35 / **1 x 1 mL**
ASTM-E1618-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
0.05% v/v (0.50 µL/mL) each in CH_2Cl_2 13 comps.

n-Decane
n-Dodecane
n-Eicosane
o-Ethyltoluene
m-Ethyltoluene
n-Hexadecane
n-Hexane
n-Octadecane
n-Octane
n-Tetradecane
Toluene
1,2,4-Trimethylbenzene
p-Xylene

BioFuel Standards

ASTM, EN and other test methods have been developed to monitor the properties (physical and chemical), constituent distribution, impurities and suitability of use.

NEW

The source materials that are used to produce these fuels vary from plant oils, ethyl alcohol (usually from corn) and even waste products.

Biodiesel refineries have opened all over the world.

- The Minister for the Environment and Heritage of Australia has signed the Fuel Standard (Biodiesel) in 2006 which sets out the physical and chemical parameters with the associated test methods to determine compliance.
- In Germany the sale of biodiesel in gas stations is over 2 million cubic meters.
- In the USA, some state legislatures have mandated 2% biodiesel content in all diesels sold in those states.

ASTM D6584 / EN 14105 Free and Total Glycerin in Biodiesel by GC

Compound	Qty. /	Conc.	Matrix	Cat. No.	Price / Unit
Glycerin	0.5	mg/mL	Pyridine	BF-D-6584-01	$ 25 / 2 mL
Monoolein	5	mg/mL	Pyridine	BF-D-6584-02	25 / 2 mL
1,3-Diolein	5	mg/mL	Pyridine	BF-D-6584-03	25 / 2 mL
Triolein	5	mg/mL	Pyridine	BF-D-6584-04	25 / 2 mL
(S)-(-)-1,2,4-Butanetriol	1	mg/mL	Pyridine	BF-D-6584-05-IS	145 / 5 mL
Tricaprin	8	mg/mL	Pyridine	BF-D-6584-06	145 / 5 mL
MSTFA	5	mL	Neat	BF-D-6584-07N	145 / 5 mL
Set of 7 above compounds				**BF-D-6584-SET**	**450 / 7 units**
Mix of above compounds, on right (MSTFA separate)					
Biofuel 20	0.5	mg/mL	CH_2Cl_2	BF-FU-030-D	10 / 2 mL
	20	mg/mL	CH_2Cl_2	BF-FU-030-D-40X	20 / 2 mL
Biofuel 100 Consumer grade	0.5	mg/mL	CH_2Cl_2	BF-FU-029-D	20 / 2 mL
	20	mg/mL	CH_2Cl_2	BF-FU-029-40X	45 / 2 mL
Biofuel 100	0.5	mg/mL	CH_2Cl_2	BF-FU-032-D	20 / 2 mL
	20	mg/mL	CH_2Cl_2	BF-FU-032-D-40X	45 / 2 mL

ASTM D6584 Mixture

BF-D-6584-MIX $ 225 / **1 x 5 mL**
At stated conc. in Pyridine 6 comps.

Glycerol	0.5 mg/mL
Monoolein	5 mg/mL
1,3-Diolein	5 mg/mL
Trioctadecenoin (Olein)	5 mg/mL
(S)-(-)-1,2,4-Butanetriol	1 mg/mL
Tricaprin	8 mg/mL

Note: MSTFA (BF-D-6584-07N) can be ordered separately.

EN 14103 Fatty Acid Methyl Esters (FAMEs)

The methyl esters in the mixture are those derived from typical glycerides present in biomass sources.

Soy & Corn

BF-SOY-ME $ 145 / **100 mg**

16:0 Palmitate	6% Wt.
18:0 Stearate	3% Wt.
20:0 Arachidate	3% Wt.
18:1 Oleate	35% Wt.
18:2 Linoleate	50% Wt.
18:3 Linolenate	3% Wt.

Rapeseed Oil

BF-RAP-ME $ 200 / **100 mg**

14:0 Myristate	1% Wt.
16:0 Palmitate	4% Wt.
18:0 Stearate	3% Wt.
20:0 Arachidate	3% Wt.
22:0 Behenate	3% Wt.
24:0 Lignocerate	3% Wt.
18:1 Oleate	60% Wt.
22:1 Erucate	5% Wt.
18:2 Linoleate	12% Wt.
18:3 Linolenate	5% Wt.
20:1 Eicosenoate	1% Wt.

Palm Kernel

BF-PALM-ME $ 200 / **100 mg**

8:0 Caprylate	7% Wt.
10:0 Caprate	5% Wt.
12:0 Laurate	48% Wt.
14:0 Myristate	15% Wt.
16:0 Palmitate	7% Wt.
18:0 Stearate	3% Wt.
18:1 Oleate	12% Wt.
18:2 Linoleate	3% Wt.

Beef Tallow & Palm Oil

BF-BT-ME $ 175 / **100 mg**

14:0 Myristate	2% Wt.
16:0 Palmitate	30% Wt.
16:1 Palmitoleate	3% Wt.
18:0 Stearate	14% Wt.
18:1 Oleate	41% Wt.
18:2 Linoleate	7% Wt.
18:3 Linolenate	3% Wt.

Percent Methanol Calibration Standard Set (EN 14110)

BF-MEOH-SET $ 65 / **5 x 1 mL**

BF-MEOH-1X (100 µg/g)
BF-MEOH-5X (500 µg/g)
BF-MEOH-10X (1000 µg/g)
BF-MEOH-25X (2500 µg/g)
BF-MEOH-50X (5000 µg/g)

Methanol *in Water*

Technical Note

All products are refinery grade stock, unless specifically marked consumer grade.

Technical Note

Individual Mixes packaged under Nitrogen for stability.

Fatty Acid Ethyl Esters (FAEEs)

Ethyl Esters in Soy & Corn

BF-SOY-EE	$ 185 / 100 mg
16:0 Ethyl palmitate	6% Wt.
18:0 Ethyl stearate	3% Wt.
20:0 Ethyl arachidate	3% Wt.
18:1 Ethyl oleate	35% Wt.
18:2 Ethyl linoleate	50% Wt.
18:3 Ethyl linolenate	3% Wt.

Ethyl Esters in Rapeseed Oil

BF-RAP-EE	$ 250 / 100 mg
14:0 Ethyl myristate	1% Wt.
16:0 Ethyl palmitate	4% Wt.
18:0 Ethyl stearate	3% Wt.
20:0 Ethyl arachidate	3% Wt.
22:0 Ethyl behenate	3% Wt.
24:0 Ethyl lignocerate	3% Wt.
18:1 Ethyl oleate	60% Wt.
22:1 Ethyl erucate	5% Wt.
18:2 Ethyl linoleate	12% Wt.
18:3 Ethyl linolenate	5% Wt.
20:1 Ethyl eicosenoate	1% Wt.

Ethyl Esters in Palm Kernel Oil

BF-PALM-EE	$ 250 / 100 mg
8:0 Ethyl caprylate	7% Wt.
10:0 Ethyl caprate	5% Wt.
12:0 Ethyl laurate	48% Wt.
14:0 Ethyl myristate	15% Wt.
16:0 Ethyl palmitate	7% Wt.
18:0 Ethyl stearate	3% Wt.
18:1 Ethyl oleate	12% Wt.
18:2 Ethyl linoleate	3% Wt.

Ethyl Esters in Beef Tallow

BF-BT-EE	$ 225 / 100 mg
14:0 Ethyl myristate	2% Wt.
16:0 Ethyl palmitate	30% Wt.
16:1 Ethyl palmitoleate	3% Wt.
18:0 Ethyl stearate	14% Wt.
18:1 Ethyl oleate	41% Wt.
18:2 Ethyl linoleate	7% Wt.
18:3 Ethyl linolenate	3% Wt.

	Neat (100 mg)		Solution (10 mg/mL in Hexane)	
Compound	Cat. No.	Price	Cat. No.	Price / 1 mL
Ethyl palmitate (16:0)	FAEE-006N	$ 15	FAEE-006S	$ 15
Ethyl stearate (18:0)	FAEE-007N	15	FAEE-007S	15
Ethyl arachidate (20:0)	FAEE-008N	15	FAEE-008S	15
Ethyl oleate (18:1)	FAEE-014N	15	FAEE-014S	15
Ethyl linoleate (18:2)	FAEE-012N	15	FAEE-012S	15
Ethyl linolenate (18:3)	FAEE-016N	15	FAEE-016S	15
Ethyl myristate (14:0)	FAEE-005N	15	FAEE-005S	15
Ethyl behenate (22:0)	FAEE-009N	15	FAEE-009S	15
Ethyl lignocerate (24:0)	FAEE-010N	25	FAEE-010S	25
Ethyl erucate (22:1)	FAEE-011N	15	FAEE-011S	15
Ethyl caprylate (8:0)	FAEE-002N	15	FAEE-002S	15
Ethyl caprate (10:0)	FAEE-003N	15	FAEE-003S	15
Ethyl laurate (12:0)	FAEE-004N	15	FAEE-004S	15
Ethyl palmitoleate (16:1)	FAEE-001N	15	FAEE-001S	15
Ethyl nervonate (24:1)	FAEE-013N	25	FAEE-013S	25
Ethyl heptadecanoate (17:0)	FAEE-015N	15	FAEE-015S	15
Ethyl linolenate (gamma) (18:3)	FAEE-020N	35	FAEE-020S	35

ASTM D6751 & ASTM D5453 Sulfur as Di-n-butyl sulfide in Biodiesel

Sulfur in Biodiesel 5%

ppm (µg/g)	% Wt.	Cat. No.	Price / 100 mL
0	0	BF-5453-B5-BL	$ 65
5	0.0005	BF-5453-B5-5X-SET	80 / 2 x 100 mL
10	0.001	BF-5453-B5-10X-SET	80 / 2 x 100 mL
15	0.0015	BF-5453-B5-15X-SET	80 / 2 x 100 mL
30	0.003	BF-5453-B5-30X	65
50	0.005	BF-5453-B5-50X	65
75	0.0075	BF-5453-B5-75X	65
100	0.01	BF-5453-B5-100X	65
200	0.02	BF-5453-B5-200X	65
500	0.05	BF-5453-B5-500X	65

Sulfur in Biodiesel 100%

ppm (µg/g)	% Wt.	Cat. No.	Price / 100 mL
0	0	BF-5453-B100-BL	$ 65
5	0.0005	BF-5453-B100-5X-SET	80 / 2 x 100 mL
10	0.001	BF-5453-B100-10X-SET	80 / 2 x 100 mL
15	0.0015	BF-5453-B100-15X-SET	80 / 2 x 100 mL
30	0.003	BF-5453-B100-30X	65
50	0.005	BF-5453-B100-50X	65
75	0.0075	BF-5453-B100-75X	65
100	0.01	BF-5453-B100-100X	65
200	0.02	BF-5453-B100-200X	65
500	0.05	BF-5453-B100-500X	65

Sulfur in Biodiesel 20%

0	0	BF-5453-B20-BL	$ 65
5	0.0005	BF-5453-B20-5X-SET	80 / 2 x 100 mL
10	0.001	BF-5453-B20-10X-SET	80 / 2 x 100 mL
15	0.0015	BF-5453-B20-15X-SET	80 / 2 x 100 mL
30	0.003	BF-5453-B20-30X	65
50	0.005	BF-5453-B20-50X	65
75	0.0075	BF-5453-B20-75X	65
100	0.01	BF-5453-B20-100X	65
200	0.02	BF-5453-B20-200X	65
500	0.05	BF-5453-B20-500X	65

Note: 10,000 ppm = 1% Wt.

Technical Note

The 5, 10 and 15 ppm sulfurs are supplied as a set including a blank. We suggest using the blank for analysis to compensate for matrix interferences, such as low levels of native sulfur.

Technical Note

All products are refinery grade stock, unless specifically marked consumer grade.

Physical Standards

Compound	Conc.		Matrix	Cat. No.	Unit	Price
ASTM D2500						
Cloud Point	TBD *	ºC	B5	BF-D-2500-B5	200 mL	$ 120
	TBD *	ºC	B20	BF-D-2500-B20	200 mL	120
	TBD *	ºC	B100	BF-D-2500-B100	200 mL	120
ASTM D93 / EN-ISO 3679						
Flash Point	60	ºC		BF-D-93-60C	200 mL	140
	65	ºC		BF-D-93-65C	200 mL	140
	140	ºC		BF-D-93-140C	200 mL	140
ASTM D4951 / EN 14107						
Phosphorus Content	0.001	% Wt.	B5	BF-D-4951-B5	50 g	75
	0.001	% Wt.	B20	BF-D-4951-B20	50 g	75
	0.001	% Wt.	B100	BF-D-4951-B100	50 g	75
ASTM D6304 / EN ISO 12937						
(KF) Water Content	60	µg/g		BF-KF-0.6X-5ML-VAP	10 x 5 mL	70
	100	µg/g		BF-KF-1X-5ML-VAP	10 x 5 mL	50
	1000	µg/g		BF-KF-10X-5ML-VAP	10 x 5 mL	50
	5000	µg/g		BF-KF-50X-5ML-VAP	10 x 5 mL	50
ASTM D6751 / UOP 391 / EN 14108 / EN 14109						
Sodium / Potassium	100	ppm	B5	BF-UOP-391-B5	50 g	75
	100	ppm	B20	BF-UOP-391-B20	50 g	75
	100	ppm	B100	BF-UOP-391-B100	50 g	75
EN 14538						
Calcium / Magnesium	100	ppm	B5	BF-14538-B5	50 g	75
	100	ppm	B20	BF-14538-B20	50 g	75
	100	ppm	B100	BF-14538-B100	50 g	75

* TBD - These values will be certified on the individual lots and may vary between lots.

AccuStandard stands for accuracy in Cloud Points.

EN 14214 Wear Metals

Each is 50 grams at 1000 µg/g concentration.

Compound	Matrix	Cat. No.	Price / 50 grams
Aluminum	B5	BF-WM-B5-01	$ 55
	B20	BF-WM-B20-01	55
	B100	BF-WM-B100-01	55
Chromium	B5	BF-WM-B5-13	55
	B20	BF-WM-B20-13	55
	B100	BF-WM-B100-13	55
Copper	B5	BF-WM-B5-15	55
	B20	BF-WM-B20-15	55
	B100	BF-WM-B100-15	55
Iron	B5	BF-WM-B5-27	55
	B20	BF-WM-B20-27	55
	B100	BF-WM-B100-27	55
Lead	B5	BF-WM-B5-29	55
	B20	BF-WM-B20-29	55
	B100	BF-WM-B100-29	55
Silicon	B5	BF-WM-B5-52	55
	B20	BF-WM-B20-52	55
	B100	BF-WM-B100-52	55

Technical Note

Formulations for EN 12916, other methods and custom formulations are available.

Technical Note

Algae, as a biofuel feedstock, yields energy balances higher than even soybeans. (source: "Widescale Biodiesel Production from Algae", Briggs, Michael, University of New Hampshire Biodiesel Group, UNH (revised August 2004) page 8.

Technical Note

"Liquid biofuels have been used since the early days of the car industry. Nikolaus August Otto, the German inventor of the combustion engine, conceived his invention to run on ethanol. Rudolf Diesel, the German inventor of the Diesel engine, designed it to run on peanut oil. Henry Ford originally designed the Ford Model T, a car produced from 1903 to 1926, to run completely on ethanol." (source: http://en.wikipedia.org/wiki/Biofuel Retrieved 8/31/2007).

TPH & Fuel & Hydrocarbons

Petroleum is a broadly defined class of liquid hydrocarbon mixtures that are used in a large variety of products for many different uses. In general, they are oil-based products that can be obtained by distillation and are normally used outside the refining industry. Petroleum products include aviation gasoline, motor gasoline, jet fuels, kerosene, gas/diesel oil, heavy fuel oil, naphtha, and lubricants among others.

Most analytical methods for petroleum products focus on the level of benzene, toluene, ethyl benzene and xylene (BTEX), the total petroleum hydrocarbon number (TPH) and the finger print of the petroleum product.

Individual Fuel and Hydrocarbons

Compound	Conc.	Matrix	Cat. No.	Price / 1 mL
5-alpha Androstane 438-22-2	1 mg/mL	CH_2Cl_2	GRH-IS	$ 15
	10 mg/mL	CH_2Cl_2	GRH-IS-10X	30
Arctic Diesel	0.5 mg/mL	MeOH	FU-023	10
	20 mg/mL	MeOH	FU-023-40X	20
	20 mg/mL	CH_2Cl_2	FU-023-D-40X	20
Aviation (gas) (grade 100-LL)	0.5 mg/mL	MeOH	GA-004	10
	20 mg/mL	MeOH	GA-004-40X	20
	20 mg/mL	CH_2Cl_2	GA-004-D-40X	20
Biodiesel 20 NEW	0.5 mg/mL	CH_2Cl_2	FU-030-D	10
	20 mg/mL	CH_2Cl_2	FU-030-D-40X	25
Biodiesel 100 NEW	0.5 mg/mL	CH_2Cl_2	FU-029-D	20
	20 mg/mL	CH_2Cl_2	FU-029-D-40X	45
Biodiesel 100 NEW (refinery grade)	0.5 mg/mL	CH_2Cl_2	FU-032-D	20
	20 mg/mL	CH_2Cl_2	FU-032-D-40X	45
p-Bromofluorobenzene 460-00-4	2.5 mg/mL	Acetone	GARH-SS	20
1-Chloro-4-fluorobenzene 352-33-0	2 mg/mL	MeOH	AK-101.0-IS-10X	20
1-Chlorooctadecane 3386-33-2	1 mg/mL	Hexane	DRH-007-SS	15
1-Chloro-4-fluorobenzene 352-33-0	1 mg/mL	CH_2Cl_2	GARH-IS	15
2,5-Dibromotoluene 615-59-8	50 µg/mL	MeOH	GRH-004-SS	10
	500 µg/mL	MeOH	GRH-004-SS-10X	20
	5 mg/mL	MeOH	GRH-004-SS-100X	20
Diesel	0.5 mg/mL	MeOH	FU-009	10
	5 mg/mL	CH_2Cl_2	FU-009-D-10X	20
	20 mg/mL	MeOH	FU-009-40X	20
	20 mg/mL	CH_2Cl_2	FU-009-D-40X	20
#1 Diesel - Low Sulfur	0.5 mg/mL	MeOH	FU-013	10
	20 mg/mL	MeOH	FU-013-40X	20
	20 mg/mL	CH_2Cl_2	FU-013-D-40X	20
#2 Diesel 68334-30-5	50 mg/mL	Acetone	AK-102-LCS-R1-10X	20
#2 Diesel (Extra Low Sulfur) 68476-43-6	0.5 mg/mL	MeOH	FU-017	10
	5 mg/mL	CH_2Cl_2	FU-017-D-10X	20
	5 mg/mL	Acetone	AK-102.0-LCS	10
	50 mg/mL	Acetone	AK-102.0-LCS-10X	20
	20 mg/mL	MeOH	FU-017-40X	20
	20 mg/mL	CH_2Cl_2	FU-017-D-40X	20
#2 Diesel (Low Sulfur) 25% Weathered	5 mg/mL	CH_2Cl_2	FD2-W25-10X	25
#2 Diesel (Low Sulfur) 50% Weathered	5 mg/mL	CH_2Cl_2	FD2-W50-10X	25
#2 Diesel (Low Sulfur) 75% Weathered	5 mg/mL	CH_2Cl_2	FD2-W75-10X	25
#2 Diesel 25% Weathered	5 mg/mL	CH_2Cl_2	FD2-W25-R1-10X	25
#2 Diesel 50% Weathered	5 mg/mL	CH_2Cl_2	FD2-W50-R1-10X	25
#2 Diesel 75% Weathered	5 mg/mL	CH_2Cl_2	FD2-W75-R1-10X	25
Docosane 629-97-0	50 % w/w	Toluene	D-5186-91-PM	20
n-Dodecane 112-40-3	5 mg/mL	MeOH	AS-E0238	32
	1.5 % w/w	Isooctane	M-GRA-SCS-AS	10
#1 Fuel oil 70892-10-3	0.5 mg/mL	MeOH	FU-001	10
	20 mg/mL	MeOH	FU-001-40X	20
	20 mg/mL	CH_2Cl_2	FU-001-D-40X	20
#2 Fuel oil 68476-30-2	0.5 mg/mL	MeOH	FU-002	10
	20 mg/mL	MeOH	FU-002-40X	20
	20 mg/mL	CH_2Cl_2	FU-002-D-40X	20
#3 Fuel oil	0.5 mg/mL	Hexane	FU-003	10
	20 mg/mL	Hexane	FU-003-40X	20
	20 mg/mL	CH_2Cl_2	FU-003-D-40X	20
#4 Fuel oil 68476-31-3	0.5 mg/mL	Hexane	FU-004	10
	20 mg/mL	Hexane	FU-004-40X	20
	20 mg/mL	CH_2Cl_2	FU-004-D-40X	20
#6 Fuel Oil 68553-00-4	0.5 mg/mL	Hexane	FU-008	$ 10
	20 mg/mL	Hexane	FU-008-40X	20
	20 mg/mL	CH_2Cl_2	FU-008-D-40X	20
Gasoline Regular, unleaded	0.5 mg/mL	MeOH	GA-001	10
	5 mg/mL	MeOH	GA-001-10X	20
	20 mg/mL	MeOH	GA-001-40X	22
	20 mg/mL	CH_2Cl_2	GA-001-D-40X	20
Gasoline Premium	0.5 mg/mL	MeOH	GA-003	10
	20 mg/mL	MeOH	GA-003-40X	20
	20 mg/mL	CH_2Cl_2	GA-003-D-40X	20
Hydraulic Fluid 64742-54-7	0.5 mg/mL	Hexane	FU-020-H	10
	20 mg/mL	Hexane	FU-020-H-40X	20
	20 mg/mL	CH_2Cl_2	FU-020-D-40X	20
Jet Reference Fuel Type I	0.5 mg/mL	MeOH	FU-011	10
	20 mg/mL	MeOH	FU-011-40X	20
	20 mg/mL	CH_2Cl_2	FU-011-D-40X	20
JP-4 Jet Fuel	0.5 mg/mL	MeOH	FU-010	10
	20 mg/mL	MeOH	FU-010-40X	20
	20 mg/mL	CH_2Cl_2	FU-010-D-40X	20
JP-5 Fuel	0.5 mg/mL	MeOH	FU-012	10
	20 mg/mL	MeOH	FU-012-40X	20
	20 mg/mL	CH_2Cl_2	FU-012-D-40X	20
JP-7 Fuel	0.5 mg/mL	MeOH	FU-014	10
	20 mg/mL	MeOH	FU-014-40X	20
	20 mg/mL	CH_2Cl_2	FU-014-D-40X	20
JP-8 Fuel	0.5 mg/mL	MeOH	FU-015	10
	20 mg/mL	MeOH	FU-015-40X	20
	20 mg/mL	CH_2Cl_2	FU-015-D-40X	20
JP-TS Aviation Fuel 64742-47-8	0.5 mg/mL	MeOH	FU-016	10
	20 mg/mL	MeOH	FU-016-40X	20
	20 mg/mL	CH_2Cl_2	FU-016-D-40X	20
JP-10 Aviation Fuel 2825-82-3	0.5 mg/mL	MeOH	FU-022	10
	20 mg/mL	MeOH	FU-022-40X	20
	20 mg/mL	CH_2Cl_2	FU-022-D-40X	20
Kerosene 25% Weathered	5 mg/mL	CH_2Cl_2	FK-W25-10X	25
Kerosene 50% Weathered	5 mg/mL	CH_2Cl_2	FK-W50-10X	25
Kerosene 75% Weathered	5 mg/mL	CH_2Cl_2	FK-W75-10X	25
Kerosene 8008-20-6	0.5 mg/mL	MeOH	FU-005	10
	20 mg/mL	MeOH	FU-005-40X	20
	5 mg/mL	CH_2Cl_2	FU-005-D-10X	20
	20 mg/mL	CH_2Cl_2	FU-005-D-40X	20
Lacquer Thinner	1 gram	Neat	HS-001N	20
	0.5 mg/mL	MeOH	HS-001S	10
	20 mg/mL	MeOH	HS-001S-40X	20
	20 mg/mL	CH_2Cl_2	HS-001S-D-40X	20
Mineral Spirits 8030-30-6	1 gram	Neat	HS-002N	20
	0.5 mg/mL	MeOH	HS-002S	10
	20 mg/mL	MeOH	HS-002S-40X	20
	20 mg/mL	CH_2Cl_2	HS-002S-D-40X	20
Naphtha 64742-89-8	1 gram	Neat	HS-003N	20
	0.5 mg/mL	MeOH	HS-003S	10
	20 mg/mL	MeOH	HS-003S-40X	20
	20 mg/mL	CH_2Cl_2	HS-003S-D-40X	20
Nonatriacontane 7194-86-7	750 µg/mL	Chloroform	DRH-FL-SS-R1	60
	1 mg/mL	CS_2	DRH-FL-SS	20
	3 mg/mL	CS_2	DRH-FL-SS-3X	27
n-Pentadecane 629-62-9	5 mg/mL	MeOH	AS-E0241	32
RFA Gasoline (oxygenate-free)	0.5 mg/mL	MeOH	GA-005	10
	20 mg/mL	MeOH	GA-005-40X	20
	20 mg/mL	CH_2Cl_2	GA-005-D-40X	20
Regular Leaded Gasoline	0.5 mg/mL	MeOH	GA-002	10
	20 mg/mL	MeOH	GA-002-40X	20
	20 mg/mL	CH_2Cl_2	GA-002-D-40X	20

Individual Fuel and Hydrocarbons

Compound	Conc.	Matrix	Cat. No.	Price / 1 mL
SAE 5W30 Motor Oil	0.5 mg/mL	Hexane	FU-025-H	$ 10
	20 mg/mL	Hexane	FU-025-H-40X	20
	20 mg/mL	CH_2Cl_2	FU-025-D-40X	20
SAE 10W30 Motor Oil	0.5 mg/mL	Hexane	FU-026-H	10
	20 mg/mL	Hexane	FU-026-H-40X	20
	20 mg/mL	CH_2Cl_2	FU-026-D-40X	20
SAE 10W40 Motor Oil	0.5 mg/mL	Hexane	FU-027-H	10
	20 mg/mL	Hexane	FU-027-H-40X	20
	20 mg/mL	CH_2Cl_2	FU-027-D-40X	20
SAE 20W50 Motor Oil	0.5 mg/mL	Hexane	FU-028-H	10
	20 mg/mL	Hexane	FU-028-H-40X	20
	20 mg/mL	CH_2Cl_2	FU-028-D-40X	20
SAE 30W Motor Oil	0.5 mg/mL	Hexane	FU-018-H	10
	20 mg/mL	Hexane	FU-018-H-40X	20
	20 mg/mL	CH_2Cl_2	FU-018-D-40X	20
SAE 40W Motor Oil	0.5 mg/mL	Hexane	FU-019-H	10
	5 mg/mL	Acetone	AK-103.0-LCS	10
	20 mg/mL	Hexane	FU-019-H-40X	20
	20 mg/mL	CH_2Cl_2	FU-019-D-40X	20
	25 mg/mL	Acetone:CH_2Cl_2	AK-103.0-LCS-5X	20
SAE 50W Motor Oil	20 mg/mL	CH_2Cl_2	FU-021-D-40X	20
Stoddard solvent 8052-41-3	1 gram	Neat	HS-005N	20
	0.5 mg/mL	MeOH	HS-005S	10
	5 mg/mL	MeOH	HS-005S-10X	20
	20 mg/mL	MeOH	HS-005S-40X	20
	20 mg/mL	CH_2Cl_2	HS-005S-D-40X	20

Compound	Conc.	Matrix	Cat. No.	Price / 1 mL
o-Terphenyl 84-15-1	200 µg/mL	Acetone	AK-102.0-SS	$ 10
	1 mg/mL	CH_2Cl_2	DRH-006-SS	15
	2 mg/mL	Acetone	AK-102.0-SS-10X	15
	2 mg/mL	Acetone	GRH-SS	17
n-Tetradecane 629-59-4	5 mg/mL	MeOH	AS-E0240	32
Tetracosane (5 mL) 646-31-1	500 µg/mL	CS_2	D-5480-C40-5ML	15
	500 µg/mL	Chloroform	D-5480-C40-R1-5ML	20
n-Tridecane 629-50-5	5 mg/mL	MeOH	AS-E0239	32
1,2,3-Trimethylbenzene 526-73-8	1 mg/mL	CH_2Cl_2	V-028S-D-10X	20
n-Triacontane-d_{62} 93952-07-9	500 µg/mL	Acetone	AK-103.0-SS	20
	5 mg/mL	Acetone:THF	AK-103.0-SS-10X	30
	5 mg/mL	THF	DRH-SS	30
Turbine (Jet) fuel	0.5 mg/mL	MeOH	FU-006	10
	20 mg/mL	MeOH	FU-006-40X	20
	20 mg/mL	CH_2Cl_2	FU-006-D-40X	20
Turpentine 8006-64-2	1 gram	Neat	HS-004N	20
	0.5 mg/mL	MeOH	HS-004S	10
	20 mg/mL	MeOH	HS-004S-40X	20
	20 mg/mL	CH_2Cl_2	HS-004S-D-40X	20
Unleaded Gasoline 25% Weathered	5 mg/mL	MeOH	GA-W25-10X	25
Unleaded Gasoline 50% Weathered	5 mg/mL	MeOH	GA-W50-10X	25
Unleaded Gasoline 75% Weathered	5 mg/mL	MeOH	GA-W75-10X	25

Complete Set of Total Petroleum Hydrocarbon (TPH) Pattern Recognition Standards

AccuStandard has assembled the following sets to identify specific petroleum product types found during LUFT/LUST investigations. The sets can be purchased using one convenient Cat. No. or as individuals. **Other concentrations are listed on the next page.**

TPH-R2-SET $ 585 / **34 x 1 mL** (includes **TPH-001-R1-SET**, **TPH-002-R1-SET**, **TPH-003-SET**, **TPH-004-SET**)

Motor Fuels & Lubricating Oils Set

TPH-001-R1-SET $ 235 / **13 x 1 mL**

	mg/mL	Solv.	Cat. No.	Price
Gasoline, regular unleaded	20	MeOH	GA-001-40X	$ 20
Gasoline, regular leaded	20	MeOH	GA-002-40X	20
Gasoline, Premium	20	MeOH	GA-003-40X	20
RFA Gasoline (oxygenate free)	20	MeOH	GA-005-40X	20
#2 Diesel (conventional)	20	CH_2Cl_2	FU-009-D-40X	20
#1 Diesel (low sulfur)	20	CH_2Cl_2	FU-013-D-40X	20
#2 Diesel (extra low sulfur)	20	CH_2Cl_2	FU-017-D-40X	20
Arctic Diesel	20	CH_2Cl_2	FU-023-D-40X	20
SAE 30 W motor oil	20	CH_2Cl_2	FU-018-D-40X	20
SAE 40 W motor oil	20	CH_2Cl_2	FU-019-D-40X	20
SAE 50 W motor oil	20	CH_2Cl_2	FU-021-D-40X	20
Biodiesel 20 ***NEW***	20	CH_2Cl_2	FU-030-D-40X	20
Biodiesel 100 (consumer grade) ***NEW***	20	CH_2Cl_2	FU-029-D-40X	45

Heating Fuel Oils Set

TPH-002-R1-SET $ 100 / **6 x 1 mL**

	mg/mL	Solv.	Cat. No.	Price
#1 Fuel oil	20	CH_2Cl_2	FU-001-D-40X	$ 20
#2 Fuel oil	20	CH_2Cl_2	FU-002-D-40X	20
#3 Fuel oil	20	CH_2Cl_2	FU-003-D-40X	20
#4 Fuel oil	20	CH_2Cl_2	FU-004-D-40X	20
#6 Fuel oil	20	CH_2Cl_2	FU-008-D-40X	20
Kerosene	20	CH_2Cl_2	FU-005-D-40X	20

Aviation Fuels & Oils Set

TPH-003-SET $ 160 / **10 x 1 mL**

	mg/mL	Solv.	Cat. No.	Price
Aviation gasoline Grade 100 LL	20	CH_2Cl_2	GA-004-D-40X	$ 20
JP-4 Fuel	20	CH_2Cl_2	FU-010-D-40X	20
JP-5 Fuel	20	CH_2Cl_2	FU-012-D-40X	20
JP-7 Fuel	20	CH_2Cl_2	FU-014-D-40X	20
JP-8 Fuel	20	CH_2Cl_2	FU-015-D-40X	20
JP-10 Fuel (Cruise Missile)	20	CH_2Cl_2	FU-022-D-40X	20
JP-TS	20	CH_2Cl_2	FU-016-D-40X	20
Jet Fuel (type 1)	20	CH_2Cl_2	FU-011-D-40X	20
Turbine (Jet A) Fuel	20	CH_2Cl_2	FU-006-D-40X	20
Hydraulic oil	20	CH_2Cl_2	FU-020-D-40X	20

Household & Industrial Solvent Set

TPH-004-SET $ 80 / **5 x 1 mL**

	mg/mL	Solv.	Cat. No.	Price
Lacquer thinner	20	CH_2Cl_2	HS-001S-D-40X	$ 20
Mineral spirits	20	CH_2Cl_2	HS-002S-D-40X	20
Naphtha	20	CH_2Cl_2	HS-003S-D-40X	20
Turpentine	20	CH_2Cl_2	HS-004S-D-40X	20
Stoddard	20	CH_2Cl_2	HS-005S-D-40X	20

Motor Oil Standards

	mg/mL	Solv.	Cat. No.	Price
SAE 5W 30 Motor Oil	0.5	Hexane	FU-025-H	$ 10
	20.0	Hexane	FU-025-H-40X	20
	20.0	CH_2Cl_2	FU-025-D-40X	20
SAE 10W 30 Motor Oil	0.5	Hexane	FU-026-H	10
	20.0	Hexane	FU-026-H-40X	20
	20.0	CH_2Cl_2	FU-026-D-40X	20
SAE 10W 40 Motor Oil	0.5	Hexane	FU-027-H	10
	20.0	Hexane	FU-027-H-40X	20
	20.0	CH_2Cl_2	FU-027-D-40X	20

	mg/mL	Solv.	Cat. No.	Price
SAE 20W 50 Motor Oil	0.5	Hexane	FU-028-H	$ 10
	20.0	Hexane	FU-028-H-40X	20
	20.0	CH_2Cl_2	FU-028-D-40X	20
Composite Standard	20.0	CH_2Cl_2	MO-COMP-D-40X	30

Individual Fuels and Hydrocarbons continued on next page

AccuStandard designed the weathered fuel line to mimic the weathering, evaporation, and migration process. Use of these standards can help in the identification of the fuel type if it has been present in the ground for some time, in a sandy type soil with possible evaporation loss, or has migrated from the plume point of origin.

Weathered LUFT/LUST Fuel Sets

Weathered Gasoline Set

WGA-SET	Each in 5.0 mg/mL in MeOH	Cat. No.	$ 85 / 4 x 1 mL
Gasoline - Regular, unleaded		GA-001-10X	20 / 1 mL
Gasoline - Regular, unleaded (25% Weathered)		GA-W25-10X	25 / 1 mL
Gasoline - Regular, unleaded (50% Weathered)		GA-W5-10X	25 / 1 mL
Gasoline - Regular, unleaded (75% Weathered)		GA-W75-10X	25 / 1 mL

Weathered Kerosene Set

WFK-SET	Each in 5.0 mg/mL in CH_2Cl_2		$ 85 / 4 x 1 mL
Kerosene		FU-005-D-10X	20 / 1 mL
Kerosene (25% Weathered)		FK-W25-10X	25 / 1 mL
Kerosene (50% Weathered)		FK-W50-10X	25 / 1 mL
Kerosene (75% Weathered)		FK-W75-10X	25 / 1 mL

Weathered #2 Diesel (extra Low Sulfur Content) Set

WFD2-SET	Each in 5.0 mg/mL in CH_2Cl_2		$ 85 / 4 x 1 mL
#2 Diesel (extra Low Sulfur)		FU-017-D-10X	20 / 1 mL
#2 Diesel (extra Low Sulfur) (25% Weathered)		FD2-W25-10X	25 / 1 mL
#2 Diesel (extra Low Sulfur) (50% Weathered)		FD2-W50-10X	25 / 1 mL
#2 Diesel (extra Low Sulfur) (75% Weathered)		FD2-W75-10X	25 / 1 mL

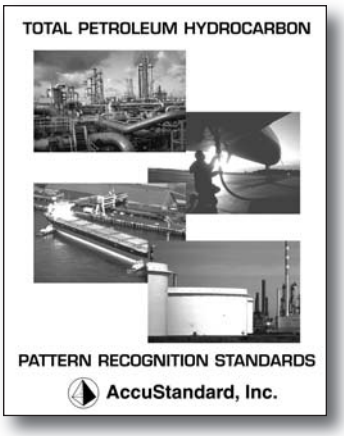
Weathered #2 Diesel (Conventional) Set

WFD2-R1-SET	Each in 5.0 mg/mL in CH_2Cl_2		$ 85 / 4 x 1 mL
#2 Diesel (Conventional)		FU-009-D-10X	20 / 1 mL
#2 Diesel (Conventional) (25% Weathered)		FD2-W25-R1-10X	25 / 1 mL
#2 Diesel (Conventional) (50% Weathered)		FD2-W50-R1-10X	25 / 1 mL
#2 Diesel (Conventional) (75% Weathered)		FD2-W75-R1-10X	25 / 1 mL

Technical Note

Petroleum Products contain many different chemicals, plus synthetic product additives. Typically, these petroleum products are subdivided into two groups based on their volatility: [a] gasoline related products (more volatile) and [b] fuel related products (less volatile such as kerosene, aviation fuels, diesel fuels and heating oils).

Most analytical methods for petroleum products focus on several items: the level of BTEX, the total petroleum hydrocarbon number (TPH), and the fingerprint of the petroleum product. Depending on the volatility of the petroleum product spilled, the nature of the contaminated soil, and the age of the spill, analysis becomes even more difficult. Weathering, evaporation, and the migration of the lighter volatiles at the contamination site can affect the fingerprint identification portion of the fuel products analysis.



Total Petroleum Hydrocarbon Pattern Recognition Standards

This book contains chromatography for the various petroleum products typically found during LUFT/LUST site investigations. The chromatography shows each fuel pattern in a 25 minute analytical run for early eluting petroleum products like gasoline to late eluting products like motor oil. In addition, an *n*-alkane standard (DRH-008S) analyzed under identical conditions has been overlaid on each petroleum product chromatogram. Use of the book will assist the chemist's identification of the fuel for pattern recognition.

The *n*-alkane standard (DRH-008S) overlay provides *n*-alkane reference points between the standard and the unknown sample. These beginning and ending *n*-alkane reference points can be used to establish gross hydrocarbon concentrations. By comparing the specific *n*-alkane range of the closest identified petroleum standard to that of the unknown sample, a reproducible gross hydrocarbon number can be achieved.

To Order,

BOOK-TPH-001 $ 35

Petroleum Brownfield Regulation

Brownfield Regulation that has been approved by the Canadian Ministry of the Environment as of October 1, 2004.

NEW

Light Petroleum Fraction

CCME-LPF-SET $ 95 / **5 x 1 mL**
At stated conc. (µg/mL) in MeOH 8 comps.

	CCME-LPF-0.05X	CCME-LPF-0.1X	CCME-LPF-0.2X	CCME-LPF-0.5X	CCME-LPF
n-Decane	12.5	25	50	125	250
n-Hexane	12.5	25	50	125	250
Toluene	12.5	25	50	125	250
Benzene	12.5	25	50	125	250
o-Xylene	12.5	25	50	125	250
m-Xylene	6.25	12.5	25	62.5	125
p-Xylene	6.25	12.5	25	62.5	125
Ethylbenzene	12.5	25	50	125	250

Hydrocarbon Standard

D-5442-R1 $ 60 / **1 x 1 mL**
100 µg/mL each in Cyclohexane 18 comps.

n-Decane
n-Dodecane
n-Tetradecane
n-Hexadecane
n-Octadecane
n-Eicosane
n-Docosane
n-Tetracosane
n-Hexacosane
n-Octacosane
n-Triacontane
n-Dotriacontane
n-Tetratriacontane
n-Hexatriacontane
n-Octatriacontane
n-Tetracontane
n-Tetratetracontane
n-Pentacontane

Medium & Heavy Petroleum Fraction

CCME-MHPF-SET $ 75 / **3 x 1 mL**
At stated conc. (µg/mL) in n-Hexane 3 comps.

	CCME-MHPF-0.1X	CCME-MHPF-0.5X	CCME-MHPF
n-Decane	40	200	400
n-Hexadecan	40	200	400
n-Tetratriacontane	40	200	400

Performance Check Standard

CCME-QC $ 45 / **1 x 1 mL**
CCME-QC-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
At 40 µg/mL each in n-Hexane:Cyclohexane 2 comps.

n-Pentacontane
n-Tetracontane

Spike Standard

CCME-SPIKE $ 30 / **1 x 1 mL**
At 2500 µg/mL each in n-Hexane 2 comps.

SAE 30W Motor Oil - Non-Detergent Formula
#2 Diesel - 50% Weathered

ISO/DIS 9377 Hydrocarbon Oil Index

Diesel #2/Mineral Oil Standard

ENISO9377-2-1 $ 25 / **1 x 1 mL**
10000 µg/mL total hydrocarbons in Hexane 2 comps.

#2 Diesel (5000 µg/mL)
Mineral Oil (5000 µg/mL)

Quality Control Standard Mix

ISO/DIS9377-4-1 $ 25 / **1 x 1 mL**
1000 µg/mL total hydrocarbons in Acetone 2 comps.

#2 Diesel (500 µg/mL)
Mineral Oil (500 µg/mL)

Extraction Solvent Stock Solution

ENISO9377-2-3 $ 25 / **1 x 5 mL**
At stated conc. in Hexane 2 comps.

n-Decane (20 µl/L)
n-Tetracontane (20 mg/L)

Stearyl Stearate Test Solution

ISO/DIS9377-4-2 $ 45 / **1 x 10 mL**
2000 µg/mL in Cyclohexane

Stearyl stearate

Florisil Cartridge QC Standard Mix

ENISO9377-2-4 $ 40 / **1 x 10 mL**
2000 µg/mL total hydrocarbons in Hexane 2 comps.

#2 Diesel (1000 µg/mL)
Mineral Oil (1000 µg/mL)

System Performance Standard of n-alkanes

ENISO9377-2-2 $ 45 / **1 x 1 mL**
50 µg/mL each in Hexane 16 comps.

n-Decane
n-Dodecane
n-Tetradecane
n-Hexadecane
n-Octadecane
n-Eicosane
n-Docosane
n-Tetracosane
n-Hexacosane
n-Octacosane
n-Triacontane
n-Dotriacontane
n-Tetratriacontane
n-Hexatriacontane
n-Octatriacontane
n-Tetracontane

ISO/DIS 9377-4 Standard Mixture Stock Solution

TPH-006-10X $ 35 / **1 x 1 mL**
TPH-006-10X-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
5000 µg/mL each in Cyclohexane 2 comps.

#2 Diesel
Mineral oil

LUFT/LUST Standards

Multi-State

There are approximately 625,000 underground storage tanks nationwide that store petroleum or hazardous substances that can harm the environment and human health if their contents are released. Until the mid-1980s, most tanks were made of bare steel. Over time, these tanks would corrode and their contents would leak into the environment. Leaking could also occur due to faulty installation or inadequate maintenance procedures. The greatest potential hazard from a leaking underground storage tank is contaminated groundwater, the source of drinking water for nearly half of all Americans. Other health and environmental risks, including the potential for fire and explosion also exist.
From 1988 through March of 2008 there have been 478,457 confirmed releases reported, 453,065 cleanups have been initiated, and 371,880 cleanups have been completed.

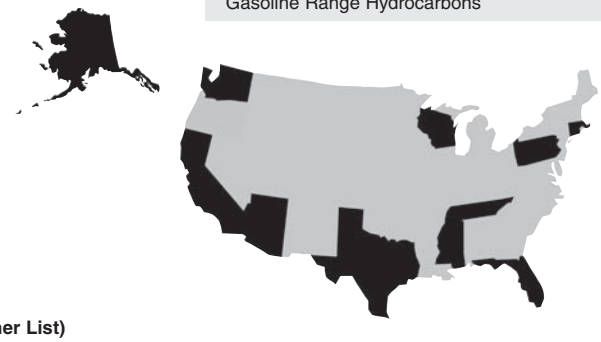
The standards listed in this section are designed to meet federal and state monitoring and testing regulations for underground storage tanks.

Multi-State Hydrocarbon Window Defining	**326**
Alaska GRO, DRO Hydrocarbons, RRO, DRO Hydrocarbons (Fuel) DRO Hydrocarbons (Standards)	**327-329**
Arizona Diesel Range	**330**
California Gasoline	**330**
Connecticut Extractable TPH	**331**
Florida FTRPH	**331**
Massachusetts EPH, VPH	**332-333**
Mississippi DRO	**334**
Pennsylvania Storage Tank Monitoring Standards	**334**
Tennessee DRO	**334**
Texas Method 1005 (PST)	**335**
Washington VPH, EPH	**336-337**
Wisconsin Gasoline Range Hydrocarbons	**337**

LUFT/LUST (UST) Standards

Leaking
Underground
Fuel
Tank

Leaking
Underground
Storage
Tank



Additional LUFT/LUST

GRH
DRH, Oil, Grease & TPH (Method 1664, 413.2/418.1 & 8440)
Automotive Engine Exhaust, Refinery Waste (Method 1004, ASTM E1387, E1618, Skinner List)

Multi-State Method Hydrocarbon Window Defining

DRH-008S-R2 $ 65 / **1 x 1 mL**
DRH-008S-R2-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
500 µg/mL each in Chloroform 35 comps.

Octane	Heptadecane	Tetracosane	Tritriacontane
Nonane	Pristane	Pentacosane	Tetratriacontane
Decane	Octadecane	Hexacosane	Pentatriacontane
Undecane	Phytane	Heptacosane	Hexatriacontane
Dodecane	Nonadecane	Octacosane	Heptatriacontane
Tridecane	Eicosane	Nonacosane	Octatriacontane
Tetradecane	Heneicosane	Triacontane	Nonatriacontane
Pentadecane	Docosane	*n*-Hentriacontane	Tetracontane
Hexadecane	Tricosane	Dotriacontane	

Technical Note

We offer a hydrocarbon window defining standard with the C_8 to C_{40} odd and even alkanes. Use of this one standard should meet the numerous state-to-state variations for hydrocarbon validation and reporting. As an added benefit, AccuStandard has included Pristane and Phytane in the formulation. Again, use of this one standard can meet numerous LUFT/LUST programs requiring that the C_{17} (Pristane) and C_{18} (Phytane) ratio be used to estimate subsurface degradation of fuel oil spills.

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Alaska Method 101 Determination of Gasoline Range Organic (GRO) Hydrocarbons

Normal Alkane Standard - GRO Defining Mix

GRO-AK-101-NAS-10X $ 20 / **1 x 1 mL**
GRO-AK-101-NAS-10X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL each in MeOH 5 comps.

n-Hexane
n-Heptane
n-Octane
n-Nonane
n-Decane

Laboratory Control Standard

GRO-AK-101-LCS $ 20 / **1 x 1 mL**
GRO-AK-101-LCS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
5.0 mg/mL in MeOH

Gasoline (Regular Unleaded)

Internal Standard

GRO-AK-101-IS-10X $ 20 / **1 x 1 mL**
GRO-AK-101-IS-10X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2.0 mg/mL in MeOH

1-Chloro-4-fluorobenzene

Surrogate Control Standard

GRO-AK-101-SS $ 10 / **1 x 1 mL**
GRO-AK-101-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
50 µg/mL each in MeOH
GRO-AK-101-SS-10X $ 20 / **1 x 1 mL**
GRO-AK-101-SS-10X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
500 µg/mL each in MeOH
GRO-AK-101-SS-100X $ 20 / **1 x 1 mL**
GRO-AK-101-SS-100X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
5,000 µg/mL each in MeOH 2 comps.

p-Bromofluorobenzene
a,a,a-Trifluorotoluene

Alaska Method Determination of Aromatic & Aliphatic Hydrocarbons in GRO

AK101AA Aromatics Mix

GRO-AK-101AA-ARO $ 30 / **1 x 1 mL**
GRO-AK-101AA-ARO-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2000 µg/mL each in MeOH 14 comps.

Benzene
Toluene
Ethylbenzene
m-Xylene
p-Xylene
o-Xylene
1,2,3-Trimethylbenzene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Isopropylbenzene
m-Ethyltoluene
p-Ethyltoluene
o-Ethyltoluene
n-Propylbenzene

Certified BTEX in Gasoline (Single Source)

GA-001-20X-BTEX $ 55 / **1 x 1 mL**
10.0 mg/mL in MeOH

Gasoline (Regular Unleaded)

Technical Note

Laboratory Control Standard
The gasoline laboratory control standard was taken from an ASTM selected fuel set and a source independent of what is being used in the Gasoline Composite Mix.
Simultaneous BTEX / Gasoline QA/QC
Our QC Department has certified the benzene, toluene, ethyl benzene and xylene concentrations in the unleaded gasoline standard (GA-001-20X-BTEX and GRO-AK-101-GCS-BTEX). This allows the use of a single injection to verify that the QA/QC requirements are being met for the BTEX analytes as well as for the gasoline.

We have added a multi source certified BTEX in gasoline composite mix (GRO-AK-101-GCS-BTEX). The BTEX values for this multi-source calibration standard have been determined through in-house analysis against a BTEX multi-level calibration curve listed on the certificate.

Certified BTEX in Gasoline Composite (Multi Source)

GRO-AK-101-GCS-BTEX $ 55 / **1 x 1 mL**
5 mg/mL total in MeOH 3 comps.

	Wt. Vol.
Gasoline (Premium)	1.66 mg/mL
Gasoline (Regular Leaded)	1.67 mg/mL
Gasoline (Regular Unleaded)	1.67 mg/mL

Gasoline Calibration Composite Mix

GRO-AK-101-GCS $ 25 / **1 x 1 mL**
GRO-AK-101-GCS-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
Total 5.0 mg/mL in MeOH 3 comps.

	Wt. Vol.
Gasoline (Premium)	1.66 mg/mL
Gasoline (Regular Leaded)	1.67 mg/mL
Gasoline (Regular Unleaded)	1.67 mg/mL

Gasoline Calibration Mix Version

GRO-AK-101-GSC-R1 $ 25 / **1 x 1 mL**
GRO-AK-101-GSC-R1-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
Equal parts by weight of each

Gasoline (Regular Unleaded)
Gasoline (Plus Unleaded)
Gasoline (Premium Unleaded)

Alaska Method 102 Determination of Diesel Range Organic (DRO) Hydrocarbons

Diesel Calibration Composite Mixture (low sulfur)

DRO-AK-102-DCS $ 25 / **1 x 1 mL**
DRO-AK-102-DCS-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
Total 5.0 mg/mL in CH_2Cl_2
DRO-AK-102-DCS-10X $ 40 / **1 x 1 mL**
DRO-AK-102-DCS-10X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
Total 50.0 mg/mL in CH_2Cl_2 3 comps.

	DRO-AK-102-DCS	DRO-AK-102-DCS-10X
Diesel Fuel (Arctic)	1.66 mg/mL	16.6 mg/mL
#1 Diesel (Low Sulfur)	1.67 mg/mL	16.6 mg/mL
#2 Diesel (extra Low Sulfur)	1.67 mg/mL	16.6 mg/mL

Stock Concentrate Diesel Calibration Composite Mix

DRO-AK-102-DCS-10X-R1 $ 40 / **1 x 1 mL**
DRO-AK-102-DCS-10X-R1-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
Total 50.0 mg/mL in CH_2Cl_2 3 comps.

	Wt. Vol.
Diesel Fuel (Arctic)	16.6 mg/mL
#1 Diesel (Low Sulfur)	16.7 mg/mL
#2 Diesel (Conventional)	16.7 mg/mL

Laboratory Control Standard (low sulfur)

DRO-AK-102-LCS $ 10 / **1 x 1 mL**
DRO-AK-102-LCS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
5.0 mg/mL in Acetone
DRO-AK-102-LCS-10X $ 20 / **1 x 1 mL**
DRO-AK-102-LCS-10X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
50.0 mg/mL in Acetone

#2 Diesel (extra Low Sulfur)

Laboratory Control Standard

DRO-AK-102-LCS-10X-R1 $ 20 / **1 x 1 mL**
DRO-AK-102-LCS-10X-R1-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
50.0 mg/mL in Acetone

#2 Diesel (Conventional)

Technical Note

Laboratory Control Standards are prepared from an independent source.

Technical Note

AccuStandard formulated the Diesel Calibration Composite Mix and Laboratory Control Standard using two independent sources of #2 Diesel as required by the Alaskan method. Unfortunately, the chromatographic patterns for the #2 diesel sources (conventional & extra low sulfur) are different. We have obtained independent sources of each type of #2 diesel to insure similar chromatographic patterns and recommend that when a customer is analyzing the Diesel Calibration Composite and Laboratory Control standard that the client orders DRO-AK-102-DCS and DRO-AK-102-LCS products together to obtain similar chromatographic patterns for #2 diesel extra low sulfur patterns and DRO-AK-102-DCS-10X-R1 and DRO-AK-102-LCS-10X-R1 products to obtain similar chromatographic patterns for #2 Diesel conventional patterns. Laboratories performing the Alaskan DRO analysis will find the #2 Diesel conventional chromatographic pattern more closely resembles typical Diesel samples drawn from environmental sites.

Normal Alkane Standard - DRO Defining Mix

DRO-AK-102-NAS-10X $ 40 / **1 x 1 mL**
DRO-AK-102-NAS-10X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 16 comps.

n-Decane
n-Undecane
n-Dodecane
n-Tridecane
n-Tetradecane
n-Pentadecane
n-Hexadecane
n-Heptadecane
n-Octadecane
n-Nonadecane
n-Eicosane
n-Heneicosane
n-Docosane
n-Tricosane
n-Tetracosane
n-Pentacosane

Surrogate Standards

DRO-AK-102-SS $ 10 / **1 x 1 mL**
DRO-AK-102-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
200 µg/mL in Acetone
DRO-AK-102-SS-10X $ 15 / **1 x 1 mL**
DRO-AK-102-SS-10X-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
2.0 mg/mL in Acetone

o-Terphenyl

Internal Standard

DRO-AK-102-IS $ 15 / **1 x 1 mL**
DRO-AK-102-IS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in CH_2Cl_2

5-alpha Androstane

Alaska Method 102/103AA Determination of Aromatic & Aliphatic Hydrocarbons in Diesel Range Organic (DRO)

Diesel Range Standard

DRO-AK-102AA $ 40 / **1 x 1 mL**
DRO-AK-102AA-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 10 comps.

n-Undecane
n-Pentadecane
n-Heptadecane
n-Octadecane
n-Tetracosane
Naphthalene
Acenaphthene
Fluorene
Pyrene
Anthracene

Retention Time Marker Standard

DRO-AK-102/103AA-RT $ 25 / **1 x 1 mL**
DRO-AK-102/103AA-RT-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
50 *µg/mL each in CH_2Cl_2* 3 comps.

n-Decane
n-Pentacosane
n-Hexatriacontane

Surrogate Standard

DRO-AK-102/103AA-SS $ 35 / **1 x 1 mL**
DRO-AK-102/103AA-SS-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
1000 *µg/mL each in CH_2Cl_2* 3 comps.

Squalane
o-Terphenyl
5,6,7,8-Tetrahydro-1-naphthol

Alaska Method 103 Determination of Residual Range Organic (RRO) Hydrocarbons

Residual Composite Mixtures

RRO-AK-103-RCS $ 40 / **1 x 1 mL**
RRO-AK-103-RCS-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
Total 5.0 mg/mL in CH_2Cl_2 3 comps.

SAE 30W Motor Oil (1.66 mg)
SAE 40W Motor Oil (1.67 mg)
SAE 50W Motor Oil (1.67 mg)

RRO-AK-103-RCS-10X $ 40 / **1 x 1 mL**
RRO-AK-103-RCS-10X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
Total 50.0 mg/mL in CH_2Cl_2 3 comps.

SAE 30W Motor Oil (16.6 mg)
SAE 40W Motor Oil (16.7 mg)
SAE 50W Motor Oil (16.7 mg)

Laboratory Control Standard

RRO-AK-103-LCS $ 10 / **1 x 1 mL**
RRO-AK-103-LCS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
5.0 mg/mL in Acetone
RRO-AK-103-LCS-5X $ 20 / **1 x 1 mL**
RRO-AK-103-LCS-5X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
25.0 mg/mL in Acetone: CH_2Cl_2 (1:1)

SAE 40W Motor Oil

Surrogate Control Standard

RRO-AK-103-SS $ 20 / **1 x 1 mL**
RRO-AK-103-SS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
500 µg/mL in Acetone:THF (9:1)
RRO-AK-103-SS2 $ 30 / **1 x 1 mL**
RRO-AK-103-SS2-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
5.0 mg/mL in THF:Acetone (3:1)

n-Triacontane-d_{62}

Alaska Method 103AA Determination of Aromatic & Aliphatic Hydrocarbons in Residual Range Organic

Residual Standard

RRO-AK-103AA $ 35 / **1 x 1 mL**
RRO-AK-103AA-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 9 comps.

n-Hexacosane
n-Octacosane
n-Triacontane
n-Dotriacontane
n-Tetratriacontane
Benzo[b]fluoranthene
Benzo[a]pyrene
Benzo[g,h,i]perylene
Dibenz[a,h]anthracene

Retention Time Marker Standard

DRO-AK-102/103AA-RT $ 25 / **1 x 1 mL**
DRO-AK-102/103AA-RT-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
50 *µg/mL each in CH_2Cl_2* 3 comps.

n-Decane
n-Pentacosane
n-Hexatriacontane

Surrogate Standard

DRO-AK-102/103AA-SS $ 35 / **1 x 1 mL**
DRO-AK-102/103AA-SS-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
1000 *µg/mL each in CH_2Cl_2* 3 comps.

Squalane
o-Terphenyl
5,6,7,8-Tetrahydro-1-naphthol

Arizona Method 8015 Determination of Diesel Range and Oil Range Organic (DRO & ORO) Hydrocarbons

Diesel & Oil Range Standard

DRO/ORO-AZ-8015 $ 40 / **1 x 1 mL**
DRO/ORO-AZ-8015-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 12 comps.

n-Decane
n-Dodecane
n-Docosane
n-Dotriacontane
n-Eicosane
n-Hexacosane
n-Hexadecane
n-Octacosane
n-Octadecane
n-Tetracosane
n-Tetradecane
n-Triacontane

Surrogate Standards

DRO-AK-102-SS-10X $ 15 / **1 x 1 mL**
DRO-AK-102-SS-10X-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
2.0 mg/mL in Acetone

o-Terphenyl

Retention Time Verification Standard

DRO/ORO-AZ-8015-RTV $ 25 / **1 x 1 mL**
DRO/ORO-AZ-8015-RTV-PAK *SAVE 20%* $ 100 / **1 x 1 mL**
1000 µg/mL each in CH_2Cl_2 3 comps.

n-Decane
n-Docosane
n-Dotriacontane

Stock Calibration Standard

DRO/ORO-AZ-8015-SCS $ 40 / **1 x 1 mL**
DRO/ORO-AZ-8015-SCS-PAK *SAVE 20%* $ 160 / **1 x 1 mL**
10,000 µg/mL each in CH_2Cl_2 2 comps.

#2 Diesel
10W 30 Motor Oil

California Method (including LA County)

California - Gasoline Range Hydrocarbons

S-603A-10X $ 25 / **1 x 1 mL**
S-603A-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2.0 mg/mL each in MeOH 7 comps.

Benzene
Ethylbenzene
Methyl t-butyl ether
Toluene
o-Xylene
m-Xylene
p-Xylene

LA County Well Investigation & Monitoring Program
Purgeable Aromatics - Gasoline ID

M-602-GAS-10X $ 30 / **1 x 1 mL**
2.0 mg/mL each in MeOH 11 comps.

Benzene
Chlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Ethylbenzene
Toluene
o-Xylene
p-Xylene
m-Xylene
MtBE

Oxygenate Gasoline Additive Standard

OGAD-001 $ 30 / **1 x 1 mL**
OGAD-001-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. in MeOH 5 comps.

MtBE	(2000 µg/mL)	TAME	(2000 µg/mL)
ETBE	(2000 µg/mL)	t-Butanol	(10000 µg/mL)
Isopropyl ether	(2000 µg/mL)		

Ethanol

M-8015B/5031-11 $ 25 / **1 x 1 mL**
10 mg/mL in Water

Methanol

M-8015B/5031-17 $ 20 / **1 x 1 mL**
10 mg/mL in Water

Method 1004 Carbonyl Compounds as DNPH Derivatives by HPLC

M-1004 $ 25 / **1 x 1 mL**
At stated conc. in AcCN 13 comps.
M-1004-10X $ 35 / **1 x 1 mL**
At 10 times the stated conc. in AcCN 13 comps.

	Carbonyl Compound	DNPH Derivative
Acetaldehyde	(3.0 µg/mL)	(15.3 µg/mL)
Acetone	(3.0 µg/mL)	(12.3 µg/mL)
Acrolein	(3.0 µg/mL)	(12.7 µg/mL)
Benzaldehyde	(3.0 µg/mL)	(8.1 µg/mL)
2-Butanone *(MEK)*	(3.0 µg/mL)	(10.5 µg/mL)
n-Butyraldehyde	(3.0 µg/mL)	(10.5 µg/mL)
Crotonaldehyde	(3.0 µg/mL)	(10.7 µg/mL)
Formaldehyde	(3.0 µg/mL)	(21.0 µg/mL)
Hexanal	(3.0 µg/mL)	(8.4 µg/mL)
Methacrolein	(3.0 µg/mL)	(10.7 µg/mL)
Propionaldehyde	(3.0 µg/mL)	(12.3 µg/mL)
m-Tolualdehyde	(3.0 µg/mL)	(7.5 µg/mL)
Valeraldehyde	(3.0 µg/mL)	(9.3 µg/mL)

CAR-DNPH $ 20 / **1 x 1 mL**
At stated conc. in AcCN as DNPH derivatives 7 comps.

Acetaldehyde	(1000 µg/mL)	Butyraldehyde	(500 µg/mL)
Acetone	(500 µg/mL)	Formaldehyde	(1500 µg/mL)
Acrolein	(500 µg/mL)	Propionaldehyde	(500µg/mL)
Benzaldehyde	(500 µg/mL)		

Reference Gas Oil Sample

RGS-001 $ 20 / **1 x 1 mL**

Hydrocarbon Mixture *(boiling point range 250-850 °F)*

Technical Note

Alcohol Oxidation Products in Automotive Engine Exhaust by HPLC of DNPH Derivatives The California Air Resources Board, in conjunction with some of the larger automobile manufacturers, has developed an HPLC method in which the 2,4-Dinitrophenylhydrazine derivatives of the by-products are quantitated.

Connecticut Method Extractable Total Petroleum Hydrocarbons

CT ETPH Alkane Standard

DRH-009S $ 35 / **1 x 1 mL**
DRH-009S-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
1000 µg/mL in CH_2Cl_2 15 comps.

n-Nonane
n-Decane
n-Dodecane
n-Tetradecane
n-Hexadecane
n-Octadecane
n-Eicosane
n-Docosane
n-Tetracosane
n-Hexacosane
n-Octacosane
n-Triacontane
n-Dotriacontane
n-Tetratriacontane
n-Hexatriacontane

Internal Standard

GRH-IS $ 15 / **1 x 1 mL**
GRH-IS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in CH_2Cl_2

5-alpha Androstane

Surrogate Standard

GRH-SS $ 17 / **1 x 1 mL**
GRH-SS-PAK *SAVE 20%* $ 68 / **5 x 1 mL**
2.0 mg/mL in Acetone

o-Terphenyl *(OTP)*

Florida Method Total Recoverable Petroleum Hydrocarbon (FTRPH) Standard & Surrogates

Calibration/Window Defining Hydrocarbon Standard

DRH-004S-R1-5X $ 50 / **1 x 1 mL**
DRH-004S-5X-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
1.0 mg/mL each in Chloroform 17 comps.

Octane	C_8	Eicosane	C_{20}	Dotriacontane	C_{32}
Decane	C_{10}	Docosane	C_{22}	Tetratriacontane	C_{34}
Dodecane	C_{12}	Tetracosane	C_{24}	Hexatricontane	C_{36}
Tetradecane	C_{14}	Hexacosane	C_{26}	Octatriacontane	C_{38}
Hexadecane	C_{16}	Octacosane	C_{28}	Tetracontane	C_{40}
Octadecane	C_{18}	Triacontane	C_{30}		

FTRPH Calibration / Window Defining Standard

DRH-FTRPH $ 35 / **1 x 1 mL**
DRH-FTRPH-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
500 µg/mL each in Hexane 17 comps.
DRH-FTRPH-0.1X ***NEW*** $ 30 / **1 x 1 mL**
50 µg/mL each in Hexane 17 comps.

n-Octane
n-Decane
n-Dodecane
n-Tetradecane
n-Hexadecane
n-Octadecane
n-Eicosane
n-Docosane
n-Tetracosane
n-Hexacosane
n-Octacosane
n-Triacontane
n-Dotriacontane
n-Tetratriacontane
n-Hexatriacontane
n-Octatriacontane
n-Tetracontane

Technical Note

FTRPH Calibration/Window Defining Standard was formulated at a lower concentration to insure solubility of the analytes & eliminate the odor caused by the introduction of Carbon disulfide as a cosolvent.

Internal Standard

GRH-IS $ 15 / **1 x 1 mL**
GRH-IS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in CH_2Cl_2

5-alpha Androstane

Surrogate Standards

DRH-SS $ 30 / **1 x 1 mL**
DRH-SS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
5.0 mg/mL in THF

n-Triacontane-d_{62}

GRH-SS $ 17 / **1 x 1 mL**
GRH-SS-PAK *SAVE 20%* $ 68 / **5 x 1 mL**
2.0 mg/mL in Acetone

o-Terphenyl *(OTP)*

FTRPH Surrogate Standard

DRH-FL-SS-3X $ 27 / **1 x 1 mL**
DRH-FL-SS-3X-PAK *SAVE 20%* $ 108 / **5 x 1 mL**
3.0 mg/mL in Carbon disulfide
DRH-FL-SS $ 20 / **1 x 1 mL**
DRH-FL-SS-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
1.0 mg/mL in Carbon disulfide

Nonatriacontane

FTRPH Combined Surrogate Standard

DRH/GRH-FL-SS $ 50 / **1 x 1 mL**
DRH/GRH-FL-SS-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
5.0 mg/mL in Carbon disulfide 2 comps.

Nonatriacontane
o-Terphenyl *(OTP)*

Technical Note

FTRPH Surrogate Standard was formulated at a higher concentration for combined DRH & GRH analysis. This standard has proven useful for those laboratories performing gasoline & diesel analysis simultaneously.

DRH/GRH-FL-SS-R2 $ 50 / **1 x 1 mL**
DRH/GRH-FL-SS-R2-PAK *SAVE 20%* $ 200 / **5 x 1 mL**
At stated conc. in Carbon disulfide 2 comps.

Nonatriacontane (6000 µg/mL)
o-Terphenyl *(OTP)* (1500 µg/mL)

Carbon disulfide can not ship by air. When possible alternate solvents can be used. Please contact our Technical Service Department for other options.

Massachusetts Method Determination of Extractable Petroleum Hydrocarbons (EPH)

Aromatic Hydrocarbons Calibration Set

DRH-006-CAL-SET $ 125 / **5 x 1 mL**
At stated conc. in CH_2Cl_2 18 comps.

Components (units in µg/mL)	Level 1 (1X)	Level 2 (4X)	Level 3 (10X)	Level 4 (20X)	Level 5 (40X)
Acenaphthene	5	20	50	100	200
Acenaphthylene	5	20	50	100	200
Anthracene	5	20	50	100	200
Benz[a]anthracene	5	20	50	100	200
Benzo[a]pyrene	5	20	50	100	200
Benzo[b]fluoranthene	5	20	50	100	200
Benzo[g,h,i]perylene	5	20	50	100	200
Benzo[k]fluoranthene	5	20	50	100	200
Chrysene	5	20	50	100	200
Dibenz[a,h]anthracene	5	20	50	100	200
Fluoranthene	5	20	50	100	200
Fluorene	5	20	50	100	200
Indeno[1,2,3-cd]pyrene	5	20	50	100	200
2-Methylnaphthalene	5	20	50	100	200
Naphthalene	5	20	50	100	200
Phenanthrene	5	20	50	100	200
Pyrene	5	20	50	100	200
o-Terphenyl (Surrogate)	5	20	50	100	200

Aliphatic Hydrocarbons Calibration Set

DRH-007-CAL-R1-SET $ 125 / **5 x 1 mL**
At stated conc. in CH_2Cl_2 : n-Hexane (1:1) 15 comps.

Components (units in µg/mL)	Level 1 (1X)	Level 2 (4X)	Level 3 (10X)	Level 4 (20X)	Level 5 (40X)
n-Nonane	5	20	50	100	200
n-Decane	5	20	50	100	200
n-Dodecane	5	20	50	100	200
n-Tetradecane	5	20	50	100	200
n-Hexadecane	5	20	50	100	200
n-Octadecane	5	20	50	100	200
n-Nonadecane	5	20	50	100	200
n-Eicosane	5	20	50	100	200
n-Docosane	5	20	50	100	200
n-Tetracosane	5	20	50	100	200
n-Hexacosane	5	20	50	100	200
n-Octacosane	5	20	50	100	200
n-Triacontane	5	20	50	100	200
n-Hexatriacontane	5	20	50	100	200
1-Chlorooctadecane (Surrogate)	5	20	50	100	200

Combined Aromatic/Aliphatic Matrix Spike Standard

DRH-MS-ASL $ 45 / **1 x 1 mL**
DRH-MS-ASL-PAK *SAVE 20%* $ 180 / **5 x 1 mL**
25 µg/mL each in Hexane 31 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
n-Decane
Dibenz[a,h]anthracene
n-Docosane
n-Dodecane
n-Eicosane
Fluoranthene
Fluorene
n-Hexacosane
n-Hexadecane
n-Hexatriacontane
Indeno[1,2,3-cd]pyrene
2-Methylnaphthalene
Naphthalene
n-Nonadecane
n-Nonane
n-Octacosane
n-Octadecane
Phenanthrene
Pyrene
n-Tetracosane
n-Tetradecane
n-Triacontane

DEP (MA) - Fractionation Surrogate Spike

DRH-MA-FSS-10ML	40 µg/mL in Hexane		$ 25 / **1 x 10 mL**
DRH-MA-FSS-50X	2.0 mg/mL in Hexane		$ 25 / **1 x 1 mL**
DRH-MA-FSS-50X-PAK	2.0 mg/mL in Hexane	*SAVE 20%*	$ 100 / **5 x 1 mL**

2 comps.

2-Fluorobiphenyl
2-Bromonaphthalene

Aromatic Surrogate

DRH-006-SS $ 15 / **1 x 1 mL**
DRH-006-SS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in CH_2Cl_2

o-Terphenyl

DEP (MA) - Aromatic Hydrocarbons

DRH-006S $ 65 / **1 x 1 mL**
DRH-006S-PAK *SAVE 20%* $ 260 / **5 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 17 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
2-Methylnaphthalene
Naphthalene
Phenanthrene
Pyrene

Technical Note

Two high concentration EPH stocks for laboratories that prepare in-house working level solutions are available. In addition, Ready-to-Use working level aromatic and aliphatic calibration sets are also available. Larger volumes of daily calibration solutions can be purchased by contacting our Technical Service Department.

DEP (MA) - Aliphatic Hydrocarbons

DRH-007S $ 40 / **1 x 1 mL**
DRH-007S-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 : Hexane (1:1) 14 comps.

n-Nonane
n-Decane
n-Dodecane
n-Tetradecane
n-Hexadecane
n-Octadecane
n-Nonadecane
n-Eicosane
n-Docosane
n-Tetracosane
n-Hexacosane
n-Octacosane
n-Triacontane
n-Hexatriacontane

Aliphatic Surrogate

DRH-007-SS $ 15 / **1 x 1 mL**
DRH-007-SS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in Hexane

1-Chlorooctadecane

EPH Surrogate Spike

DRH-MA-SS	20 µg/mL each in Acetone		$ 10 / **1 x 1 mL**
DRH-MA-SS-10X	200 µg/mL each in Acetone		$ 20 / **1 x 1 mL**
DRH-MA-SS-100X	2,000 µg/mL each in Acetone		$ 22 / **1 x 1 mL**
DRH-MA-SS-100X-PAK	2,000 µg/mL each in Acetone		$ 88 / **5 x 1 mL**

2 comps.

1-Chlorooctadecane
o-Terphenyl

EPH Matrix Spike

DRH-MA-MS	25 µg/mL in Acetone		$ 20 / **1 x 1 mL**
DRH-MA-MS-PAK	25 µg/mL in Acetone	*SAVE 20%*	$ 80 / **5 x 1 mL**
DRH-MA-MS-10X	250 µg/mL in Acetone		$ 30 / **1 x 1 mL**
DRH-MA-MS-10X-PAK	250 µg/mL in Acetone	*SAVE 20%*	$ 120 / **5 x 1 mL**
DRH-MA-MS-40X	1,000 µg/mL in Acetone		$ 30 / **1 x 1 mL**
DRH-MA-MS-40X-PAK	1,000 µg/mL in Acetone	*SAVE 20%*	$ 120 / **5 x 1 mL**

10 comps.

Acenaphthene
Anthracene
Chrysene
n-Eicosane
Naphthalene
n-Nonadecane
n-Nonane
n-Octacosane
Pyrene
n-Tetradecane

Internal Standard

GRH-IS	1,000 µg/mL in CH_2Cl_2		$ 15 / **1 x 1 mL**
GRH-IS-PAK	1,000 µg/mL in CH_2Cl_2	*SAVE 20%*	$ 60 / **5 x 1 mL**
GRH-IS-10X	10.0 mg/mL in CH_2Cl_2		$ 30 / **1 x 1 mL**

5-alpha Androstane

Massachusetts Method Determination of Volatile Petroleum Hydrocarbons (VPH)

Stock Concentrate

Volatile Petroleum Hydrocarbon Mix

GRH-004S-10X $ 40 / **1 x 1 mL**
GRH-004S-10X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
At stated conc. (mg/mL) in MeOH 13 comps.

Benzene	(5.0)	*n*-Pentane	(10.0)
Ethylbenzene	(5.0)	Toluene	(15.0)
Isooctane	(15.0)	1,2,4-Trimethylbenzene	(10.0)
2-Methylpentane	(15.0)	*o*-Xylene	(10.0)
MtBE	(15.0)	*m*-Xylene	(10.0)
Naphthalene	(10.0)	*p*-Xylene	(10.0)
n-Nonane	(10.0)		

DEP (MA)-VPH Surrogate Standard

GRH-004-SS $ 10 / **1 x 1 mL**
GRH-004-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
50 µg/mL in MeOH
GRH-004-SS-10X $ 20 / **1 x 1 mL**
GRH-004-SS-10X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
500 µg/mL in MeOH
GRH-004-SS-100X $ 20 / **1 x 1 mL**
GRH-004-SS-100X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
5,000 µg/mL in MeOH

2,5-Dibromotoluene

MA VPH Matrix Spike Mix with Surrogate

GRH-004-MS/SS $ 30 / **1 x 1 mL**
50 µg/mL each in MeOH 14 comps.

Benzene	Naphthalene
n-Butylcyclohexane	n-Nonane
n-Decane	n-Pentane
2,5-dibromotoluene	Toluene
Ethylbenzene	1,2,4-Trimethylbenzene
2-Methylpentane	Isooctane
MtBE	m-Xylene

VPH Matrix Spike

GRH-004-MS $ 15 / **1 x 1 mL**
GRH-004-MS-PAK *SAVE 20%* $ 60 / **5 x 1 mL**
50 µg/mL each in MeOH
GRH-004-MS-10X $ 25 / **1 x 1 mL**
GRH-004-MS-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
500 µg/mL each in MeOH
GRH-004-MS-100X $ 25 / **1 x 1 mL**
GRH-004-MS-100X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
5,000 µg/mL each in MeOH 8 comps.

Benzene	Toluene
Ethylbenzene	*o*-Xylene
MtBE	*m*-Xylene
Naphthalene	*p*-Xylene

Certified BTEX in Unleaded Gasoline

GA-001-20X-BTEX $ 55 / **1 x 1 mL**
10.0 mg/mL in MeOH

Gasoline - Regular, unleaded

Technical Note

Calibration Curve
Analytical chemists can develop the VPH Calibration Curve using one primary dilution standard that includes the surrogate.
Simultaneous BTEX / Gasoline QA/QC
Our QC Dept. has certified the benzene, toluene, ethyl benzene and xylene concentrations in the unleaded gasoline standard (GA-001-20X-BTEX). This allows the use of a single injection to verify that the QA/QC requirements are being met for the BTEX analytes as well as for the gasoline.

Volatile Petroleum Hydrocarbon without Surrogate

GRH-004S-R1-10X $ 55 / **1 x 1 mL**
At stated conc. (mg/mL) in MeOH 15 comps.

Benzene	(5.0)	Toluene	(15.0)
Ethylbenzene	(5.0)	1,2,4-Trimethylbenzene	(10.0)
Isooctane	(15.0)	*o*-Xylene	(10.0)
2-Methylpentane	(15.0)	*m*-Xylene	(10.0)
MtBE	(15.0)	*p*-Xylene	(10.0)
Naphthalene	(10.0)	*n*-Butylcyclohexane	(10.0)
n-Nonane	(10.0)	*n*-Decane	(10.0)
n-Pentane	(10.0)		

GRH-004S-R2 $ 50 / **1 x 1 mL**
10 mg/mL each in MeOH 15 comps.

Benzene	Toluene
Ethylbenzene	1,2,4-Trimethylbenzene
Isooctane	*o*-Xylene
2-Methylpentane	*m*-Xylene
MtBE	*p*-Xylene
Naphthalene	*n*-Butylcyclohexane
n-Nonane	*n*-Decane
n-Pentane	

Volatile Petroleum Hydrocarbons with Surrogate

GRH-004S/SS $ 30 / **1 x 1 mL**
GRH-004S/SS-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. (µg/mL) in MeOH 14 comps.

Benzene	(500)	*n*-Nonane	(1,000)
2,5-Dibromotoluene (Surrogate)	(1,000)	*n*-Pentane	(1,000)
Ethylbenzene	(500)	Toluene	(1,500)
Isooctane	(1,500)	1,2,4-Trimethylbenzene	(1,000)
2-Methylpentane	(1,500)	*o*-Xylene	(1,000)
MtBE	(1,500)	*m*-Xylene	(1,000)
Naphthalene	(1,000)	*p*-Xylene	(1,000)

GRH-004S/SS-R1 $ 45 / **1 x 1 mL**
At stated conc. (µg/mL) in MeOH 16 comps.

Benzene	(500)	*n*-Pentane	(1,000)
2,5-Dibromotoluene (Surrogate)	(1,000)	Toluene	(1,500)
Ethylbenzene	(500)	1,2,4-Trimethylbenzene	(1,000)
Isooctane	(1,500)	*o*-Xylene	(1,000)
2-Methylpentane	(1,500)	*m*-Xylene	(1,000)
MtBE	(1,500)	*p*-Xylene	(1,000)
Naphthalene	(1,000)	n-Butylcyclohexane	(1,000)
n-Nonane	(1,000)	n-Decane	(1,000)

GRH-004S/SS-R2 $ 50 / **1 x 1 mL**
10.0 mg/mL each in MeOH 16 comps.

Benzene	*n*-Pentane
2,5-Dibromotoluene (Surrogate)	Toluene
Ethylbenzene	1,2,4-Trimethylbenzene
Isooctane	*o*-Xylene
2-Methylpentane	*m*-Xylene
MtBE	*p*-Xylene
Naphthalene	n-Butylcyclohexane
n-Nonane	n-Decane

Mississippi / Tennessee Method

DRO Defining Mix

DRO-AK-102-NAS-10X $ 40 / **1 x 1 mL**
DRO-AK-102-NAS-10X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 16 comps.

n-Decane
n-Undecane
n-Dodecane
n-Tridecane
n-Tetradecane
n-Pentadecane
n-Hexadecane
n-Heptadecane
n-Octadecane
n-Nonadecane
n-Eicosane
n-Heneicosane
n-Docosane
n-Tricosane
n-Tetracosane
n-Pentacosane

Pennsylvania Method Storage Tank Site Closure & Monitoring Petroleum Standards

PA Extractable PAH Standard

DRH-PA-001 $ 25 / **1 x 1 mL**
DRH-PA-001-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2000 µg/mL each in CH_2Cl_2 5 comps.

Benz[a]anthracene
Benzo[a]pyrene
Fluorene
Naphthalene
Phenanthrene

PA Volatile Petroleum Standard

GRH-PA-001 $ 25 / **1 x 1 mL**
GRH-PA-001-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
At stated conc. in MeOH 9 comps.

Benzene	(1000 µg/mL)	*o*-Xylene	(1000 µg/mL)
Ethylbenzene	(1000 µg/mL)	*m*-Xylene	(1000 µg/mL)
MtBE	(2000 µg/mL)	*p*-Xylene	(1000 µg/mL)
Naphthalene	(1000 µg/mL)	Isopropylbenzene	(1000 µg/mL)
Toluene	(1000 µg/mL)		

Texas Method 1005 & 1006 Petroleum Storage Tanks (PST)

Stock Hydrocarbon Calibration Standard

DRH-TX-001-10X $ 25 / **1 x 1 mL**
DRH-TX-001-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2000 µg/mL each in n-Pentane 12 comps.

n-Hexane	*n*-Tetradecane	*n*-Docosane
n-Octane	*n*-Hexadecane	*n*-Tetracosane
n-Decane	*n*-Octadecane	*n*-Hexacosane
n-Dodecane	*n*-Eicosane	*n*-Octacosane

Gasoline & Diesel Calibration Curve Set

DRH-TX-002-D-SET $ 75 / **8 x 1 mL**
Each at stated conc. in CH_2Cl_2 2 comps.

Regular Unleaded Gasoline #2 Diesel Fuel

Each set contains 8 concentrations:

5 µg/mL	**50 µg/mL**	**200 µg/mL**	**1000 µg/mL**
20 µg/mL	**100 µg/mL**	**500 µg/mL**	**5000 µg/mL**

Gasoline/Diesel Continuing Calibration Standard

DRH-TX-002-D-0.4X-10ML $ 50 / **1 x 10 mL**
200 µg/mL each in CH_2Cl_2 2 comps.

Regular Unleaded Gasoline #2 Diesel Fuel

Gasoline/Diesel Calibration/Matrix Spike Standard

DRH-TX-002-10X $ 25 / **1 x 1 mL**
DRH-TX-002-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
5000 µg/mL each in MeOH 2 comps.

Regular Unleaded Gasoline #2 Diesel Fuel

Stock Gasoline/Diesel Calibration Standard

DRH-TX-002-D-40X $ 25 / **1 x 1 mL**
DRH-TX-002-D-40X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
20,000 µg/mL each in CH_2Cl_2 2 comps.

Regular Unleaded Gasoline #2 Diesel Fuel

Technical Note

TCEQ Methods 1005 and 1006
Texas Commission on Environmental Quality (TCEQ) has developed these methods in response to notifications of leaking petroleum storage tanks that have contaminated ground water. These method govern the testing of Total Petroleum Hydrocarbon (TPH) concentrations.

Gasoline & Diesel Calibration Curve Set

DRH-TX-003-SET $ 125 / **8 x 1 mL**
Each at stated conc. in Pentane 2 comps.

Regular Unleaded Gasoline #2 Diesel Fuel

Each set contains 8 concentrations:

20 µg/mL	**250 µg/mL**	**750 µg/mL**	**5000 µg/mL**
100 µg/mL	**500 µg/mL**	**1000 µg/mL**	**10,000 µg/mL**

Gasoline and Diesel Standard

NEW

DRH-TX-003-20X $ 25 / **1 x 5 mL**
DRH-TX-003-20X-PAK *SAVE 20%* $ 100 / **5 x 5 mL**
10,000 µg/mL each in Pentane 2 comps.

Regular Unleaded Gasoline #2 Diesel Fuel

Surrogate Standard

DRH-TX-003-SS1 $ 35 / **1 x 5 mL**
DRH-TX-003-SS1-PAK *SAVE 20%* $ 140 / **5 x 5 mL**
10 mg/mL each in Pentane 2 comps.

1-Chlorooctadecane 1-Chlorooctane

Carbon Number Distribution Maker

DRH-TX-003-CNM $ 30 / **1 x 1 mL**
DRH-TX-003-CNM-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2000 µg/mL each in Pentane 9 comps.

n-Decane	*n*-Heptane	*n*-Octacosane
n-Dodecane	*n*-Hexadecane	*n*-Octane
n-Heneicosane	*n*-Hexane	*n*-Pentatriacontane

Aromatic Fractionation Check Standard

DRH-TX-003-FCS $ 55 / **1 x 10 mL**
DRH-TX-003-FCS-PAK *SAVE 20%* $ 220 / **5 x 10 mL**
20 µg/mL each in Pentane 24 comps.

Acenaphthene	Benzo[e]pyrene	Naphthalene
Acenaphthylene	Benzo[g,h,i]perylene	Phenanthrene
Anthracene	Chrysene	Pyrene
Benzene	Dibenz[a,h]anthracene	Toluene
Benz[a]anthracene	Ethylbenzene	1,2,3-Trimethylbenzene
Benzo[b]fluoranthene	Fluoranthene	*m*-Xylene
Benzo[k]fluoranthene	Fluorene	*p*-Xylene
Benzo[a]pyrene	Indeno[1,2,3-cd]pyrene	*o*-Xylene

Washington Method Determination of Volatile Petroleum Hydrocarbons (VPH)

VPH Standard

VPH-WA $ 20 / **1 x 1 mL**
VPH-WA-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
200 µg/mL each in MeOH 15 comps.

Benzene	*p*-Xylene	*n*-Decane
Ethylbenzene	MtBE	*n*-Dodecane
Toluene	*n*-Pentane	1-Methylnaphthalene
o-Xylene	*n*-Hexane	Naphthalene
m-Xylene	*n*-Octane	1,2,3-Trimethylbenzene

VPH Primary Dilution Standard with Surrogate

VPH-WA-SS-10X $ 35 / **1 x 1 mL**
VPH-WA-SS-10X-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
2,000 µg/mL each in MeOH 16 comps.

Benzene	MtBE	*n*-Dodecane
Ethylbenzene	*n*-Pentane	1-Methylnaphthalene
Toluene	*n*-Hexane	Naphthalene
o-Xylene	*n*-Octane	1,2,3-Trimethylbenzene
m-Xylene	*n*-Decane	2,5-Dibromotoluene (surrogate)
p-Xylene		

Stock Concentrate VPH Standards

VPH-WA-10X $ 30 / **1 x 1 mL**
VPH-WA-10X-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2,000 µg/mL each in MeOH 15 comps.
VPH-WA-100X $ 40 / **1 x 1 mL**
VPH-WA-100X-PAK *SAVE 20%* $ 160 / **5 x 1 mL**
20.0 mg/mL each in MeOH 15 comps.

Benzene	*p*-Xylene	*n*-Decane
Ethylbenzene	MtBE	*n*-Dodecane
Toluene	*n*-Pentane	1-Methylnaphthalene
o-Xylene	*n*-Hexane	Naphthalene
m-Xylene	*n*-Octane	1,2,3-Trimethylbenzene

Certified BTEX in Unleaded Gasoline (Single Source)

GA-001-20X-BTEX $ 55 / **1 x 1 mL**
10.0 mg/mL in MeOH

Regular Unleaded Gasoline

Certified BTEX in Gasoline Composite (Multi Source)

GRO-AK-101-GCS-BTEX $ 55 / **1 x 1 mL**
5 mg/mL in MeOH 3 comps.

	Wt. Vol.
Gasoline (Premium)	1.66 mg/mL
Gasoline (Regular Leaded)	1.67 mg/mL
Gasoline (Regular Unleaded)	1.67 mg/mL

VPH Matrix Spike

VPH-WA-MS $ 25 / **1 x 1 mL**
VPH-WA-MS-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
Varied conc. in MeOH 11 comps.

Benzene	(60 µg/mL)	Toluene	(60 µg/mL)
Ethylbenzene	(60 µg/mL)	1,2,3-Trimethylbenzene	(60 µg/mL)
MTBE	(180 µg/mL)	*m*-Xylene	(60 µg/mL)
Naphthalene	(360 µg/mL)	*p*-Xylene	(60 µg/mL)
n-Nonane	(200 µg/mL)	*o*-Xylene	(60 µg/mL)
n-Pentane	(600 µg/mL)		

VPH Surrogate Standard

GRH-004-SS $ 10 / **1 x 1 mL**
GRH-004-SS-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
50 µg/mL in MeOH
GRH-004-SS-10X $ 20 / **1 x 1 mL**
GRH-004-SS-10X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
500 µg/mL in MeOH
GRH-004-SS-100X $ 20 / **1 x 1 mL**
GRH-004-SS-100X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
5,000 µg/mL in MeOH

2,5-Dibromotoluene

VPH Retention Time Marker

VPH-WA-RT $ 20 / **1 x 1 mL**
VPH-WA-RT-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
2,000 µg/mL each in MeOH 6 comps.

n-Pentane	*n*-Decane
n-Hexane	*n*-Dodecane
n-Octane	*n*-Tridecane

1,2,3-Trimethylbenzene Standard

V-028S-D-10X $ 20 / **1 x 1 mL**
V-028S-D-10X-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
1000 µg/mL each in CH_2Cl_2

1,2,3-Trimethylbenzene

Technical Note

Simultaneous BTEX / Gasoline QA/QC
Our QC Department has certified the benzene, toluene, ethyl benzene and xylene concentrations in the unleaded gasoline standard GA-001-20X-BTEX and GRO-AK-101-GCS-BTEX. This allows the use of a single injection to verify that the QA/QC requirements are being met for the BTEX analytes as well as for the gasoline.

We have added a multi source certified BTEX in gasoline composite mix GRO-AK-101-GCS-BTEX. The BTEX values for this multi-source calibration standard have been determined through in-house analysis against a BTEX multi-level calibration curve listed on the certificate.

Washington Method Determination of Extractable Petroleum Hydrocarbons (EPH)

EPH Aromatic/PAH Standard

EPH-WA-10X — $ 75 / **1 x 1 mL**
EPH-WA-10X-PAK — *SAVE 20%* $ 300 / **5 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 — 18 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
2-Methylnaphthalene
Naphthalene
Phenanthrene
Pyrene
1,2,3-Trimethylbenzene

Internal Standard

GRH-IS — $ 15 / **1 x 1 mL**
GRH-IS-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
1000 µg/mL in CH_2Cl_2
GRH-IS-10X — $ 30 / **1 x 1 mL**
10.0 mg/mL in CH_2Cl_2

5-alpha Androstane

EPH Surrogate Spike

DRH-MA-SS — $ 10 / **1 x 1 mL**
20 µg/mL each in Acetone — 2 comps.
DRH-MA-SS-10X — $ 20 / **1 x 1 mL**
200 µg/mL each in Acetone — 2 comps.
DRH-MA-SS-100X — $ 22 / **1 x 1 mL**
DRH-MA-SS-100X-PAK — *SAVE 20%* $ 88 / **5 x 1 mL**
2,000 µg/mL each in Acetone — 2 comps.

1-Chlorooctadecane
o-Terphenyl

EPH Matrix Spike

EPH-WA-MS2-20ML — $ 30 / **1 x 20 mL**
EPH-WA-MS2-20ML-PAK — *SAVE 20%* $ 120 / **5 x 20 mL**
25 µg/mL each in Acetone — 10 comps.

Acenaphthene
Anthracene
Benzo[g,h,i]perylene
Benzo[a]pyrene
n-Decane
n-Dodecane
n-Hexadecane
n-Heneicosane
Naphthalene
Pyrene

EPH Aliphatic Check Mix

EPH-WA-ALI — $ 20 / **1 x 1 mL**
EPH-WA-ALI-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 — 5 comps.

n-Octane
n-Decane
n-Dodecane
n-Hexadecane
n-Heneicosane

EPH Aromatic Check Mix

EPH-WA-ARO — $ 30 / **1 x 1 mL**
EPH-WA-ARO-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 — 5 comps.

Acenaphthene
Benzo[g,h,i]perylene
Naphthalene
Pyrene
1,2,3-Trimethylbenzene

Revised EPH Aliphatic Check Mix

EPH-WA-ALI-R1 — $ 20 / **1 x 1 mL**
EPH-WA-ALI-R1-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 — 6 comps.

n-Octane
n-Decane
n-Dodecane
n-Hexadecane
n-Heneicosane
n-Tetratriacontane

EPH Fractionation Check Standard

EPH-WA-FCS — $ 45 / **1 x 1 mL**
EPH-WA-FCS-PAK — *SAVE 20%* $ 180 / **5 x 1 mL**
25 µg/mL each in Hexane — 24 comps.

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
2-Methylnaphthalene
Naphthalene
Phenanthrene
Pyrene
n-Decane
n-Dodecane
n-Tetradecane
n-Hexadecane
n-Octadecane
n-Eicosane
n-Heneicosane

Revised EPH Fractionation Check Standard

EPH-WA-FCS-R1 — $ 45 / **1 x 1 mL**
EPH-WA-FCS-R1-PAK — *SAVE 20%* $ 180 / **5 x 1 mL**
25 µg/mL each in Hexane — 23 comps

Acenaphthene
Acenaphthylene
Anthracene
Benz[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
2-Methylnaphthalene
Naphthalene
Phenanthrene
Pyrene
n-Octane
n-Decane
n-Dodecane
n-Hexadecane
n-Heneicosane
n-Tetratriacontane

1,2,3-Trimethylbenzene Standard

V-028S-D-10X — $ 20 / **1 x 1 mL**
V-028S-D-10X-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
1000 µg/mL each in CH_2Cl_2

1,2,3-Trimethylbenzene

Revised EPH Aromatic Check Mix

EPH-WA-ARO-R1 — $ 30 / **1 x 1 mL**
EPH-WA-ARO-R1-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
1.0 mg/mL each in CH_2Cl_2 — 6 comps.

Acenaphthene
Benzo[g,h,i]perylene
Naphthalene
Pyrene
1,2,3-Trimethylbenzene
Toluene

Aliphatic Surrogate

DRH-007-SS — $ 15 / **1 x 1 mL**
DRH-007-SS-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in Hexane

1-Chlorooctadecane

Aromatic Surrogate

DRH-006-SS — $ 15 / **1 x 1 mL**
DRH-006-SS-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in CH_2Cl_2

o-Terphenyl

Wisconsin Method

Wisconsin DNR - Gasoline Range Hydrocarbons

GRH-003S — $ 35 / **1 x 1 mL**
GRH-003S-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH — 10 comps.

Benzene
Ethylbenzene
MtBE
Naphthalene
Toluene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
o-Xylene
m-Xylene
p-Xylene

Gasoline Range Hydrocarbon Analysis

EPA Method - Gasoline Range Hydrocarbons Gasoline Standard

GRH-002S $ 25 / **1 x 1 mL**
GRH-002S-10X $ 30 / **1 x 1 mL**
At stated conc. in MeOH 10 comps.

	GRH-002S	GRH-002-10X
2-Methylpentane	(1.5 mg/mL)	(15 mg/mL)
2,2,4-Trimethylpentane	(1.5 mg/mL)	(15 mg/mL)
Heptane	(0.5 mg/mL)	(5 mg/mL)
Benzene	(0.5 mg/mL)	(5 mg/mL)
Toluene	(1.5 mg/mL)	(15 mg/mL)
Ethylbenzene	(0.5 mg/mL)	(5 mg/mL)
m-Xylene	(1.0 mg/mL)	(10 mg/mL)
p-Xylene	(1.0 mg/mL)	(10 mg/mL)
o-Xylene	(1.0 mg/mL)	(10 mg/mL)
1,2,4-Trimethylbenzene	(1.0 mg/mL)	(10 mg/mL)

Internal Standard

GARH-IS $15 / **1 x 1 mL**
1.0 mg/mL in CH_2Cl_2

Chloro-4-fluorobenzene

Surrogate Standard

GARH-SS $ 20 / **1 x 1 mL**
2.5 mg/mL in Acetone

4-Bromofluorobenzene

Gasoline Additives

GAD-001 $ 20 / **1 x 1 mL**
GAD-001-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
0.2 mg/mL each in MeOH 4 comps.

Dibromomethane
1,2-Dibromoethane
1,2-Dichloroethane
Methyl t-butyl ether

Technical Note

Simultaneous BTEX / Gasoline QA/QC
Our QC Dept. has certified the benzene, toluene, ethyl benzene and xylene concentrations in the unleaded gasoline standard (GA-001-20X-BTEX). This allows the use of a single injection to verify that the QA/QC requirements are being met for the BTEX analytes as well as for the gasoline.

Certified BTEX in Unleaded Gasoline

GA-001-20X-BTEX $ 55 / **1 x 1 mL**
10.0 mg/mL in MeOH

Regular unleaded gasoline

Hexadecane Extraction Volatiles

CLP-BTEX $ 30 / **1 x 1 mL**
CLP-BTEX-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
0.2 mg/mL each in MeOH 6 comps.
CLP-BTEX-10X $ 30 / **1 x 1 mL**
CLP-BTEX-10X-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
2.0 mg/mL each in MeOH 6 comps.

Benzene
Ethyl benzene
Toluene
o-Xylene
m-Xylene
p-Xylene

California - Gasoline Range Hydrocarbons

S-603A-10X $ 25 / **1 x 1 mL**
S-603A-10X-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
2.0 mg/mL each in MeOH 7 comps.

Benzene
Ethylbenzene
Methyl t-butyl ether
Toluene
o-Xylene
m-Xylene
p-Xylene

Los Angeles County Well Investigation and Monitoring Program
Purgeable Aromatics - Gasoline ID

M-602-GAS-10X $ 30 / **1 x 1 mL**
2.0 mg/mL each in MeOH 11 comps.

Benzene
Chlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Ethylbenzene
Toluene
o-Xylene
p-Xylene
m-Xylene
MtBE

Oxygenate Gasoline Additive Standard

OGAD-001 $ 30 / **1 x 1 mL**
OGAD-001-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
At stated conc. in MeOH 5 comps.

MtBE	(2000 µg/mL)	TAME	(2000 µg/mL)
ETBE	(2000 µg/mL)	t-Butanol	(10000 µg/mL)
Isopropyl ether	(2000 µg/mL)		

Ethanol

M-8015B/5031-11 $ 25 / **1 x 1 mL**
10 mg/mL in Water

Methanol

M-8015B/5031-17 $ 20 / **1 x 1 mL**
10 mg/mL in Water

Pennsylvania DER - Gasoline Range Hydrocarbons

GRH-001S $ 25 / **1 x 1 mL**
GRH-001S-PAK *SAVE 20%* $ 100 / **5 x 1 mL**
1.0 mg/mL each in MeOH 10 comps.

Benzene
Ethylbenzene
Heptane
2-Methyl pentane
Toluene
1,2,4-Trimethylbenzene
2,2,4-Trimethylpentane
o-Xylene
m-Xylene
p-Xylene

Wisconsin DNR - Gasoline Range Hydrocarbons

GRH-003S $ 35 / **1 x 1 mL**
GRH-003S-PAK *SAVE 20%* $ 140 / **5 x 1 mL**
2.0 mg/mL each in MeOH 10 comps.

Benzene
Ethylbenzene
MtBE
Naphthalene
Toluene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
o-Xylene
m-Xylene
p-Xylene

Diesel Range Hydrocarbon Analysis

EPA Method - Diesel Range Hydrocarbons

DRH-001S — $ 20 / **1 x 1 mL**
0.2 mg/mL each in CH_2Cl_2 : Hexane (1:1) — 10 comps.
DRH-001S-10X — $ 30 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 : Hexane (1:1) — 10 comps.

n-Decane	C_{10}	*n*-Hexadecane	C_{16}	*n*-Docosane	C_{22}	*n*-Hexacosane	C_{26}
n-Dodecane	C_{12}	*n*-Octadecane	C_{18}	*n*-Tetracosane	C_{24}	*n*-Octacosane	C_{28}
n-Tetradecane	C_{14}	*n*-Eicosane	C_{20}				

Surrogate Standard

GRH-SS — $ 17 / **1 x 1 mL**
GRH-SS-PAK — *SAVE 20%* $ 68 / **5 x 1 mL**
2.0 mg/mL in Acetone

o-Terphenyl *(OTP)*

Internal Standard

GRH-IS — $ 15 / **1 x 1 mL**
GRH-IS-PAK — *SAVE 20%* $ 60 / **5 x 1 mL**
1.0 mg/mL in CH_2Cl_2

5-alpha Androstane

Calibration/Window Defining Hydrocarbon Standard

DRH-004S-R1-5X — $ 50 / **1 x 1 mL**
DRH-004S-R1-5X-PAK — *SAVE 20%* $ 200 / **5 x 1 mL**
1.0 mg/mL each in Chloroform — 17 comps.

Octane	C_8	Octadecane	C_{18}	Hexacosane	C_{26}	Tetratriacontane	C_{34}
Decane	C_{10}	Eicosane	C_{20}	Octacosane	C_{28}	Hexatriacontane	C_{36}
Dodecane	C_{12}	Docosane	C_{22}	Triacontane	C_{30}	Octatriacontane	C_{38}
Tetradecane	C_{14}	Tetracosane	C_{24}	Dotriacontane	C_{32}	Tetracontane	C_{40}
Hexadecane	C_{16}						

Surrogate Standard

DRH-SS — $ 30 / **1 x 1 mL**
DRH-SS-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
5.0 mg/mL in THF

n-Triacontane-d_{62}

D-2887 Calibration Solution

Calibration Solution

DRH-002S — $ 45 / **1 x 1 mL**
At stated conc. in CS_2 — 17 comps.

Hexane	(600 µg/mL)	Dodecane	(1,200 µg/mL)	Octacosane	(100 µg/mL)
Heptane	(600 µg/mL)	Tetradecane	(1,200 µg/mL)	Dotriacontane	(100 µg/mL)
Octane	(800 µg/mL)	Hexadecane	(1,000 µg/mL)	Hexatriacontane	(100 µg/mL)
Nonane	(800 µg/mL)	Octadecane	(500 µg/mL)	Tetracontane	(100 µg/mL)
Decane	(1,200 µg/mL)	Eicosane	(200 µg/mL)	Tetratetracontane	(100 µg/mL)
Undecane	(1,200 µg/mL)	Tetracosane	(200 µg/mL)		

Column Test Mixture

ASTM-D2887 — $ 10 / **1 x 1 mL**
1% v/v in n-Octane — 2 comps.

n-Hexadecane *n*-Octadecane

Wisconsin Diesel Range Hydrocarbons

DRH-003S — $ 20 / **1 x 1 mL**
0.2 mg/mL each in Hexane — 11 comps.

n-Decane	C_{10}	*n*-Tetradecane	C_{14}	*n*-Octadecane	C_{18}
n-Undecane	C_{11}	*n*-Pentadecane	C_{15}	*n*-Nonadecane	C_{19}
n-Dodecane	C_{12}	*n*-Hexadecane	C_{16}	*n*-Eicosane	C_{20}
n-Tridecane	C_{13}	*n*-Heptadecane	C_{17}		

Complete Hydrocarbon Analysis

Multi-State Hydrocarbon Window Defining Standard

DRH-008S-R2 — $ 65 / **1 x 1 mL**
DRH-008S-R2-PAK — *SAVE 20%* $ 260 / **5 x 1 mL**
500 µg/mL each in Chloroform — 35 comps.

Octane	Heptadecane	Tetracosane	Tritriacontane
Nonane	Pristane	Pentacosane	Tetratriacontane
Decane	Octadecane	Hexacosane	Pentatriacontane
Undecane	Phytane	Heptacosane	Hexatriacontane
Dodecane	Nonadecane	Octacosane	Heptatriacontane
Tridecane	Eicosane	Nonacosane	Octatriacontane
Tetradecane	Heneicosane	Triacontane	Nonatriacontane
Pentadecane	Docosane	*n*-Hentriacontane	Tetracontane
Hexadecane	Tricosane	Dotriacontane	

Technical Note

We offer a hydrocarbon window defining standard with the C_8 to C_{40} odd and even Alkanes. Use of this one standard should meet the numerous state to state variations for hydrocarbon validation and reporting. As an added benefit pristane and phytane are included in the formulation. This one standard can meet numerous LUFT/LUST programs requiring that the C_{17}/ pristane and C_{18}/ phytane ratio be used to estimate subsurface degradation of fuel oil spills.

A fuel oil degradation mixture containing just the four required analytes to determine the C_{17}/pristane and C_{18}/ phytane ratio (DRH-005S-10X) is also available.

Fuel Oil Degradation/Retention Time Mixture for Quantification of C_{17}/Pristane and C_{18}/Phytane Ratios

DRH-005S-10X — $ 20 / **1 x 1 mL**
2.0 mg/mL each in CH_2Cl_2 : CS_2 (1:1) — 4 comps.

Heptadecane	Phytane *(2,6,10,14-Tetramethylhexadecane)*
Octadecane	Pristane *(2,6,10,14-Tetramethylpentadecane)*

Hydrocarbon Window Defining Standard Set

DRH-FTRPH-SET — $ 80 / **2 x 1 mL** **(DRH-FTRPH, DRH-FTRPH2)**
DRH-FTRPH-SET-PAK — *SAVE 20%* $ 320 / **5 (2 x 1 mL)**
500 µg/mL each in Hexane

FTRPH Calibration/Window Defining Standard

DRH-FTRPH — $ 35 / **1 x 1 mL**
DRH-FTRPH-PAK — *SAVE 20%* $ 140 / **5 x 1 mL**
500 µg/mL each in Hexane — 17 comps.

n-Octane	*n*-Octadecane	*n*-Hexacosane	*n*-Tetratriacontane
n-Decane	*n*-Eicosane	*n*-Octacosane	*n*-Hexatriacontane
n-Dodecane	*n*-Docosane	*n*-Triacontane	*n*-Octatriacontane
n-Tetradecane	*n*-Tetracosane	*n*-Dotriacontane	*n*-Tetracontane
n-Hexadecane			

Hydrocarbon Window Defining Standard

DRH-FTRPH2 — $ 60 / **1 x 1 mL**
DRH-FTRPH2-PAK — *SAVE 20%* $ 240 / **5 x 1 mL**
500 µg/mL each in Hexane — 18 comps.

n-Nonane	Pristane	*n*-Pentacosane	*n*-Tritriacontane
n-Undecane	Phytane	*n*-Heptacosane	*n*-Pentatriacontane
n-Tridecane	*n*-Nonadecane	*n*-Nonacosane	*n*-Heptatriacontane
n-Pentadecane	*n*-Heneicosane	*n*-Hentriacontane	*n*-Nonatriacontane
n-Heptadecane	*n*-Tricosane		

LUFT/LUST Standards

Oil, Grease & TPH (Method 1664, 413.2/418.1 & 8440) Weathered Fuel Sets

Method 1664 Oil, Grease & Total Petroleum Hydrocarbon Determination

Precision and Recovery (PAR) Spiking Solution

M-1664-5ML — $ 15 / **1 x 5 mL**
M-1664-5ML-PAK — *SAVE 20%* $ 60 / **5 x 5 mL**
4.0 mg/mL each in Acetone
M-1664-20ML — $ 25 / **1 x 20 mL**
M-1664-20ML-PAK — *SAVE 20%* $ 100 / **5 x 20 mL**
4.0 mg/mL each in Acetone — 2 comps.

Hexadecane, Stearic acid

Silica Gel Hexane Extraction Material

NEW

SGT-HEM — $ 15 / **1 x 1 mL**
20 µg/mL each in Acetone — 2 comps.

Stearic acid, Hexadecane

Technical Note

Precison and Recovery (PAR) Spiking Solution was developed for Method 1664. This performance based method was developed to replace previous gravimetric procedures which incorporated Freon-113 as the extraction solvent for the determination of Oil and Grease and Total Petroleum Hydrocarbons. Each standard is packaged in a flame sealed ampule conveniently sized for quality control of the analytical batch.

Method 413.2 & 418.1 Total Petroleum Hydrocarbon Analysis by IR

Oil, Grease & Petroleum Hydrocarbon Concentrates Mix

M-418-CON — $ 35 / **1 x 1 mL**
% by volume — 3 comps.

Chlorobenzene	(25.0)	Hexadecane	(37.5)
Isooctane	(37.5)		

Oil, Grease and Petroleum Hydrocarbon Total Recoverable (IR Method)

M-418 — $ 30 / **1 x 1 mL**
M-418-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
Total 4.15 mg/mL in Freon 113, (Parts by volume) — 3 comps.

Chlorobenzene	(10.0)	Isooctane	(15.0)
n-Hexadecane	(15.0)		

Method 8440 Total Petroleum Hydrocarbon Analysis

Total Recoverable Petroleum Hydrocarbon Mix

M-8440 — $ 20 / **1 x 1 mL**
M-8440-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
At stated conc. in Tetrachloroethene — 3 comps.

Chlorobenzene	(0.10 w/w %)	Isooctane	(0.15 w/w %)
n-Hexadecane	(0.15 w/w %)		

Silica Gel Cleanup Calibration Solution

M-8440-SGC — $ 10 / **1 x 1 mL**
M-8440-SGC-PAK — *SAVE 20%* $ 40 / **5 x 1 mL**
10.0 mg/mL in Tetrachloroethene

Corn Oil

Total Petroleum Hydrocarbon Concentrate Mix

M-8440-CON — $ 30 / **1 x 1 mL**
M-8440-CON-PAK — *SAVE 20%* $ 120 / **5 x 1 mL**
3 comps.

Chlorobenzene	(25.0 vol %)	Isooctane	(37.5 vol %)
n-Hexadecane	(37.5 vol %)		

Leaking Underground Storage Tank Retention Time Standard

This product can be used to screen a sample to determine what type of petroleum spill that may have caused the contamination.

Retention Time Standard

DRH-010S — $ 20 / **1 x 1 mL**
DRH-010S-PAK — *SAVE 20%* $ 80 / **5 x 1 mL**
25 µg/mL each in CH_2Cl_2 — 7 comps.

n-Hexane	*n*-Tetracosane	*n*-Triacontane
n-Decane	*n*-Octacosane	*n*-Tetracontane
n-Dodecane		

Technical Note

A sample showing peaks in the C_6-C_{10} range generally indicates a gasoline spill. Samples with the peaks in the C_{24}-C_{12} range are indicative of a diesel spill while samples with the higher carbon numbers above C_{24} are typically oils or lubricants. Once the initial screen is complete, more detailed work can be done to further identify the contaminant.

Standards of Interest

See our Weathered LUFT/LUST Fuel Set in the Fuel and Hydrocarbon Section.

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Wear Metals

AA, ICP, DCP & XRF Analysis

These Standards were formulated for the analysis of metals in oils and other organic matrices. These Standards and curves provide a convenient way to analyze for metals (wear metals, additives and contaminants) in lubricating oils, gasolines, residual oils, crude oils, turbine fuels and environmental samples. All standards undergo rigorous quality assurance checks. Major constituents in the final Standard are typically analyzed by both plasma emission and rotrode techniques. Organometallic Standards listed on this page may contain sulfur which can be introduced by possible sulfonate starting materials used to formulate the actual organometallic standard. We developed a Premium Organometallic line for preferring to have organometallic standards with <1 ppm sulfur or phosphorous (see Table of Contents).

- Single & Multi Element Standards
- Prepared Calibration Curves
- Formulated from Ultra High Purity Organometallic Starting materials & matrices
- Certificate of Analysis

Single Element Wear Metals

Organometallic ICP/XRF

Element	1000 µg/g in 75 cSt base oil Cat. No. (50 g)	Price	5000 µg/g in 75 cSt base oil Cat. No. (50 g)	Price
Al (Aluminum)	WM-75CST-01	$ 38	WM-75CST-01-5X	$ 48
Sb (Antimony)	WM-75CST-02	38	WM-75CST-02-5X	48
As (Arsenic)	WM-75CST-03	44	----------	----
Ba (Barium)	WM-75CST-04	38	WM-75CST-04-5X	48
Be (Beryllium) ***NEW***	WM-75CST-05	41	----------	----
Bi (Bismuth)	WM-75CST-06	38	WM-75CST-06-5X	48
B (Boron)	WM-75CST-07	38	WM-75CST-07-5X	48
Cd (Cadmium)	WM-75CST-08	38	WM-75CST-08-5X	48
Ca (Calcium)	WM-75CST-09	38	WM-75CST-09-5X	48
Cr (Chromium)	WM-75CST-13	38	WM-75CST-13-5X	48
Co (Cobalt) ***NEW***	WM-75CST-14	38	WM-75CST-14-5X	48
Cu (Copper)	WM-75CST-15	38	WM-75CST-15-5X	48
Fe (Iron)	WM-75CST-27	38	WM-75CST-27-5X	48
La (Lanthanum) ***NEW***	WM-75CST-28	44	----------	----
Pb (Lead)	WM-75CST-29	38	WM-75CST-29-5X	48
Li (Lithium)	WM-75CST-30	38	WM-75CST-30-5X	48
Mg (Magnesium)	WM-75CST-32	38	WM-75CST-32-5X	48
Mn (Manganese)	WM-75CST-33	38	WM-75CST-33-5X	48
Hg (Mercury)	WM-75CST-34	44	----------	----
Mo (Molybdenum)	WM-75CST-35	38	WM-75CST-35-5X	48
Ni (Nickel)	WM-75CST-37	38	WM-75CST-37-5X	48
P (Phosphorous)	WM-75CST-41	38	WM-75CST-41-5X	48
K (Potassium)	WM-75CST-43	38	WM-75CST-43-5X	48
Sc (Scandium)	WM-75CST-50	65	----------	----
Se (Selenium) ***NEW***	WM-75CST-51	44	WM-75CST-51-5X	55
Si (Silicon)	WM-75CST-52	38	WM-75CST-52-5X	48
Ag (Silver)	WM-75CST-53	38	WM-75CST-53-5X	48
Na (Sodium)	WM-75CST-54	38	WM-75CST-54-5X	48
Sr (Strontium)	WM-75CST-55	38	----------	----
S (Sulfur) ***NEW***	WM-75CST-56	38	WM-75CST-56-5X	48
Tl (Thallium)	WM-75CST-60	44	----------	----
Sn (Tin)	WM-75CST-63	38	WM-75CST-63-5X	48
Ti (Titanium)	WM-75CST-64	38	WM-75CST-64-5X	48
V (Vanadium)	WM-75CST-67	38	WM-75CST-67-5X	48
Y (Yttrium) ***NEW***	WM-75CST-69	44	WM-75CST-69-5X	106
Zn (Zinc)	WM-75CST-70	38	WM-75CST-70-5X	48
Zn (Zirconium)	WM-75CST-71	38	WM-75CST-71-5X	48

Matrix Oil and Stabilizer

75 cSt Oil

MOSOL-75 $ 15 / **400 g**

Stabilizer

WM-STAB $ 95 / **1 x 50 g**

Technical Note

Used to improve the stability or Organo-metallic Standards when diluting into solvents such as Kerosene.

Metals Additives

Metals Additives Standard

MA-900-100G $ 114 / **100 g**
MA-900-200G $ 165 / **200 g**
900 µg/g each in Hydrocarbon oil
MA-1000-100G $ 149 / **100 g**
MA-1000-200G $ 251 / **200 g**
1000 µg/g each in Hydrocarbon oil
MA-3000-100G $ 295 / **100 g**
MA-3000-200G $ 471 / **200 g**
3000 µg/g each in Hydrocarbon oil
MA-5000-100G $ 424 / **100 g**
MA-5000-200G $ 685 / **200 g**
5000 µg/g each in Hydrocarbon oil

Ba (Barium)
Ca (Calcium)
Mg (Magnesium)
P (Phosphorous)
Zn (Zinc)

These products do not require Hazardous Shipping Fee at this time.

12 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 g	WM-12-1X-100G	$ 90
	200 g	WM-12-1X-200G	95
30 µg/g	100 g	WM-12-3X-100G	90
	200 g	WM-12-3X-200G	95
50 µg/g	100 g	WM-12-5X-100G	95
	200 g	WM-12-5X-200G	100
100 µg/g	100 g	WM-12-10X-100G	100
	200 g	WM-12-10X-200G	150
300 µg/g	100 g	WM-12-30X-100G	120
	200 g	WM-12-30X-200G	215
500 µg/g	100 g	WM-12-50X-100G	180
	200 g	WM-12-50X-200G	310
900 µg/g	100 g	WM-12-90X-100G	250
	200 g	WM-12-90X-200G	445
	100 gram Set	WM-12-100G-SET set of above 7 x 100 g	$ 825
	200 gram Set	WM-12-200G-SET set of above 7 x 200 g	$ 1250

Each Wear Metal Standard contains 12 elements listed below of hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Na (Sodium)
Ni (Nickel)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)

21 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 g	WM-21-1X-100G	$ 95
	200 g	WM-21-1X-200G	100
30 µg/g	100 g	WM-21-3X-100G	95
	200 g	WM-21-3X-200G	100
50 µg/g	100 g	WM-21-5X-100G	100
	200 g	WM-21-5X-200G	105
100 µg/g	100 g	WM-21-10X-100G	105
	200 g	WM-21-10X-200G	160
300 µg/g	100 g	WM-21-30X-100G	170
	200 g	WM-21-30X-200G	310
500 µg/g	100 g	WM-21-50X-100G	245
	200 g	WM-21-50X-200G	445
900 µg/g	100 g	WM-21-90X-100G	380
	200 g	WM-21-90X-200G	675
	100 gram Set	WM-21-100G-SET set of above 7 x 100 g	$ 1050
	200 gram Set	WM-21-200G-SET set of above 7 x 200 g	$ 1700

Each Wear Metal Standard contains 21 elements listed below of hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
B (Boron)
Ba (Barium)
Ca (Calcium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Mn (Manganese)
Mo (Molybdenum)
Na (Sodium)
Ni (Nickel)
P (Phosphorus)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)
V (Vanadium)
Zn (Zinc)

NEW

22 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 g	WM-22-1X-100G	$ 115
	200 g	WM-22-1X-200G	120
30 µg/g	100 g	WM-22-3X-100G	115
	200 g	WM-22-3X-200G	120
50 µg/g	100 g	WM-22-5X-100G	120
	200 g	WM-22-5X-200G	125
100 µg/g	100 g	WM-22-10X-100G	125
	200 g	WM-22-10X-200G	145
300 µg/g	100 g	WM-22-30X-100G	190
	200 g	WM-22-30X-200G	340
500 µg/g	100 g	WM-22-50X-100G	275
	200 g	WM-22-50X-200G	485
900 µg/g	100 g	WM-22-90X-100G	420
	200 g	WM-22-90X-200G	725
	100 gram Set	WM-22-100G-SET set of above 7 x 100 g	$ 1225
	200 gram Set	WM-22-200G-SET set of above 7 x 200 g	$ 1850

Each Wear Metal Standard contains 22 elements listed below of hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
B (Boron)
Ba (Barium)
Ca (Calcium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
K (Potassium)
Mg (Magnesium)
Mn (Manganese)
Mo (Molybdenum)
Na (Sodium)
Ni (Nickel)
P (Phosphorus)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)
V (Vanadium)
Zn (Zinc)

NEW

23 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 g	WM-23-1X-100G	$ 135
	200 g	WM-23-1X-200G	140
30 µg/g	100 g	WM-23-3X-100G	135
	200 g	WM-23-3X-200G	140
50 µg/g	100 g	WM-23-5X-100G	140
	200 g	WM-23-5X-200G	145
100 µg/g	100 g	WM-23-10X-100G	145
	200 g	WM-23-10X-200G	165
300 µg/g	100 g	WM-23-30X-100G	210
	200 g	WM-23-30X-200G	395
500 µg/g	100 g	WM-23-50X-100G	305
	200 g	WM-23-50X-200G	525
900 µg/g	100 g	WM-23-90X-100G	495
	200 g	WM-23-90X-200G	765
	100 gram Set	WM-23-100G-SET set of above 7 x 100 g	$ 1400
	200 gram Set	WM-23-200G-SET set of above 7 x 200 g	$ 2025

Each Wear Metal Standard contains 23 elements listed below of hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
B (Boron)
Ba (Barium)
Ca (Calcium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
K (Potassium)
Mg (Magnesium)
Mn (Manganese)
Mo (Molybdenum)
Na (Sodium)
Ni (Nickel)
P (Phosphorus)
Pb (Lead)
Sb (Antimomy)
Si (Silicon)
Sn (Tin)
Ti (Titanium)
V (Vanadium)
Zn (Zinc)

See our BioFuel Standards in the Petrochemical Section of this Catalog for Wear Metals in BioFuels.

These products do not require Hazardous Shipping fee at this time.

Wear Metals

Premium Sulfur-Free

- Highly Concentrated Liquid Organometallic Standards
- Stabilized
- Sulfur/Phosphorous free (< 1 ppm)
- Ready for Use

Organometallic Single Element Stock Standards

Sulfur free Element	@ 1000 µg/g Cat. No.	Price 50 mL	@ 5000 µg/g Cat. No.	Price 50 mL
Al (Aluminum)	WM-NMS-01	$ 55	WM-NMS-01-5X	$ 72
Sb (Antimony)	WM-NMS-02	55	WM-NMS-02-5X	72
As (Arsenic) ***NEW***	WM-NMS-03	55	WM-NMS-03-5X	72
Ba (Barium)	WM-NMS-04	55	WM-NMS-04-5X	72
Be (Beryllium) ***NEW***	WM-NMS-05	69	WM-NMS-05-5X	118
Cd (Cadmium)	WM-NMS-08	55	WM-NMS-08-5X	72
Ca (Calcium)	WM-NMS-09	55	WM-NMS-09-5X	72
Ce (Cerium) ***NEW***	WM-NMS-11	55	WM-NMS-11-5X	72
Cr (Chromium)	WM-NMS-13	44	WM-NMS-13-5X	58
Co (Cobalt)	WM-NMS-14	44	WM-NMS-14-5X	58
Cu (Copper)	WM-NMS-15	44	WM-NMS-15-5X	58
Ga (Gallium) ***NEW***	WM-NMS-20	72	WM-NMS-20-5X	142
Au (Gold) ***NEW***	WM-NMS-22	111	----------	----
Fe (Iron)	WM-NMS-27	55	WM-NMS-27-5X	72
Pb (Lead)	WM-NMS-29	55	WM-NMS-29-5X	72
Li (Lithium) ***NEW***	WM-NMS-30	72	WM-NMS-30-5X	124
Mg (Magnesium)	WM-NMS-32	55	WM-NMS-32-5X	72
Mn (Manganese)	WM-NMS-33	55	WM-NMS-33-5X	72
Hg (Mercury) ***NEW***	WM-NMS-34	62	WM-NMS-34-5X	110
Mo (Molybdenum)	WM-NMS-35	62	WM-NMS-35-5X	110
Ni (Nickel)	WM-NMS-37	55	WM-NMS-37-5X	72
P (Phosphorous)	WM-NMS-41	55	WM-NMS-41-5X	72
K (Potassium)	WM-NMS-43	55	WM-NMS-43-5X	72
Se (Selenium)	WM-NMS-51	55	WM-NMS-51-5X	72
Si (Silicon)	WM-NMS-52	72	WM-NMS-52-5X	124
Ag (Silver) ***NEW***	WM-NMS-53	72	WM-NMS-53-5X	124
Na (Sodium)	WM-NMS-54	55	WM-NMS-54-5X	72
Sr (Strontium)	WM-NMS-55	55	WM-NMS-55-5X	72
Tl (Thallium)	WM-NMS-60	55	WM-NMS-60-5X	72
Sn (Tin) ***NEW***	WM-NMS-63	55	WM-NMS-63-5X	72
Ti (Titanium)	WM-NMS-64	55	WM-NMS-64-5X	72
V (Vanadium)	WM-NMS-67	55	WM-NMS-67-5X	72
Y (Yttrium)	WM-NMS-69	60	WM-NMS-69-5X	105
Zn (Zinc)	WM-NMS-70	55	WM-NMS-70-5X	72
Zr (Zirconium)	WM-NMS-71	55	WM-NMS-71-5X	72

Stabilization Solutions

The solutions were specifically designed for chelating & solubilizing our line of Sulfur-Free Organometallic Standards. Contact Tech Service for additional information.

Premium Sulfur-Free

Sulfur below detection limits

Stabilizer Solution A

ASTM-P-0122-0.5 $ 80 / **50 mL**
ASTM-P-0122-1 $ 120 / **100 mL**

Stabilizer Solution B

ASTM-P-0123-0.5 $ 80 / **50 mL**
ASTM-P-0123-1 $ 120 / **100 mL**

Stabilizer Solution C

ASTM-P-0124-0.5 $ 80 / **50 mL**
ASTM-P-0124-1 $ 120 / **100 mL**

Stabilizer Solution D

ASTM-P-0125-0.5 $ 80 / **50 mL**
ASTM-P-0125-1 $ 120 / **100 mL**

Contains No Metallic Sulfonates

These highly concentrated stabilized solutions can be used for customer specific formulations of additive elements in lubricating oils, iron, nickel and vanadium in residual oil, and wear metals in oils. These organometallic solutions can also be used to prepare single element or multi-element standards for plasma emission (ICP or DCP), rotating disk (rotrode), or atomic absorption spectroscopy (AA). The starting materials are PURE REAGENTS and have been certified against NIST SRM's whenever available. **THEY DO NOT CONTAIN PHOSPHORUS OR SULFUR.**

Organometallic Single Element Concentrates

Element	Conc. (Wt. %)	Cat. No.	Price / 25 grams	Cat. No.	Price / 50 grams
Al (Aluminum)	3	WM-NMS-01-30X-25G	$ 178	WM-NMS-01-30X-50G	$ 261
Sb (Antimony) ***NEW***	2	WM-NMS-02-20X-25G	122	WM-NMS-02-20X-50G	183
Ba (Barium)	12.5	WM-NMS-04-125X-25G	540	WM-NMS-04-125X-50G	780
Cd (Cadmium)	10	WM-NMS-08-100X-25G	510	WM-NMS-08-100X-50G	710
Ca (Calcium)	5	WM-NMS-09-50X-25G	272	WM-NMS-09-50X-50G	422
Ce (Cerium) ***NEW***	5	WM-NMS-11-50X-25G	272	WM-NMS-11-50X-50G	422
Cr (Chromium)	3.5	WM-NMS-13-35X-25G	194	WM-NMS-13-35X-50G	299
Co (Cobalt)	7.5	WM-NMS-14-75X-25G	422	WM-NMS-14-75X-50G	577
Cu (Copper)	6	WM-NMS-15-60X-25G	344	WM-NMS-15-60X-50G	516
Fe (Iron)	4	WM-NMS-27-40X-25G	239	WM-NMS-27-40X-50G	361
Pb (Lead)	20	WM-NMS-29-200X-25G	900	WM-NMS-29-200X-50G	1260
Li (Lithium) ***NEW***	1.5	WM-NMS-30-15X-25G	155	WM-NMS-30-15X-50G	239
Mg (Magnesium422)	3	WM-NMS-32-30X-25G	180	WM-NMS-32-30X-50G	278
Mn (Manganese)	6	WM-NMS-33-60X-25G	333	WM-NMS-33-60X-50G	505
Mo (Molybdenum)	5	WM-NMS-35-50X-25G	272	WM-NMS-35-50X-50G	422
Ni (Nickel)	5	WM-NMS-37-50X-25G	272	WM-NMS-37-50X-50G	422
P (Phosphorus)	5	WM-NMS-41-50X-25G	272	WM-NMS-41-50X-50G	422
K (Potassium) ***NEW***	7.5	WM-NMS-43-75X-25G	422	WM-NMS-43-75X-50G	577
Pr (Praseodymium)	3	WM-NMS-44-30X-25G	175	WM-NMS-44-30X-50G	240
Se (Selenium)	3.5	WM-NMS-51-35X-25G	200	WM-NMS-51-35X-50G	270
Si (Silicon) ***NEW***	7.5	WM-NMS-52-75X-25G	383	WM-NMS-52-75X-50G	528
Na (Sodium) ***NEW***	2.5	WM-NMS-54-25X-25G	180	WM-NMS-54-25X-50G	278
Sr (Strontium)	10	WM-NMS-55-100X-25G	510	WM-NMS-55-100X-50G	710
Tl (Thallium)	5	WM-NMS-60-50X-25G	272	WM-NMS-60-50X-50G	422
Sn (Tin) ***NEW***	7.5	WM-NMS-63-75X-25G	422	WM-NMS-63-75X-50G	577
Ti (Titanium)	5	WM-NMS-64-50X-25G	272	WM-NMS-64-50X-50G	422
V (Vanadium)	4	WM-NMS-67-40X-25G	239	WM-NMS-67-40X-50G	361
Y (Yttrium) ***NEW***	2.5	WM-NMS-69-25X-25G	180	WM-NMS-69-25X-50G	278
Zn (Zinc)	6	WM-NMS-70-60X-25G	306	WM-NMS-70-60X-50G	461
Zr (Zirconium)	5	WM-NMS-71-50X-25G	272	WM-NMS-71-50X-50G	422

Technical Note

These standards are **sulfur free** (below detection limits) **organometallic standards** for X-ray Fluorescence (XRF), plasma emission (ICP or DCP), rotating disk (rotrode), or atomic absorption (AA). They are stabilized for blending together with other Analytes to prepare multi-element standards.

11 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 mL	WM-11-NMS-1X-1	$ 130
30 µg/g	100 mL	WM-11-NMS-3X-1	130
50 µg/g	100 mL	WM-11-NMS-5X-1	130
100 µg/g	100 mL	WM-11-NMS-10X-1	140
300 µg/g	100 mL	WM-11-NMS-30X-1	165
500 µg/g	100 mL	WM-11-NMS-50X-1	245
900 µg/g	100 mL	WM-11-NMS-90X-1	325
	100 mL Set	**WM-11-NMS-1-SET** set of above 7 x 100 mL	**$ 1100**

Each Wear Metal Standard contains 11 elements listed below of hydrocarbon oil at the stated concentration.

Al (Aluminum)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Na (Sodium)
Ni (Nickel)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)

12 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 mL	WM-12-NMS-1X-1	$ 135
30 µg/g	100 mL	WM-12-NMS-3X-1	135
50 µg/g	100 mL	WM-12-NMS-5X-1	135
100 µg/g	100 mL	WM-12-NMS-10X-1	145
300 µg/g	100 mL	WM-12-NMS-30X-1	170
500 µg/g	100 mL	WM-12-NMS-50X-1	250
900 µg/g	100 mL	WM-12-NMS-90X-1	375
	100 mL Set	**WM-12-NMS-1-SET** set of above 7 x 100 mL	**$ 1175**

Each Wear Metal Standard contains 12 elements listed below of hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Na (Sodium)
Ni (Nickel)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)

Contains No Metallic Sulfonates

Premium Sulfur-Free

Sulfur below detection limits

20 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 mL	WM-20-NMS-1X-1	$ 150
30 µg/g	100 mL	WM-20-NMS-3X-1	150
50 µg/g	100 mL	WM-20-NMS-5X-1	150
100 µg/g	100 mL	WM-20-NMS-10X-1	170
300 µg/g	100 mL	WM-20-NMS-30X-1	230
500 µg/g	100 mL	WM-20-NMS-50X-1	350
900 µg/g	100 mL	WM-20-NMS-90X-1	500
	100 mL Set	**WM-20-NMS-1-SET** set of above 7 x 100 mL	**$ 1450**

Each Wear Metal Standard contains 20 elements listed below of hydrocarbon oil at the stated concentration.

Al (Aluminum)
B (Boron)
Ba (Barium)
Ca (Calcium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Mn (Manganese)
Mo (Molybdenum)
Na (Sodium)
Ni (Nickel)
P (Phosphorus)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)
V (Vanadium)
Zn (Zinc)

21 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 mL	WM-21-NMS-1X-1	$ 160
30 µg/g	100 mL	WM-21-NMS-3X-1	160
50 µg/g	100 mL	WM-21-NMS-5X-1	160
100 µg/g	100 mL	WM-21-NMS-10X-1	180
300 µg/g	100 mL	WM-21-NMS-30X-1	240
500 µg/g	100 mL	WM-21-NMS-50X-1	350
900 µg/g	100 mL	WM-21-NMS-50X-1	550
	100 mL Set	**WM-21-NMS-1-SET** set of above 7 x 100 mL	**$ 1550**

Each Wear Metal Standard contains 21 elements listed below of hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
B (Boron)
Ba (Barium)
Ca (Calcium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Mn (Manganese)
Mo (Molybdenum)
Na (Sodium)
Ni (Nickel)
P (Phosphorus)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)
V (Vanadium)
Zn (Zinc)

Recommended Internal Standard

Organometallic (Internal Standard) Sulfur free

	Conc.	Cat. No.	Price / 50 mL
Cobalt	1000 µg/g	WM-NMS-14	$ 44
	5000 µg/g	WM-NMS-14-5X	$ 58

These products do not require Hazardous Shipping fee at this time.

Sulfur and Metals in Oil

Sulfur and Metals in Mineral Oil

ASTM-P-0100-SET $ 1650 / **12 x 100 mL**

Cat. No.	Sulfur (Wt. %)	Nickel (µg/g)	Vanadium (µg/g)	100 mL Price
ASTM-P-0100-01	0.00	0	0	$ 200
ASTM-P-0100-02	0.50	10	500	200
ASTM-P-0100-03	1.00	100	25	200
ASTM-P-0100-04	1.50	80	250	200
ASTM-P-0100-05	2.00	40	100	200
ASTM-P-0100-06	2.50	5	400	200
ASTM-P-0100-07	3.00	60	300	200
ASTM-P-0100-08	3.50	0	200	200
ASTM-P-0100-09	4.00	100	0	200
ASTM-P-0100-10	4.50	50	250	200
ASTM-P-0100-11	5.00	20	500	200
ASTM-P-0100-12	5.50	100	50	200

Sulfur and Metals in Residual Fuel Oil

ASTM-P-0101-SET $ 1800 / **12 x 100 mL**

Cat. No.	Sulfur (Wt. %)	Nickel (µg/g)	Vanadium (µg/g)	100 mL Price
ASTM-P-0101-01	0.00	0	0	$ 200
ASTM-P-0101-02	0.50	10	500	200
ASTM-P-0101-03	1.00	100	25	200
ASTM-P-0101-04	1.50	80	250	200
ASTM-P-0101-05	2.00	40	100	200
ASTM-P-0101-06	2.50	5	400	200
ASTM-P-0101-07	3.00	60	300	200
ASTM-P-0101-08	3.50	0	200	200
ASTM-P-0101-09	4.00	100	0	200
ASTM-P-0101-10	4.50	50	250	200
ASTM-P-0101-11	5.00	20	500	200
ASTM-P-0101-12	5.50	100	50	200

Test Method A - ICP with an Organic Solvent Specimen Solution

Sulfur and Metals in Mineral Oil

Designed for ASTM D5708

ASTM-P-0102-SET $ 1850 / **12 x 100 mL**

Cat. No.	Sulfur (Wt. %)	Iron (µg/g)	Nickel (µg/g)	Vanadium (µg/g)	100 mL Price
ASTM-P-0102-01	0.00	0	0	0	$ 200
ASTM-P-0102-02	0.50	300	10	500	200
ASTM-P-0102-03	1.00	500	100	25	200
ASTM-P-0102-04	-----	100	80	250	200
ASTM-P-0102-05	2.00	200	40	100	200
ASTM-P-0102-06	2.50	400	5	400	200
ASTM-P-0102-07	3.00	0	60	300	200
ASTM-P-0102-08	3.50	500	0	200	200
ASTM-P-0102-09	-----	100	100	0	200
ASTM-P-0102-10	4.50	300	50	250	200
ASTM-P-0102-11	5.00	200	20	500	200
ASTM-P-0102-12	5.50	50	100	50	200

Sulfur and Metals in Residual Fuel Oil

Designed for ASTM D5708

ASTM-P-0103-SET $ 2100 / **12 x 100 mL**

Cat. No.	Sulfur (Wt. %)	Iron (µg/g)	Nickel (µg/g)	Vanadium (µg/g)	100 mL Price
ASTM-P-0103-01	0.00	0	0	0	$ 200
ASTM-P-0103-02	0.50	300	10	500	200
ASTM-P-0103-03	1.00	500	100	25	200
ASTM-P-0103-04	-----	100	80	250	200
ASTM-P-0103-05	2.00	200	40	100	200
ASTM-P-0103-06	2.50	400	5	400	200
ASTM-P-0103-07	3.00	0	60	300	200
ASTM-P-0103-08	3.50	500	0	200	200
ASTM-P-0103-09	-----	100	100	0	200
ASTM-P-0103-10	4.50	300	50	250	200
ASTM-P-0103-11	5.00	200	20	500	200
ASTM-P-0103-12	5.50	50	100	50	200

After Acid Decomposition of Sample

Stock Multi-Element in Mineral Oil

D-5708-A-10X $ 150 / **100 mL**
100 µg/g in 20 cSt mineral oil 3 comps.

Iron, Nickel, Vanadium

Nitric Acid Blank

CLP-BLN-5 Δ $ 30 / **500 mL**
CLP-BLN-L-VAP Δ $ 45 / **1 L** (2 x 500 mL)

5% HNO_3 in ASTM Type I Water

Working Level Multi-Element Aqueous Standard

D-5708-B-5 Δ $ 105 / **500 mL**
10 µg/mL each in 2-5% HNO_3 3 comps.

Iron, Nickel, Vanadium

Stock Multi-Element Aqueous Standard

D-5708-B-10X-1 Δ $ 60 / **100 mL**
D-5708-B-10X-5 Δ $ 115 / **500 mL**
100 µg/mL each in 2-5% HNO_3 3 comps.

Iron, Nickel, Vanadium

Stock Multi-Element Aqueous Standard

D-5863-95A-10X-1 Δ $ 75 / **1 x 100 mL**
2-5% HNO_3 3 comps.

Iron	100	Vanadium	200
Nickel	200		

Stock Multi-Element Standard in Mineral Oil

D-5863-95B-10X $ 160 / **1 x 100 g**
At stated conc. (µg/g) in 20 cst Mineral Oil
3 comps.

Sodium	50	Vanadium	150
Nickel	200		

ISO/CD 14597 Vanadium and Nickel Standards with Manganese (Internal Standard)

Vanadium Standards - Low Range for ISO/CD 14597 with 0.05% Manganese Internal Standard in Xylene-Mineral Oil

ASTM-P-0104-SET $ 1050 / **9 x 100 mL**

Cat. No.	Vanadium Conc. (Wt.%)	Price 100 mL
ASTM-P-0104-01	0.0005	$ 150
ASTM-P-0104-02	0.0025	150
ASTM-P-0104-03	0.0050	150
ASTM-P-0104-04	0.0075	150
ASTM-P-0104-05	0.0100	150
ASTM-P-0104-06	0.0125	150
ASTM-P-0104-07	0.0150	150
ASTM-P-0104-08	0.0175	150
ASTM-P-0104-09	0.0200	150

Vanadium Standards - High Range for ISO/CD 14597 with 0.05% Manganese Internal Standard in Xylene-Mineral Oil

ASTM-P-0105-SET $ 780 / **7 x 100 mL**

Cat. No.	Vanadium Conc. (Wt.%)	Price 100 mL
ASTM-P-0105-01	0.0000	$ 135
ASTM-P-0105-02	0.0300	135
ASTM-P-0105-03	0.0400	135
ASTM-P-0105-04	0.0500	135
ASTM-P-0105-05	0.0600	135
ASTM-P-0105-06	0.0800	135
ASTM-P-0105-07	0.1000	135

Internal Standard

ASTM-P-0107-5 $ 235 / **500 mL**

Manganese @ 0.05 Wt. % in Xylene-Mineral Oil

Nickel Standards for ISO/CD 14597 with 0.05% Manganese Internal Standard in Xylene-Mineral Oil

ASTM-P-0106-SET $ 780 / **7 x 100 mL**

Cat. No.	Nickel Conc. (Wt.%)	Price 100 mL
ASTM-P-0106-01	0.0000	$ 135
ASTM-P-0106-02	0.0005	135
ASTM-P-0106-03	0.0010	135
ASTM-P-0106-04	0.0025	135
ASTM-P-0106-05	0.0050	135
ASTM-P-0106-06	0.0075	135
ASTM-P-0106-07	0.0100	135

Δ Requires a Hazardous Shipping Fee

Lubricating Oil Standards

ASTM-P-0108-SET $ 1900 / 17 x 100 mL

Designed for ASTM D6481

Cat. No. Nominal Value	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0108-01	0.600	0.005	0.175	0.060
ASTM-P-0108-02	0.500	0.200	0.050	0.080
ASTM-P-0108-03	0.400	0.150	0.300	0.180
ASTM-P-0108-04	0.260	0.250	0.150	0.120
ASTM-P-0108-05	0.005	0.005	0.450	0.070
ASTM-P-0108-06	0.400	0.025	0.350	0.100
ASTM-P-0108-07	0.300	0.060	0.250	0.120
ASTM-P-0108-08	0.200	0.100	0.450	0.100
ASTM-P-0108-09	0.060	0.080	0.300	0.130
ASTM-P-0108-10	0.060	0.050	0.200	0.050
ASTM-P-0108-11	0.050	0.120	0.100	0.075
ASTM-P-0108-12	0.025	0.150	0.200	0.130
ASTM-P-0108-13	0.005	0.200	0.400	0.150
ASTM-P-0108-14	0.170	0.250	0.550	0.110
ASTM-P-0108-15	0.100	0.100	0.200	0.200
ASTM-P-0108-16	0.010	0.010	0.600	0.250
ASTM-P-0108-17	0.000	0.000	0.000	0.000

ASTM-P-0109-SET $ 1600 / 17 x 100 mL

Cat. No. Nominal Value	Ca (Wt.%)	Cl (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0109-01	0.600	0.100	0.005	0.175	0.060
ASTM-P-0109-02	0.500	0.000	0.200	0.050	0.080
ASTM-P-0109-03	0.400	0.010	0.150	0.300	0.180
ASTM-P-0109-04	0.260	0.500	0.250	0.150	0.120
ASTM-P-0109-05	0.005	1.000	0.005	0.450	0.070
ASTM-P-0109-06	0.400	0.400	0.025	0.350	0.100
ASTM-P-0109-07	0.300	0.100	0.060	0.250	0.120
ASTM-P-0109-08	0.200	0.010	0.100	0.450	0.100
ASTM-P-0109-09	0.060	0.050	0.080	0.300	0.130
ASTM-P-0109-10	0.060	0.200	0.050	0.200	0.050
ASTM-P-0109-11	0.050	0.500	0.120	0.100	0.075
ASTM-P-0109-12	0.025	0.800	0.150	0.200	0.130
ASTM-P-0109-13	0.005	1.000	0.200	0.400	0.150
ASTM-P-0109-14	0.170	0.600	0.250	0.550	0.110
ASTM-P-0109-15	0.100	0.200	0.100	0.200	0.200
ASTM-P-0109-16	0.010	0.400	0.010	0.600	0.250
ASTM-P-0109-17	0.000	0.000	0.000	0.000	0.000

ASTM-P-0110-SET $ 2300 / 17 x 100 mL

Designed for ASTM D4927

Cat. No. Nominal Value	Ba (Wt.%)	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0110-01	0.100	0.600	0.005	0.175	0.060
ASTM-P-0110-02	0.175	0.500	0.200	0.050	0.080
ASTM-P-0110-03	0.000	0.400	0.150	0.300	0.180
ASTM-P-0110-04	0.025	0.260	0.250	0.150	0.120
ASTM-P-0110-05	0.150	0.005	0.005	0.450	0.070
ASTM-P-0110-06	0.000	0.400	0.025	0.350	0.100
ASTM-P-0110-07	0.200	0.300	0.060	0.250	0.120
ASTM-P-0110-08	0.000	0.200	0.100	0.450	0.100
ASTM-P-0110-09	0.100	0.060	0.080	0.300	0.130
ASTM-P-0110-10	0.050	0.060	0.050	0.200	0.050
ASTM-P-0110-11	0.075	0.050	0.120	0.100	0.075
ASTM-P-0110-12	0.010	0.025	0.150	0.200	0.130
ASTM-P-0110-13	0.005	0.005	0.200	0.400	0.150
ASTM-P-0110-14	0.000	0.170	0.250	0.550	0.110
ASTM-P-0110-15	0.000	0.100	0.100	0.200	0.200
ASTM-P-0110-16	0.005	0.010	0.010	0.600	0.250
ASTM-P-0110-17	0.000	0.000	0.000	0.000	0.000

ASTM-P-0111-SET $ 2800 / 17 x 100 mL

Designed for ASTM D4927

Cat. No. Nominal Value	Ba (Wt.%)	Ca (Wt.%)	Cl (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0111-01	0.100	0.600	0.100	0.005	0.175	0.060
ASTM-P-0111-02	0.175	0.500	0.000	0.200	0.050	0.080
ASTM-P-0111-03	0.000	0.400	0.010	0.150	0.300	0.180
ASTM-P-0111-04	0.025	0.260	0.500	0.250	0.150	0.120
ASTM-P-0111-05	0.150	0.005	1.000	0.005	0.450	0.070
ASTM-P-0111-06	0.000	0.400	0.400	0.025	0.350	0.100
ASTM-P-0111-07	0.200	0.300	0.100	0.060	0.250	0.120
ASTM-P-0111-08	0.000	0.200	0.010	0.100	0.450	0.100
ASTM-P-0111-09	0.100	0.060	0.050	0.080	0.300	0.130
ASTM-P-0111-10	0.050	0.060	0.200	0.050	0.200	0.050
ASTM-P-0111-11	0.075	0.050	0.500	0.120	0.100	0.075
ASTM-P-0111-12	0.010	0.025	0.800	0.150	0.200	0.130
ASTM-P-0111-13	0.005	0.005	1.000	0.200	0.400	0.150
ASTM-P-0111-14	0.000	0.170	0.600	0.250	0.550	0.110
ASTM-P-0111-15	0.000	0.100	0.200	0.100	0.200	0.200
ASTM-P-0111-16	0.005	0.010	0.400	0.010	0.600	0.250
ASTM-P-0111-17	0.000	0.000	0.000	0.000	0.000	0.000

ASTM-P-0112-SET $ 2300 / 17 x 100 mL

Cat. No. Nominal Value	Ca (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0112-01	0.600	0.100	0.005	0.175	0.060
ASTM-P-0112-02	0.500	0.150	0.200	0.050	0.080
ASTM-P-0112-03	0.400	0.350	0.150	0.300	0.180
ASTM-P-0112-04	0.260	0.225	0.250	0.150	0.120
ASTM-P-0112-05	0.005	0.450	0.005	0.450	0.070
ASTM-P-0112-06	0.400	0.500	0.025	0.350	0.100
ASTM-P-0112-07	0.300	0.325	0.060	0.250	0.120
ASTM-P-0112-08	0.200	0.250	0.100	0.450	0.100
ASTM-P-0112-09	0.060	0.100	0.080	0.300	0.130
ASTM-P-0112-10	0.060	0.400	0.050	0.200	0.050
ASTM-P-0112-11	0.050	0.300	0.120	0.100	0.075
ASTM-P-0112-12	0.025	0.200	0.150	0.200	0.130
ASTM-P-0112-13	0.005	0.375	0.200	0.400	0.150
ASTM-P-0112-14	0.170	0.175	0.250	0.550	0.110
ASTM-P-0112-15	0.100	0.425	0.100	0.200	0.200
ASTM-P-0112-16	0.010	0.275	0.010	0.600	0.250
ASTM-P-0112-17	0.000	0.000	0.000	0.000	0.000

ASTM-P-0113-SET $ 2850 / 17 x 100 mL

Designed for ASTM D4628 & D4927

Cat. No. Nominal Value	Ba (Wt.%)	Ca (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0113-01	0.025	0.600	0.100	0.005	0.175	0.060
ASTM-P-0113-02	0.000	0.500	0.150	0.200	0.050	0.080
ASTM-P-0113-03	0.100	0.400	0.350	0.150	0.300	0.180
ASTM-P-0113-04	0.175	0.260	0.225	0.250	0.150	0.120
ASTM-P-0113-05	0.150	0.005	0.450	0.005	0.450	0.070
ASTM-P-0113-06	0.000	0.400	0.500	0.025	0.350	0.100
ASTM-P-0113-07	0.100	0.300	0.325	0.060	0.250	0.120
ASTM-P-0113-08	0.200	0.200	0.250	0.100	0.450	0.100
ASTM-P-0113-09	0.050	0.060	0.100	0.080	0.300	0.130
ASTM-P-0113-10	0.075	0.060	0.400	0.050	0.200	0.050
ASTM-P-0113-11	0.010	0.050	0.300	0.120	0.100	0.075
ASTM-P-0113-12	0.000	0.025	0.200	0.150	0.200	0.130
ASTM-P-0113-13	0.175	0.005	0.375	0.200	0.400	0.150
ASTM-P-0113-14	0.005	0.170	0.175	0.250	0.550	0.110
ASTM-P-0113-15	0.000	0.100	0.425	0.100	0.200	0.200
ASTM-P-0113-16	0.005	0.010	0.275	0.010	0.600	0.250
ASTM-P-0113-17	0.000	0.000	0.000	0.000	0.000	0.000

These products do not require Hazardous Shipping Fees at this time.

Lubricating Oil Standards (Continued)

ASTM-P-0114-SET — $ 1900 / 17 x 100 mL

EDXRF ASTM Method — Designed for ASTM D6481

Cat. No. Nominal Value	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0114-01	0.005	0.005	0.050	0.050
ASTM-P-0114-02	0.600	0.000	0.000	0.000
ASTM-P-0114-03	0.000	0.300	0.000	0.000
ASTM-P-0114-04	1.000	0.000	1.000	0.000
ASTM-P-0114-05	0.000	0.000	0.000	0.300
ASTM-P-0114-06	0.005	0.250	0.800	0.300
ASTM-P-0114-07	0.500	0.150	0.500	0.150
ASTM-P-0114-08	0.010	0.200	0.100	0.250
ASTM-P-0114-09	0.050	0.010	0.400	0.075
ASTM-P-0114-10	0.100	0.150	0.200	0.200
ASTM-P-0114-11	0.200	0.200	0.800	0.100
ASTM-P-0114-12	0.400	0.005	0.800	0.300
ASTM-P-0114-13	0.600	0.100	0.500	0.050
ASTM-P-0114-14	0.800	0.010	0.050	0.100
ASTM-P-0114-15	1.000	0.300	1.000	0.150
ASTM-P-0114-16	0.400	0.050	0.600	0.250
ASTM-P-0114-17	0.000	0.000	0.000	0.000

ASTM-P-0115-SET — $ 2300 / 17 x 100 mL

Cat. No. Nominal Value	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)	Mg (Wt.%)
ASTM-P-0115-01	0.005	0.005	0.050	0.050	0.100
ASTM-P-0115-02	0.600	0.000	0.000	0.000	0.150
ASTM-P-0115-03	0.000	0.300	0.000	0.000	0.350
ASTM-P-0115-04	1.000	0.000	1.000	0.000	0.225
ASTM-P-0115-05	0.000	0.000	0.000	0.300	0.450
ASTM-P-0115-06	0.005	0.250	0.800	0.300	0.500
ASTM-P-0115-07	0.500	0.150	0.500	0.150	0.325
ASTM-P-0115-08	0.010	0.200	0.100	0.250	0.250
ASTM-P-0115-09	0.050	0.010	0.400	0.075	0.050
ASTM-P-0115-10	0.100	0.150	0.200	0.200	0.400
ASTM-P-0115-11	0.200	0.200	0.800	0.100	0.300
ASTM-P-0115-12	0.400	0.005	0.800	0.300	0.200
ASTM-P-0115-13	0.600	0.100	0.500	0.050	0.375
ASTM-P-0115-14	0.800	0.010	0.050	0.100	0.175
ASTM-P-0115-15	1.000	0.300	1.000	0.150	0.425
ASTM-P-0115-16	0.400	0.050	0.600	0.250	0.275
ASTM-P-0115-17	0.000	0.000	0.000	0.000	0.000

ASTM-P-0116-SET — $ 2450 / 11 x 100 mL

Additives — Designed for ASTM D6481

Cat. No. Nominal Value	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0116-01	0.500	1.000	0.500	0.500
ASTM-P-0116-02	3.000	1.000	3.000	2.000
ASTM-P-0116-03	2.000	1.250	1.000	1.500
ASTM-P-0116-04	5.000	1.500	0.500	1.200
ASTM-P-0116-05	4.000	0.500	1.500	0.750
ASTM-P-0116-06	2.500	0.750	4.000	1.000
ASTM-P-0116-07	4.000	0.500	2.000	1.250
ASTM-P-0116-08	0.500	2.000	5.000	1.000
ASTM-P-0116-09	1.000	0.750	2.000	1.500
ASTM-P-0116-10	2.500	1.200	3.000	0.500
ASTM-P-0116-11	0.000	0.000	0.000	0.000

ASTM-P-0117-SET — $ 2100 / 10 x 100 mL

WLXRF ASTM Method — Designed for ASTM D6443

Cat. No. Nominal Value	Ca (Wt.%)	Cl (Wt.%)	Cu (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0117-01	0.020	0.030	0.010	0.200	0.250	1.000	0.020
ASTM-P-0117-02	0.020	0.020	0.050	0.200	0.020	0.020	0.250
ASTM-P-0117-03	0.020	0.200	0.010	0.040	0.250	0.150	0.250
ASTM-P-0117-04	0.020	0.200	0.050	0.040	0.020	1.000	0.020
ASTM-P-0117-05	0.400	0.020	0.010	0.040	0.020	1.000	0.250
ASTM-P-0117-06	0.400	0.020	0.050	0.040	0.250	0.020	0.020
ASTM-P-0117-07	0.400	0.200	0.010	0.200	0.020	0.020	0.050
ASTM-P-0117-08	0.400	0.200	0.050	0.200	0.250	1.000	0.250
ASTM-P-0117-09	0.200	0.100	0.025	0.080	0.150	0.500	0.100
ASTM-P-0117-10	0.000	0.000	0.000	0.000	0.000	0.000	0.000

ASTM-P-0118-SET — $ 2400 / 10 x 100 mL

WLXRF ASTM Method — Designed for ASTM D4628, D4927, D4951, D6443

Cat. No. Nominal Value	Ba (Wt.%)	Ca (Wt.%)	Cl (Wt.%)	Cu (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0118-01	0.020	0.020	0.030	0.010	0.200	0.250	1.000	0.020
ASTM-P-0118-02	0.250	0.020	0.020	0.050	0.200	0.020	0.020	0.250
ASTM-P-0118-03	0.020	0.020	0.200	0.010	0.040	0.250	0.150	0.250
ASTM-P-0118-04	0.250	0.020	0.200	0.050	0.040	0.020	1.000	0.020
ASTM-P-0118-05	0.020	0.400	0.020	0.010	0.040	0.020	1.000	0.250
ASTM-P-0118-06	0.250	0.400	0.020	0.050	0.040	0.250	0.020	0.020
ASTM-P-0118-07	0.020	0.400	0.200	0.010	0.200	0.020	0.020	0.050
ASTM-P-0118-08	0.250	0.400	0.200	0.050	0.200	0.250	1.000	0.250
ASTM-P-0118-09	0.130	0.200	0.100	0.025	0.080	0.150	0.500	0.100
ASTM-P-0118-10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Lubricating Oil Standards continued on next page

Lubricating Oil Standards (Continued)

ASTM-P-0119-SET $ 2900 / **22 x 100 mL**

Designed for ASTM D4628, D4927, D4951, D6443

Cat. No. Nominal Value	Ca (Wt.%)	Cl (Wt.%)	Cu (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0119-01	0.300	0.080	0.030	0.060	0.060	0.275	0.060
ASTM-P-0119-02	0.250	0.100	0.000	0.010	0.150	0.000	0.150
ASTM-P-0119-03	0.500	0.000	0.035	0.160	0.150	0.000	0.020
ASTM-P-0119-04	0.350	0.010	0.000	0.120	0.080	0.200	0.000
ASTM-P-0119-05	0.110	0.000	0.015	0.100	0.100	0.300	0.050
ASTM-P-0119-06	0.200	0.100	0.000	0.200	0.050	0.250	0.150
ASTM-P-0119-07	0.000	0.050	0.025	0.000	0.000	0.450	0.020
ASTM-P-0119-08	0.150	0.030	0.000	0.100	0.030	0.400	0.040
ASTM-P-0119-09	0.250	0.150	0.010	0.160	0.000	0.350	0.080
ASTM-P-0119-10	0.110	0.150	0.040	0.005	0.030	0.750	0.150
ASTM-P-0119-11	0.260	0.050	0.000	0.000	0.000	0.750	0.000
ASTM-P-0119-12	0.200	0.000	0.005	0.140	0.080	0.500	0.080
ASTM-P-0119-13	0.000	0.000	0.005	0.020	0.020	0.200	0.020
ASTM-P-0119-14	0.070	0.150	0.020	0.080	0.140	0.650	0.150
ASTM-P-0119-15	0.050	0.000	0.000	0.000	0.150	0.000	0.000
ASTM-P-0119-16	0.400	0.000	0.001	0.080	0.000	0.500	0.020
ASTM-P-0119-17	0.180	0.020	0.020	0.000	0.020	0.600	0.060
ASTM-P-0119-18	0.400	0.010	0.001	0.010	0.020	0.000	0.000
ASTM-P-0119-19	0.010	0.020	0.040	0.010	0.020	0.200	0.100
ASTM-P-0119-20	0.050	0.005	0.050	0.000	0.008	0.000	0.120
ASTM-P-0119-21	0.200	0.050	0.020	0.080	0.050	0.275	0.050
ASTM-P-0119-22	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Standards of Interest

Concentration for the sets on pages 346-348 are targets. Actual production lots may vary.

These products do not require Hazardous Shipping charges at this time.

ASTM-P-0120-SET $ 3100 / **23 x 100 mL**

Cat. No. Nominal Value	Ba (Wt.%)	Ca (Wt.%)	Cl (Wt.%)	Cu (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0120-01	0.100	0.300	0.080	0.030	0.060	0.060	0.275	0.060
ASTM-P-0120-02	0.175	0.250	0.100	0.000	0.010	0.150	0.000	0.150
ASTM-P-0120-03	0.040	0.500	0.000	0.035	0.160	0.150	0.000	0.020
ASTM-P-0120-04	0.020	0.350	0.010	0.000	0.120	0.080	0.200	0.000
ASTM-P-0120-05	0.150	0.110	0.000	0.015	0.100	0.100	0.300	0.050
ASTM-P-0120-06	0.000	0.200	0.100	0.000	0.200	0.050	0.250	0.150
ASTM-P-0120-07	0.200	0.000	0.050	0.025	0.000	0.000	0.450	0.020
ASTM-P-0120-08	0.000	0.150	0.030	0.000	0.100	0.030	0.400	0.040
ASTM-P-0120-09	0.000	0.250	0.150	0.010	0.160	0.000	0.350	0.080
ASTM-P-0120-10	0.000	0.110	0.150	0.040	0.005	0.030	0.750	0.150
ASTM-P-0120-11	0.100	0.260	0.050	0.000	0.000	0.000	0.750	0.000
ASTM-P-0120-12	0.050	0.200	0.000	0.005	0.140	0.080	0.500	0.080
ASTM-P-0120-13	0.000	0.000	0.000	0.005	0.020	0.020	0.200	0.020
ASTM-P-0120-14	0.080	0.070	0.150	0.020	0.080	0.140	0.650	0.150
ASTM-P-0120-15	0.010	0.050	0.000	0.000	0.000	0.150	0.000	0.000
ASTM-P-0120-16	0.000	0.400	0.000	0.001	0.080	0.000	0.500	0.020
ASTM-P-0120-17	0.000	0.180	0.020	0.020	0.000	0.020	0.600	0.060
ASTM-P-0120-18	0.000	0.400	0.010	0.001	0.010	0.020	0.000	0.000
ASTM-P-0120-19	0.150	0.010	0.020	0.040	0.010	0.020	0.200	0.100
ASTM-P-0120-20	0.005	0.050	0.005	0.050	0.000	0.008	0.000	0.120
ASTM-P-0120-21	0.100	0.200	0.050	0.020	0.080	0.050	0.275	0.050
ASTM-P-0120-22	0.120	0.200	0.000	0.000	0.000	0.000	0.750	0.000
ASTM-P-0120-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Metal Working Fluids

ASTM-P-0121-SET $ 1300 / **13 x 100 mL**

Cat. No. Nominal Value	Cl (Wt.%)	P (Wt.%)	S (Wt.%)
ASTM-P-0121-01	0.000	0.000	0.000
ASTM-P-0121-02	0.750	0.025	0.500
ASTM-P-0121-03	0.050	0.100	3.000
ASTM-P-0121-04	1.000	0.500	2.500
ASTM-P-0121-05	0.100	0.005	2.000
ASTM-P-0121-06	1.500	0.200	1.000
ASTM-P-0121-07	2.000	0.005	3.000
ASTM-P-0121-08	1.000	0.050	0.100
ASTM-P-0121-09	0.500	0.400	0.000
ASTM-P-0121-10	2.000	0.200	1.500
ASTM-P-0121-11	0.000	0.500	1.500
ASTM-P-0121-12	1.250	0.010	0.050
ASTM-P-0121-13	0.050	0.300	0.050

Stabilization Solutions

The solutions were specifically designed for chelating & solubilizing our line of Sulfur-Free Organometallic Standards. Contact Tech Service for additional information.

Stabilizer Solution A

ASTM-P-0122-0.5 $ 80 / **50 mL**
ASTM-P-0122-1 $ 120 / **100 mL**

Stabilizer Solution B

ASTM-P-0123-0.5 $ 80 / **50 mL**
ASTM-P-0123-1 $ 120 / **100 mL**

Stabilizer Solution C

ASTM-P-0124-0.5 $ 80 / **50 mL**
ASTM-P-0124-1 $ 120 / **100 mL**

Stabilizer Solution D

ASTM-P-0125-0.5 $ 80 / **50 mL**
ASTM-P-0125-1 $ 120 / **100 mL**

Inorganic Standards

3 Year
Shelf Life on Most ICP & AA Single Element Standards

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TRACEABLE AccuTrace Reference Standards CERTIFIED

AccuTrace Documentation includes:

Tracable to NIST SRM by wet chemical assay and/or ICP, on final solution lot for single element standards, and on solution concentrates for multielements standards.

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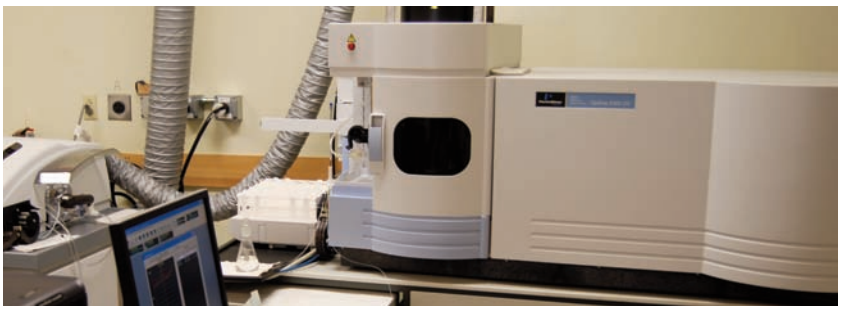
AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

Quality Control

AccuStandard's Inorganic Department combines the best of state of the art instrumentation with classical stoichometric analysis, to bring you the most reliable Standards available.
Why choose AccuStandard for your Inorganic Analytical Needs?

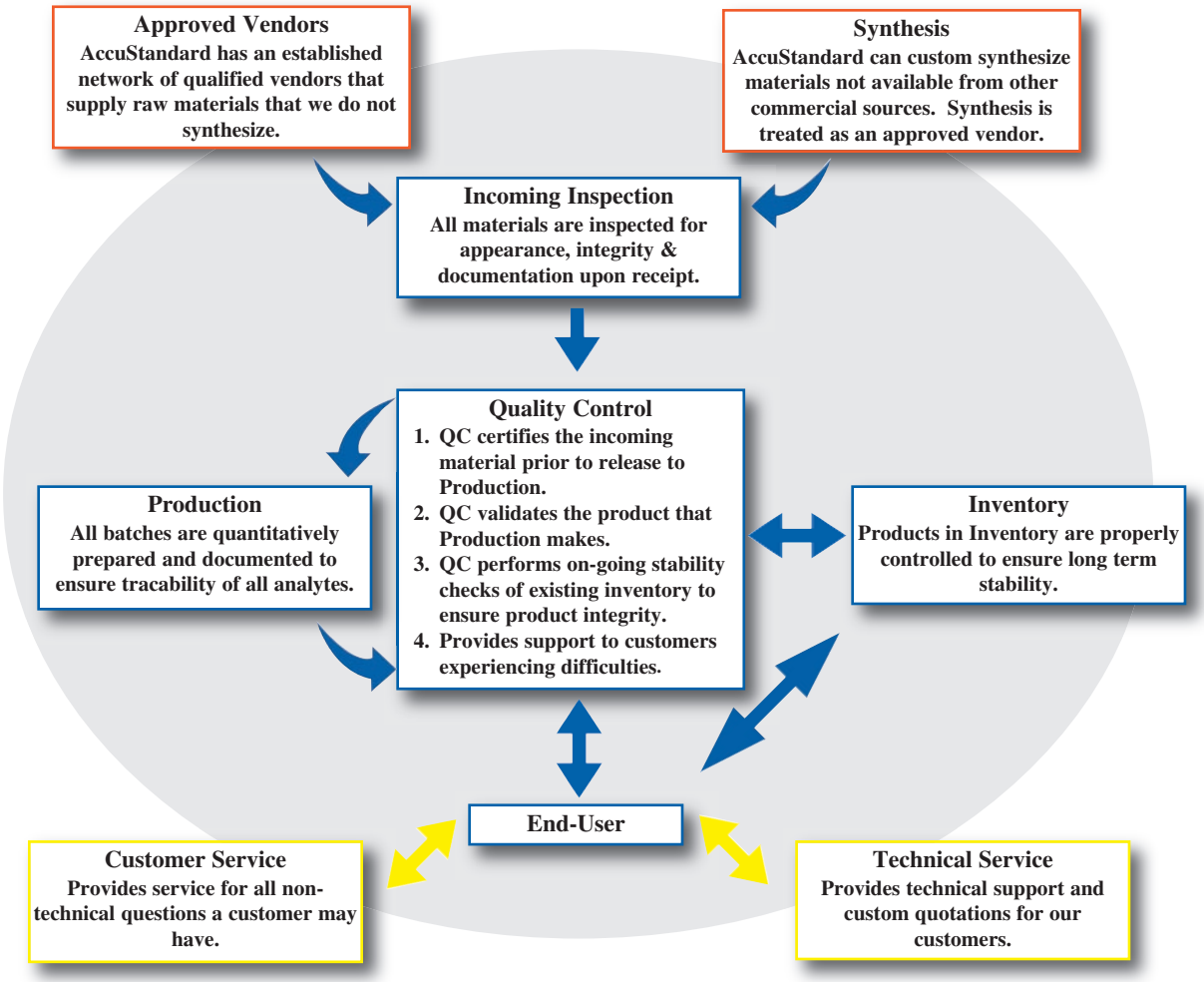
- Standards are our only product.
- Thousands of Inorganic Standards - the widest selection available.
  - ❑ ICP
  - ❑ ICP/MS
  - ❑ AA
  - ❑ IC
  - ❑ Wet Chemical
  - ❑ Wear Metals
- No across the board price increase in 20 years
- 3-year Shelf Life on single ICP, AA and ICP/MS Standards
- Custom Formulations
- Small Batch Sizes for Fresher Lots
- Technical Service from people with Real World Laboratory Experience
- 24/7 Online Access to MSDSs, COAs, Literature and Product Support
- Accredited to ISO 17025 and certified to ISO 9001:2000

State of the Art Instrumentation



Perkin Elmer Optima 5300 Dual View ICP/OES

Perkin Elmer Elan 9000 ICP/MS

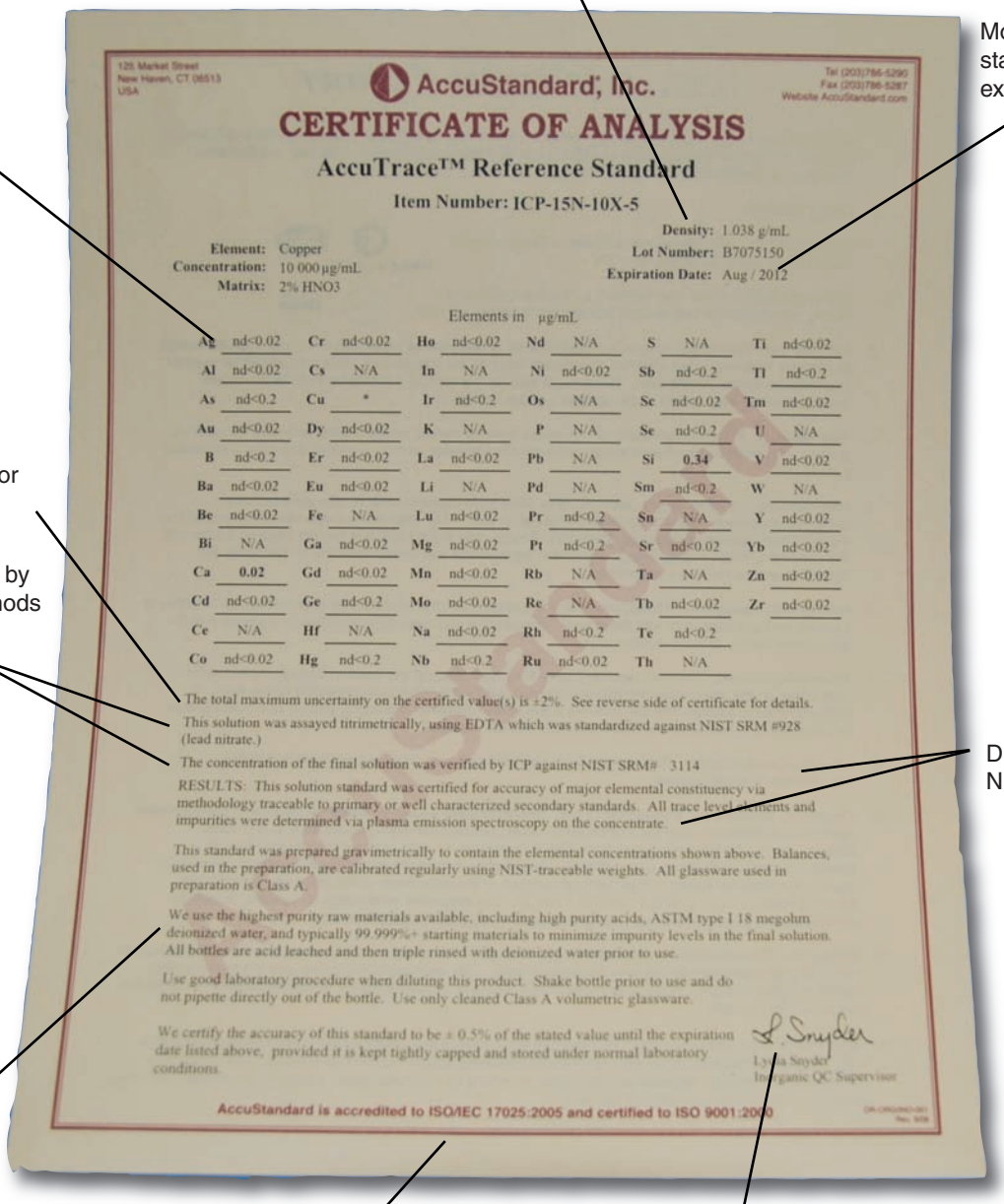


AccuTrace™

Density included for easy conversion to weight/weight applications.

Most Single element standards have 3 Year expiration period.

Impurity Scan for 68 elements in final solution.



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CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Item Number: ICP-15N-10X-5

Density: 1.038 g/mL
Lot Number: B7075150
Expiration Date: Aug / 2012

Element: Copper
Concentration: 10 000 µg/mL
Matrix: 2% HNO3

Elements in µg/mL

Ag	nd<0.02	Cr	nd<0.02	Ho	nd<0.02	Nd	N/A	S	N/A	Ti	nd<0.02
Al	nd<0.02	Cs	N/A	In	N/A	Ni	nd<0.02	Sb	nd<0.2	Tl	nd<0.2
As	nd<0.2	Cu	*	Ir	nd<0.2	Os	N/A	Sc	nd<0.02	Tm	nd<0.02
Au	nd<0.02	Dy	nd<0.02	K	N/A	P	N/A	Se	nd<0.2	U	N/A
B	nd<0.2	Er	nd<0.02	La	nd<0.02	Pb	N/A	Si	0.34	V	nd<0.02
Ba	nd<0.02	Eu	nd<0.02	Li	N/A	Pd	N/A	Sm	nd<0.2	W	N/A
Be	nd<0.02	Fe	N/A	Lu	nd<0.02	Pr	nd<0.2	Sn	N/A	Y	nd<0.02
Bi	N/A	Ga	nd<0.02	Mg	nd<0.02	Pt	nd<0.2	Sr	nd<0.02	Yb	nd<0.02
Ca	0.02	Gd	nd<0.02	Mn	nd<0.02	Rb	N/A	Ta	N/A	Zn	nd<0.02
Cd	nd<0.02	Ge	nd<0.2	Mo	nd<0.02	Re	N/A	Tb	nd<0.02	Zr	nd<0.02
Ce	N/A	Hf	N/A	Na	nd<0.02	Rh	nd<0.2	Te	nd<0.2		
Co	nd<0.02	Hg	nd<0.2	Nb	nd<0.2	Ru	nd<0.02	Th	N/A		

The total maximum uncertainty on the certified value(s) is ±2%. See reverse side of certificate for details.

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #928 (lead nitrate.)

The concentration of the final solution was verified by ICP against NIST SRM# 3114

RESULTS: This solution standard was certified for accuracy of major elemental constituency via methodology traceable to primary or well characterized secondary standards. All trace level elements and impurities were determined via plasma emission spectroscopy on the concentrate.

This standard was prepared gravimetrically to contain the elemental concentrations shown above. Balances, used in the preparation, are calibrated regularly using NIST-traceable weights. All glassware used in preparation is Class A.

We use the highest purity raw materials available, including high purity acids, ASTM type I 18 megohm deionized water, and typically 99.999%+ starting materials to minimize impurity levels in the final solution. All bottles are acid leached and then triple rinsed with deionized water prior to use.

Use good laboratory procedure when diluting this product. Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware.

We certify the accuracy of this standard to be ± 0.5% of the stated value until the expiration date listed above, provided it is kept tightly capped and stored under normal laboratory conditions.

L. Snyder
Lynn Snyder
Inorganic QC Supervisor

AccuStandard is accredited to ISO/IEC 17025:2005 and certified to ISO 9001:2000

Uncertainty reported for statistical confidence.

Concentration verified by two independent methods for added insurance.

Directly traceable to NIST SRM's.

Highest purity starting materials & matrices used.

Standards prepared under our ISO 9001 & ISO 17025 Quality System.

Signature approval indicating product integrity to specifications.

ICP

Single Element

- Traceable to NIST Reference Materials
- Formulated from Ultra High Purity Starting Materials and Acids
- 18 Megohm de-ionized Water
- Concentration verified by Wet Chemical and Instrumental Analysis
- Packaged in specially prepared Acid leached bottles
- Actual Lot Analysis provided on label and C of A

NoHaz Option available with Most ICP & AA Single Element Standards

Haz Fees

SAVINGS:
- No Hazardous Shipping Fees
- Lower Shipping Costs (less weight)
- Yields More – 500 mL from 20 mL concentrate

CONVENIENCE & ASSURANCE:
- Includes empty pre-washed, pre-labeled HDPE bottle (250 mL for 10,000 µg/mL; 500 mL for 25,000 µg/mL)
- Certificate of Analysis with every product

Haz Fees

Single Element ICPs require a Hazardous Shipping Fee, except the "NoHaz™" products in the right columns, and except elements marked with an asterisk *

Single Element ICP						NoHaz 20 mL Size (No Hazardous shipping charge)			
Element Starting Material Matrix	**Unit**	**1000 µg/mL** **Cat. No.**	**Price**	**10,000 µg/mL** **Cat. No.**	**Price**	**20 mL (NoHaz)** **10,000 µg/mL** **Cat. No.**	**Price**	**20 mL (NoHaz)** **25,000 µg/mL** **Cat. No.**	**Price**
Aluminum	50 mL	---------	--	ICP-01N-10X-0.5	$ 34	ICP-01N-10X-20ML	$ 37	ICP-01N-25X-20ML	$ 70
$Al(NO_3)_3 \bullet 9H_2O$	100 mL	ICP-01N-1	$ 34	ICP-01N-10X-1	59				
2-5% Nitric acid	500 mL	ICP-01N-5	67	ICP-01N-10X-5	175				
Antimony	50 mL	---------	--	ICP-02N-10X-0.5	36	ICP-02N-10X-20ML	37	----------	--
Sb Dilute HNO_3 tr	100 mL	ICP-02N-1	34	ICP-02N-10X-1	65				
Tartaric acid	500 mL	ICP-02N-5	67	ICP-02N-10X-5	165				
Arsenic	50 mL	---------	--	ICP-03N-10X-0.5	32	ICP-03N-10X-20ML	37	ICP-03N-25X-20ML	70
As	100 mL	ICP-03N-1	34	ICP-03N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-03N-5	67	ICP-03N-10X-5	138				
Barium	50 mL	---------	--	ICP-04N-10X-0.5	32	ICP-04N-10X-20ML	37	ICP-04N-25X-20ML	70
$Ba(NO_3)_2$	100 mL	ICP-04N-1	34	ICP-04N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-04N-5	67	ICP-04N-10X-5	138				
Beryllium	50 mL	---------	--	ICP-05N-10X-0.5	32	ICP-05N-10X-20ML	37	----------	--
$BeO(C_2H_3O_2)_6$	100 mL	ICP-05N-1	34	ICP-05N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-05N-5	67	ICP-05N-10X-5	240				
Bismuth	50 mL	---------	--	ICP-06N-10X-0.5	36	ICP-06N-10X-20ML	37	ICP-06N-25X-20ML	70
Bi	100 mL	ICP-06N-1	34	ICP-06N-10X-1	65				
2-10% Nitric acid	500 mL	ICP-06N-5	67	ICP-06N-10X-5	135				

- Traceable to NIST Reference Materials
- Formulated from Ultra High Purity Starting Materials and Acids
- 18 Megohm de-ionized Water
- Concentration verified by Wet Chemical and Instrumental Analysis
- Packaged in specially prepared Acid leached bottles
- Actual Lot Analysis provided on label and C of A
- 36 Month Shelf Life

Haz Fees

Single Element ICPs require a Hazardous Shipping Fee, except the "NoHaz™" products in the right columns, and except elements marked with an asterisk *

Single Element ICP

Element Starting Material Matrix	Unit	1000 µg/mL Cat. No.	Price	10,000 µg/mL Cat. No.	Price	NoHaz 20 mL Size (No Hazardous shipping charge) 20 mL (NoHaz) 10,000 µg/mL Cat. No.	Price	20 mL (NoHaz) 25,000 µg/mL Cat. No.	Price
Boron *	50 mL	---------	--	ICP-07W-10X-0.5	$ 32	ICP-07W-10X-20ML	$ 37	----------	--
H_3BO_3	100 mL	ICP-07W-1	$ 34	ICP-07W-10X-1	54				
Water tr. NH_4OH	500 mL	ICP-07W-5	67	ICP-07W-10X-5	138				
Cadmium	50 mL	---------	--	ICP-08N-10X-0.5	32	ICP-08N-10X-20ML	37	ICP-08N-25X-20ML	$ 70
Cd	100 mL	ICP-08N-1	34	ICP-08N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-08N-5	67	ICP-08N-10X-5	138				
Calcium	50 mL	---------	--	ICP-09N-10X-0.5	32	ICP-09N-10X-20ML	37	ICP-09N-25X-20ML	70
$CaCO_3$	100 mL	ICP-09N-1	34	ICP-09N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-09N-5	67	ICP-09N-10X-5	138				
Cerium	50 mL	---------	--	ICP-11N-10X-0.5	32	ICP-11N-10X-20ML	37	ICP-11N-25X-20ML	80
$Ce(NO_3)_3$	100 mL	ICP-11N-1	34	ICP-11N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-11N-5	67	ICP-11N-10X-5	168				
Cesium	50 mL	---------	--	ICP-12N-10X-0.5	45	ICP-12N-10X-20ML	55	ICP-12N-25X-20ML	100
$CsNO_3$	100 mL	ICP-12N-1	42	ICP-12N-10X-1	75				
2-5% Nitric acid	500 mL	ICP-12N-5	82	ICP-12N-10X-5	231				
Chromium reduced to (+3) state	50 mL	---------	--	ICP-13N-10X-0.5	34	ICP-13N-10X-20ML	37	ICP-13N-25X-20ML	70
$(NH_4)_2Cr_2O_7$	100 mL	ICP-13N-1	34	ICP-13N-10X-1	59				
2-5% Nitric acid	500 mL	ICP-13N-5	67	ICP-13N-10X-5	144				
Cobalt	50 mL	---------	--	ICP-14N-10X-0.5	32	ICP-14N-10X-20ML	37	ICP-14N-25X-20ML	70
Co	100 mL	ICP-14N-1	34	ICP-14N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-14N-5	67	ICP-14N-10X-5	168				
Copper	50 mL	---------	--	ICP-15N-10X-0.5	32	ICP-15N-10X-20ML	37	ICP-15N-25X-20ML	70
Cu	100 mL	ICP-15N-1	34	ICP-15N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-15N-5	67	ICP-15N-10X-5	138				
Dysprosium	50 mL	---------	--	ICP-16N-10X-0.5	45	ICP-16N-10X-20ML	55	ICP-16N-25X-20ML	100
Dy_2O_3	100 mL	ICP-16N-1	42	ICP-16N-10X-1	75				
2-5% Nitric acid	500 mL	ICP-16N-5	82	ICP-16N-10X-5	231				
Erbium	50 mL	---------	--	ICP-17N-10X-0.5	52	ICP-17N-10X-20ML	55	ICP-17N-25X-20ML	100
Er_2O_3	100 mL	ICP-17N-1	42	ICP-17N-10X-1	85				
2-5% Nitric acid	500 mL	ICP-17N-5	82	ICP-17N-10X-5	259				
Europium	50 mL	---------	--	ICP-18N-10X-0.5	52	ICP-18N-10X-20ML	55	ICP-18N-25X-20ML	100
Eu_2O_3	100 mL	ICP-18N-1	42	ICP-18N-10X-1	85				
2-5% Nitric acid	500 mL	ICP-18N-5	82	ICP-18N-10X-5	225				
Gadolinium	50 mL	---------	--	ICP-19N-10X-0.5	69	ICP-19N-10X-20ML	55	ICP-19N-25X-20ML	100
Gd_2O_3	100 mL	ICP-19N-1	42	ICP-19N-10X-1	115				
2-5% Nitric acid	500 mL	ICP-19N-5	82	ICP-19N-10X-5	315				
Gallium	50 mL	---------	--	ICP-20N-10X-0.5	45	ICP-20N-10X-20ML	55	----------	--
Ga	100 mL	ICP-20N-1	42	ICP-20N-10X-1	75				
2-5% Nitric acid	500 mL	ICP-20N-5	82	ICP-20N-10X-5	165				
Germanium *	50 mL	---------	--	ICP-21W-10X-0.5	52	ICP-21W-10X-20ML	55	----------	--
$(NH_4)_2GeF_6$	100 mL	ICP-21W-1	42	ICP-21W-10X-1	85				
Water tr. HF	500 mL	ICP-21W-5	82	ICP-21W-10X-5	231				
Gold	50 mL	---------	--	ICP-22H-10X-0.5	175	ICP-22H-10X-20ML	95	ICP-22H-25X-20ML	165
Au	100 mL	ICP-22H-1	78	ICP-22H-10X-1	295				
10% HCl (min.)	500 mL	ICP-22H-5	152	ICP-22H-10X-5	795				
Hafnium	50 mL	---------	--	ICP-23N-10X-0.5	80	ICP-23N-10X-20ML	75	ICP-23N-25X-20ML	135
HfO_2	100 mL	ICP-23N-1	60	ICP-23N-10X-1	135				
2-5% Nitric acid tr. HF	500 mL	ICP-23N-5	118	ICP-23N-10X-5	445				
Holmium	50 mL	---------	--	ICP-24N-10X-0.5	52	ICP-24N-10X-20ML	55	ICP-24N-25X-20ML	100
Ho_2O_3	100 mL	ICP-24N-1	42	ICP-24N-10X-1	85				
2-5% Nitric acid	500 mL	ICP-24N-5	82	ICP-24N-10X-5	259				

Single Element ICP

NoHaz 20 mL Size (No Hazardous shipping charge)

Element Starting Material Matrix	Unit	1000 µg/mL Cat. No.	Price	10,000 µg/mL Cat. No.	Price	20 mL (NoHaz) 10,000 µg/mL Cat. No.	Price	20 mL (NoHaz) 25,000 µg/mL Cat. No.	Price
Indium	50 mL	---------	--	ICP-25N-10X-0.5	$ 52	ICP-25N-10X-20ML	$ 55	ICP-25N-25X-20ML	$ 100
In	100 mL	ICP-25N-1	42	ICP-25N-10X-1	85				
2-5% Nitric acid	500 mL	ICP-25N-5	82	ICP-25N-10X-5	185				
Iridium	50 mL	---------	--	ICP-26H-10X-0.5	175	ICP-26H-10X-20ML	95	ICP-26H-25X-20ML	175
$IrCl_3 \cdot 3H_20$	100 mL	ICP-26H-1	78	ICP-26H-10X-1	295				
10% HCl (min.)	500 mL	ICP-26H-5	152	ICP-26H-10X-5	795				
Iron	50 mL	---------	--	ICP-27N-10X-0.5	32	ICP-27N-10X-20ML	37	ICP-27N-25X-20ML	70
Fe	100 mL	ICP-27N-1	34	ICP-27N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-27N-5	67	ICP-27N-10X-5	168				
Lanthanum	50 mL	---------	--	ICP-28N-10X-0.5	32	ICP-28N-10X-20ML	37	ICP-28N-25X-20ML	80
La_2O_3	100 mL	ICP-28N-1	34	ICP-28N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-28N-5	67	ICP-28N-10X-5	168				
Lead	50 mL	---------	--	ICP-29N-10X-0.5	32	ICP-29N-10X-20ML	37	ICP-29N-25X-20ML	70
$Pb(NO_3)_2$	100 mL	ICP-29N-1	34	ICP-29N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-29N-5	67	ICP-29N-10X-5	138				
Lithium	50 mL	---------	--	ICP-30N-10X-0.5	32	ICP-30N-10X-20ML	37	ICP-30N-25X-20ML	70
Li_2CO_3	100 mL	ICP-30N-1	34	ICP-30N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-30N-5	67	ICP-30N-10X-5	138				
Lutetium	50 mL	---------	--	ICP-31N-10X-0.5	175	ICP-31N-10X-20ML	132	ICP-31N-25X-20ML	247
Lu_2O_3	100 mL	ICP-31N-1	121	ICP-31N-10X-1	295				
2-5% Nitric acid	500 mL	ICP-31N-5	236	ICP-31N-10X-5	842				
Magnesium	50 mL	---------	--	ICP-32N-10X-0.5	32	ICP-32N-10X-20ML	37	ICP-32N-25X-20ML	70
MgO	100 mL	ICP-32N-1	34	ICP-32N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-32N-5	67	ICP-32N-10X-5	138				
Manganese	50 mL	---------	--	ICP-33N-10X-0.5	32	ICP-33N-10X-20ML	37	ICP-33N-25X-20ML	70
$Mn(C_2H_3O_2)_2$	100 mL	ICP-33N-1	34	ICP-33N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-33N-5	67	ICP-33N-10X-5	168				
Mercury	50 mL	---------	--	ICP-34N-10X-0.5	32	ICP-34N-10X-20ML	37	ICP-34N-25X-20ML	70
Hg	100 mL	ICP-34N-1	34	ICP-34N-10X-1	54				
10% Nitric acid	500 mL	ICP-34N-5	67	ICP-34N-10X-5	138				
Molybdenum *	50 mL	---------	--	ICP-35W-10X-0.5	32	ICP-35W-10X-20ML	37	ICP-35W-25X-20ML	70
$(NH_4)_2MoO_4$	100 mL	ICP-35W-1	34	ICP-35W-10X-1	54				
Water tr. NH_4OH	500 mL	ICP-35W-5	67	ICP-35W-10X-5	138				
Neodymium	50 mL	---------	--	ICP-36N-10X-0.5	45	ICP-36N-10X-20ML	37	ICP-36N-25X-20ML	80
Nd_2O_3	100 mL	ICP-36N-1	34	ICP-36N-10X-1	75				
2-5% Nitric acid	500 mL	ICP-36N-5	67	ICP-36N-10X-5	203				
Nickel	50 mL	---------	--	ICP-37N-10X-0.5	32	ICP-37N-10X-20ML	37	ICP-37N-25X-20ML	70
Ni	100 mL	ICP-37N-1	34	ICP-37N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-37N-5	67	ICP-37N-10X-5	138				
Niobium *	50 mL	---------	--	ICP-38W-10X-0.5	38	ICP-38W-10X-20ML	37	ICP-38W-25X-20ML	80
Nb_2O_5	100 mL	ICP-38W-1	34	ICP-38W-10X-1	64				
Water tr. HF	500 mL	ICP-38W-5	67	ICP-38W-10X-5	175				
Palladium	50 mL	---------	--	ICP-40H-10X-0.5	175	ICP-40H-10X-20ML	95	ICP-40H-25X-20ML	165
Pd	100 mL	ICP-40H-1	78	ICP-40H-10X-1	295				
10% HCl (min.)	500 mL	ICP-40H-5	152	ICP-40H-10X-5	795				
Phosphorus *	50 mL	---------	--	ICP-41W-10X-0.5	32	ICP-41W-10X-20ML	37	----------	--
$NH_4H_2PO_4$	100 mL	ICP-41W-1	34	ICP-41W-10X-1	54				
Water	500 mL	ICP-41W-5	67	ICP-41W-10X-5	138				
Platinum	50 mL	---------	--	ICP-42H-10X-0.5	175	ICP-42H-10X-20ML	95	ICP-42H-25X-20ML	165
Pt	100 mL	ICP-42H-1	78	ICP-42H-10X-1	295				
10% HCl (min.)	500 mL	ICP-42H-5	152	ICP-42H-10X-5	795				
Potassium	50 mL	---------	--	ICP-43N-10X-0.5	32	ICP-43N-10X-20ML	37	ICP-43N-25X-20ML	70
KNO_3	100 mL	ICP-43N-1	34	ICP-43N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-43N-5	67	ICP-43N-10X-5	138				
Praseodymium	50 mL	---------	--	ICP-44N-10X-0.5	72	ICP-44N-10X-20ML	55	ICP-44N-25X-20ML	100
Pr_6O_{11}	100 mL	ICP-44N-1	42	ICP-44N-10X-1	120				
2-5% Nitric acid	500 mL	ICP-44N-5	82	ICP-44N-10X-5	329				
Rhenium *	50 mL	---------	--	ICP-45W-10X-0.5	132	ICP-45W-10X-20ML	67	ICP-45W-25X-20ML	125
Re	100 mL	ICP-45W-1	55	ICP-45W-10X-1	222				
Water tr. Nitric acid	500 mL	ICP-45W-5	108	ICP-45W-10X-5	495				

- Traceable to NIST Reference Materials
- Formulated from Ultra High Purity Starting Materials and Acids
- 18 Megohm de-ionized Water
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Single Element ICP

Element Starting Material Matrix	Unit	1000 µg/mL Cat. No.	Price	10,000 µg/mL Cat. No.	Price	NoHaz 20 mL Size (No Hazardous shipping charge) 20 mL (NoHaz) 10,000 µg/mL Cat. No.	Price	20 mL (NoHaz) 25,000 µg/mL Cat. No.	Price
Rhodium	50 mL	---------	--	ICP-46H-10X-0.5	$ 444	ICP-46H-10X-20ML	$ 290	ICP-46H-25X-20ML	$ 475
$RhCl_3 \cdot 3H_2O$	100 mL	ICP-46H-1	$ 220	ICP-46H-10X-1	750				
10% HCl (min.)	500 mL	ICP-46H-5	490	ICP-46H-10X-5	3750				
Rubidium	50 mL	---------	--	ICP-47N-10X-0.5	52	ICP-47N-10X-20ML	37	ICP-47N-25X-20ML	80
$RbNO_3$	100 mL	ICP-47N-1	36	ICP-47N-10X-1	85				
2-5% Nitric acid	500 mL	ICP-47N-5	70	ICP-47N-10X-5	265				
Ruthenium	50 mL	---------	--	ICP-48H-10X-0.5	175	ICP-48H-10X-20ML	95	ICP-48H-25X-20ML	185
$RuCl_3 \cdot 3H_2O$	100 mL	ICP-48H-1	78	ICP-48H-10X-1	295				
10% HCl	500 mL	ICP-48H-5	152	ICP-48H-10X-5	795				
Samarium	50 mL	---------	--	ICP-49N-10X-0.5	45	ICP-49N-10X-20ML	55	ICP-49N-25X-20ML	100
Sm_2O_3	100 mL	ICP-49N-1	42	ICP-49N-10X-1	75				
2-5% Nitric acid	500 mL	ICP-49N-5	82	ICP-49N-10X-5	231				
Scandium	50 mL	---------	--	ICP-50N-10X-0.5	175	ICP-50N-10X-20ML	95	ICP-50N-25X-20ML	175
Sc_2O_3	100 mL	ICP-50N-1	78	ICP-50N-10X-1	295				
2-5% Nitric acid	500 mL	ICP-50N-5	152	ICP-50N-10X-5	795				
Selenium	50 mL	---------	--	ICP-51N-10X-0.5	32	ICP-51N-10X-20ML	37	ICP-51N-25X-20ML	70
Se	100 mL	ICP-51N-1	34	ICP-51N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-51N-5	67	ICP-51N-10X-5	138				
Silicon *	50 mL	---------	--	ICP-52W-10X-0.5	32	ICP-52W-10X-20ML	37	----------	--
$(NH_4)2SiF_6$	100 mL	ICP-52W-1	34	ICP-52W-10X-1	54				
Water tr. HF	500 mL	ICP-52W-5	67	ICP-52W-10X-5	168				
Silver	50 mL	---------	--	ICP-53N-10X-0.5	42	ICP-53N-10X-20ML	37	ICP-53N-25X-20ML	70
$AgNO_3$	100 mL	ICP-53N-1	34	ICP-53N-10X-1	70				
2-5% Nitric acid	500 mL	ICP-53N-5	67	ICP-53N-10X-5	145				
Sodium	50 mL	---------	--	ICP-54N-10X-0.5	34	ICP-54N-10X-20ML	37	ICP-54N-25X-20ML	70
$NaNO_3$	100 mL	ICP-54N-1	34	ICP-54N-10X-1	59				
2-5% Nitric acid	500 mL	ICP-54N-5	67	ICP-54N-10X-5	175				
Strontium	50 mL	---------	--	ICP-55N-10X-0.5	42	ICP-55N-10X-20ML	37	ICP-55N-25X-20ML	70
$Sr(NO_3)_2$	100 mL	ICP-55N-1	34	ICP-55N-10X-1	70				
2-5% Nitric acid	500 mL	ICP-55N-5	67	ICP-55N-10X-5	203				
Sulfur *	50 mL	---------	--	ICP-56W-10X-0.5	32	ICP-56W-10X-20ML	37	ICP-56W-25X-20ML	70
$(NH_4)_2SO_4$	100 mL	ICP-56W-1	34	ICP-56W-10X-1	54				
Water	500 mL	ICP-56W-5	67	ICP-56W-10X-5	138				
Tantalum *	50 mL	---------	--	ICP-57W-10X-0.5	52	ICP-57W-10X-20ML	55	ICP-57W-25X-20ML	100
Ta	100 mL	ICP-57W-1	42	ICP-57W-10X-1	85				
Water tr. HF	500 mL	ICP-57W-5	82	ICP-57W-10X-5	224				
Tellurium	50 mL	---------	--	ICP-58H-10X-0.5	46	ICP-58H-10X-20ML	37	----------	--
Te	100 mL	ICP-58H-1	34	ICP-58H-10X-1	78				
20% HCl (min.)	500 mL	ICP-58H-5	67	ICP-58H-10X-5	210				
Terbium	50 mL	---------	--	ICP-59N-10X-0.5	69	ICP-59N-10X-20ML	55	ICP-59N-25X-20ML	100
Tb_4O_7	100 mL	ICP-59N-1	42	ICP-59N-10X-1	115				
2-5% Nitric acid	500 mL	ICP-59N-5	82	ICP-59N-10X-5	315				
Thallium	50 mL	---------	--	ICP-60N-10X-0.5	32	ICP-60N-10X-20ML	37	ICP-60N-25X-20ML	70
Tl	100 mL	ICP-60N-1	34	ICP-60N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-60N-5	67	ICP-60N-10X-5	144				
Thorium		---------	--	----------	--	----------	--	----------	--
$Th(NO_3)4 \cdot 4H_2O$	100 mL	ICP-61N-1	34						
2-5% Nitric acid	500 mL	ICP-61N-5	67						
Thulium	50 mL	---------	--	ICP-62N-10X-0.5	78	ICP-62N-10X-20ML	75	ICP-62N-25X-20ML	135
Tm_2O_3	100 mL	ICP-62N-1	58	ICP-62N-10X-1	130				
2-5% Nitric acid	500 mL	ICP-62N-5	120	ICP-62N-10X-5	384				

Single Element ICP

NoHaz 20 mL Size (No Hazardous shipping charge)

Element Starting Material Matrix	Unit	1000 µg/mL Cat. No.	Price	10,000 µg/mL Cat. No.	Price	20 mL (NoHaz) 10,000 µg/mL Cat. No.	Price	20 mL (NoHaz) 25,000 µg/mL Cat. No.	Price
Tin	50 mL	---------	--	ICP-63N-10X-0.5	$ 42	ICP-63N-10X-20ML	$ 37	ICP-63N-25X-20ML	$ 70
Sn	100 mL	ICP-63N-1	$ 34	ICP-63N-10X-1	70				
2-5% Nitric acid tr. HF	500 mL	ICP-63N-5	67	ICP-63N-10X-5	179				
Titanium *	50 mL	---------	--	ICP-64W-10X-0.5	32	----------	--	----------	--
$(NH_4)_2TiF_6$	100 mL	ICP-64W-1	34	ICP-64W-10X-1	54				
Water tr. HF	500 mL	ICP-64W-5	67	ICP-64W-10X-5	138				
Tungsten *	50 mL	---------	--	ICP-65W-10X-0.5	32	ICP-65W-10X-20ML	37	----------	--
$(NH_4)_2WO_4$	100 mL	ICP-65W-1	34	ICP-65W-10X-1	54				
Water tr. NH_4OH	500 mL	ICP-65W-5	67	ICP-65W-10X-5	168				
Uranium	-----	---------	--	----------	--	----------	--	----------	--
U_3O_8	100 mL	ICP-66N-1	42						
2-5% Nitric acid	500 mL	ICP-66N-5	82						
Vanadium	50 mL	---------	--	ICP-67N-10X-0.5	36	ICP-67N-10X-20ML	37	ICP-67N-25X-20ML	70
NH_4VO_3	100 mL	ICP-67N-1	34	ICP-67N-10X-1	65				
2-5% Nitric acid	500 mL	ICP-67N-5	67	ICP-67N-10X-5	135				
Ytterbium	50 mL	---------	--	ICP-68N-10X-0.5	60	ICP-68N-10X-20ML	55	ICP-68N-25X-20ML	100
Yb_2O_3	100 mL	ICP-68N-1	42	ICP-68N-10X-1	100				
2-5% Nitric acid	500 mL	ICP-68N-5	82	ICP-68N-10X-5	273				
Yttrium	50 mL	---------	--	ICP-69N-10X-0.5	32	ICP-69N-10X-20ML	37	ICP-69N-25X-20ML	70
Y_2O_3	100 mL	ICP-69N-1	34	ICP-69N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-69N-5	67	ICP-69N-10X-5	138				
Zinc	50 mL	---------	--	ICP-70N-10X-0.5	32	ICP-70N-10X-20ML	37	ICP-70N-25X-20ML	70
Zn	100 mL	ICP-70N-1	34	ICP-70N-10X-1	54				
2-5% Nitric acid	500 mL	ICP-70N-5	67	ICP-70N-10X-5	138				
Zirconium	50 mL	---------	--	ICP-71N-10X-0.5	42	ICP-71N-10X-20ML	37	ICP-71N-25X-20ML	70
$ZrO(NO_3)_2$	100 mL	ICP-71N-1	34	ICP-71N-10X-1	70				
2-5% Nitric acid	500 mL	ICP-71N-5	67	ICP-71N-10X-5	203				

Calibration and Matrix Blanks

Nitric Acid Blank

CLP-BLN-5 $ 30 / **500 mL**
CLP-BLN-L-VAP $ 45 / **1L (2 x 500 mL)**

5% HNO_3 in ASTM Type I Water

Hydrochloric Acid Blank

CLP-BLH-5 $ 30 / **500 mL**
CLP-BLH-L-VAP $ 45 / **1L (2 x 500 mL)**

5% HCl in ASTM Type I Water

Mixed Acid Blank

CLP-BLMA-5 $ 30 / **500 mL**
CLP-BLMA-L-VAP $ 45 / **1L (2 x 500 mL)**

5% HCl + 1% HNO_3 in ASTM Type I Water

Water Blank

CLP-BLW-5 $ 30 / **500 mL**
CLP-BLW-L-VAP $ 40 / **1L (2 x 500 mL)**

ASTM Type I Water

ICP/MS

Single Element

AccuStandard's ICP/MS Standards are formulated to meet the needs of this very special instrument. As matrix effect is of utmost concern, each standard is formulated in specially purified 18 megohm de-ionized water and ultra pure acids; after both wet chemical and instrumental analysis, the standards are packaged in acid leached FLPE containers to provide required protection and, of course, all standards are traceable to the National Institute of Standards and Technology (NIST) weights and Reference Materials.

- Ultra Pure Starting Materials
- Traceable to NIST Reference Materials
- 36 Month Shelf Life
- Special Packaging

Over 25 New Elements

Single Element ICP/MS

			100 µg/mL		1,000 µg/mL		10,000 µg/mL	
Element	**Matrix**	**Unit**	**Cat. No.**	Price	**Cat. No.**	Price	**Cat. No.**	Price
Al (Aluminum)	2-5% HNO_3	100 mL	ICP-MS-01N-0.01X-1	$ 34	ICP-MS-01N-0.1X-1	$ 45	ICP-MS-01N-1	$ 76
Sb (Antimony)	2-5% HNO_3	100 mL	ICP-MS-02N-0.01X-1	34	ICP-MS-02N-0.1X-1	45	ICP-MS-02N-1	76
As (Arsenic)	2-5% HNO_3	100 mL	ICP-MS-03N-0.01X-1	34	ICP-MS-03N-0.1X-1	45	ICP-MS-03N-1	76
Ba (Barium)	2-5% HNO_3	100 mL	ICP-MS-04N-0.01X-1	34	ICP-MS-04N-0.1X-1	45	ICP-MS-04N-1	76
Be (Beryllium)	2-5% HNO_3	100 mL	ICP-MS-05N-0.01X-1	34	ICP-MS-05N-0.1X-1	45	ICP-MS-05N-1	76
Bi (Bismuth)	2-10% HNO_3	100 mL	ICP-MS-06N-0.01X-1	34	ICP-MS-06N-0.1X-1	45	ICP-MS-06N-1	76
B (Boron) *	H_2O tr. NH_4OH	100 mL	ICP-MS-07W-0.01X-1	34	ICP-MS-07W-0.1X-1	45	ICP-MS-07W-1	76
Cd (Cadmium)	2-5% HNO_3	100 mL	ICP-MS-08N-0.01X-1	34	ICP-MS-08N-0.1X-1	45	ICP-MS-08N-1	76
Ca (Calcium)	2-5% HNO_3	100 mL	ICP-MS-09N-0.01X-1	34	ICP-MS-09N-0.1X-1	45	ICP-MS-09N-1	76
Ce (Cerium)	2-5% HNO_3	100 mL	ICP-MS-11N-0.01X-1	34	ICP-MS-11N-0.1X-1	45	ICP-MS-11N-1	76
Cs (Cesium)	2-5% HNO_3	100 mL	ICP-MS-12N-0.01X-1	42	ICP-MS-12N-0.1X-1	53	ICP-MS-12N-1	84
Cr (Chromium)	2-5% HNO_3	100 mL	ICP-MS-13N-0.01X-1	34	ICP-MS-13N-0.1X-1	45	ICP-MS-13N-1	76
Co (Cobalt)	2-5% HNO_3	100 mL	ICP-MS-14N-0.01X-1	34	ICP-MS-14N-0.1X-1	45	ICP-MS-14N-1	76
Cu (Copper)	2-5% HNO_3	100 mL	ICP-MS-15N-0.01X-1	34	ICP-MS-15N-0.1X-1	45	ICP-MS-15N-1	76
Dy (Dysprosium)	2-5% HNO_3	100 mL	ICP-MS-16N-0.01X-1	42	ICP-MS-16N-0.1X-1	53	ICP-MS-16N-1	84
Er (Erbium)	2-5% HNO_3	100 mL	ICP-MS-17N-0.01X-1	42	ICP-MS-17N-0.1X-1	53	ICP-MS-17N-1	84
Eu (Europium)	2-5% HNO_3	100 mL	ICP-MS-18N-0.01X-1	42	ICP-MS-18N-0.1X-1	53	ICP-MS-18N-1	84
Gd (Gadolinium)	2-5% HNO_3	100 mL	ICP-MS-19N-0.01X-1	42	ICP-MS-19N-0.1X-1	53	ICP-MS-19N-1	84
Ga (Gallium)	2-5% HNO_3	100 mL	ICP-MS-20N-0.01X-1	42	ICP-MS-20N-0.1X-1	53	ICP-MS-20N-1	84
Ge (Germanium) *	H_2O tr. HF	100 mL	ICP-MS-21W-0.01X-1	42	ICP-MS-21W-0.1X-1	53	ICP-MS-21W-1	84
Au (Gold)	10% HCl	100 mL	ICP-MS-22H-0.01X-1	78	ICP-MS-22H-0.1X-1	89	ICP-MS-22H-1	330
Hf (Hafnium)	2-5% HNO_3 tr. HF	100 mL	ICP-MS-23N-0.01X-1	60	ICP-MS-23N-0.1X-1	72	ICP-MS-23N-1	111
Ho (Holmium)	2-5% HNO_3	100 mL	ICP-MS-24N-0.01X-1	42	ICP-MS-24N-0.1X-1	53	ICP-MS-24N-1	84
In (Indium)	2-5% HNO_3	100 mL	ICP-MS-25N-0.01X-1	42	ICP-MS-25N-0.1X-1	53	ICP-MS-25N-1	84
Ir (Iridium)	10% HCl	100 mL	ICP-MS-26H-0.01X-1	78	ICP-MS-26H-0.1X-1	89	ICP-MS-26H-1	120
Fe (Iron)	2-5% HNO_3	100 mL	ICP-MS-27N-0.01X-1	34	ICP-MS-27N-0.1X-1	45	ICP-MS-27N-1	76
La (Lanthanum)	2-5% HNO_3	100 mL	ICP-MS-28N-0.01X-1	34	ICP-MS-28N-0.1X-1	45	ICP-MS-28N-1	76
Pb (Lead)	2-5% HNO_3	100 mL	ICP-MS-29N-0.01X-1	34	ICP-MS-29N-0.1X-1	45	ICP-MS-29N-1	76
Li (Lithium)	2-5% HNO_3	100 mL	ICP-MS-30N-0.01X-1	34	ICP-MS-30N-0.1X-1	45	ICP-MS-30N-1	76
Lu (Lutetium)	2-5% HNO_3	100 mL	ICP-MS-31N-0.01X-1	121	ICP-MS-31N-0.1X-1	138	ICP-MS-31N-1	354
Mg (Magnesium)	2-5% HNO_3	100 mL	ICP-MS-32N-0.01X-1	34	ICP-MS-32N-0.1X-1	45	ICP-MS-32N-1	76
Mn (Manganese)	2-5% HNO_3	100 mL	ICP-MS-33N-0.01X-1	34	ICP-MS-33N-0.1X-1	45	ICP-MS-33N-1	76
Hg (Mercury)	10% HNO_3	100 mL	ICP-MS-34N-0.01X-1	34	ICP-MS-34N-0.1X-1	45	ICP-MS-34N-1	76
Mo (Molybdenum) *	H_2O tr. NH_4OH	100 mL	ICP-MS-35W-0.01X-1	34	ICP-MS-35W-0.1X-1	45	ICP-MS-35W-1	76
Nd (Neodymium) *	2-5% HNO_3	100 mL	ICP-MS-36N-0.01X-1	34	ICP-MS-36N-0.1X-1	45	ICP-MS-36N-1	76
Ni (Nickel)	2-5% HNO_3	100 mL	ICP-MS-37N-0.01X-1	34	ICP-MS-37N-0.1X-1	45	ICP-MS-37N-1	76
Nb (Niobium)	H_2O tr. HF	100 mL	ICP-MS-38W-0.01X-1	34	ICP-MS-38W-0.1X-1	45	ICP-MS-38W-1	76
Pd (Palladium)	10% HCl	100 mL	ICP-MS-40H-0.01X-1	78	ICP-MS-40H-0.1X-1	89	ICP-MS-40H-1	120
P (Phosphorous) *	H_2O	100 mL	ICP-MS-41W-0.01X-1	34	ICP-MS-41W-0.1X-1	45	ICP-MS-41W-1	76
Pt (Platinum)	10% HCl	100 mL	ICP-MS-42H-0.01X-1	78	ICP-MS-42H-0.1X-1	89	ICP-MS-42H-1	120
K (Potassium)	2-5% HNO_3	100 mL	ICP-MS-43N-0.01X-1	34	ICP-MS-43N-0.1X-1	45	ICP-MS-43N-1	76
Pr (Praseodymium)	2-5% HNO_3	100 mL	ICP-MS-44N-0.01X-1	42	ICP-MS-44N-0.1X-1	53	ICP-MS-44N-1	84
Re (Rhenium) *	H_2O tr. HNO_3	100 mL	ICP-MS-45W-0.01X-1	55	ICP-MS-45W-0.1X-1	63	ICP-MS-45W-1	248
Rh (Rhodium)	10% HCl	100 mL	ICP-MS-46H-0.01X-1	220	ICP-MS-46H-0.1X-1	251	ICP-MS-46H-1	838
Rb (Rubidium)	2-5% HNO_3	100 mL	ICP-MS-47N-0.01X-1	36	ICP-MS-47N-0.1X-1	48	ICP-MS-47N-1	96
Ru (Ruthenium)	10% HCl	100 mL	ICP-MS-48H-0.01X-1	78	ICP-MS-48H-0.1X-1	89	ICP-MS-48H-1	120
Sm (Samarium)	2-5% HNO_3	100 mL	ICP-MS-49N-0.01X-1	42	ICP-MS-49N-0.1X-1	53	ICP-MS-49N-1	84
Sc (Scandium)	2-5% HNO_3	100 mL	ICP-MS-50N-0.01X-1	78	ICP-MS-50N-0.1X-1	89	ICP-MS-50N-1	330
Se (Selenium)	2-5% HNO_3	100 mL	ICP-MS-51N-0.01X-1	34	ICP-MS-51N-0.1X-1	45	ICP-MS-51N-1	76
Si (Silicon) *	H_2O tr. HF	100 mL	ICP-MS-52W-0.01X-1	34	ICP-MS-52W-0.1X-1	45	ICP-MS-52W-1	76

These products require a Hazardous Shipping Fee, <u>except</u> products marked with an asterisk *

Single Element ICP/MS

Element	Matrix	Unit	100 µg/mL Cat. No.	Price	1,000 µg/mL Cat. No.	Price	10,000 µg/mL Cat. No.	Price
Ag (Silver)	2-5% HNO_3	100 mL	ICP-MS-53N-0.01X-1	$ 34	ICP-MS-53N-0.1X-1	$ 45	ICP-MS-53N-1	$ 76
Na (Sodium)	2-5% HNO_3	100 mL	ICP-MS-54N-0.01X-1	34	ICP-MS-54N-0.1X-1	45	ICP-MS-54N-1	76
Sr (Strontium)	2-5% HNO_3	100 mL	ICP-MS-55N-0.01X-1	34	ICP-MS-55N-0.1X-1	45	ICP-MS-55N-1	76
S (Sulfur) *	H_2O	100 mL	ICP-MS-56W-0.01X-1	34	ICP-MS-56W-0.1X-1	45	ICP-MS-56W-1	76
Ta (Tantalum) *	H_2O tr. HF	100 mL	ICP-MS-57W-0.01X-1	42	ICP-MS-57W-0.1X-1	53	ICP-MS-57W-1	84
Te (Tellurium)	10% HCl (min.)	100 mL	ICP-MS-58H-0.01X-1	34	ICP-MS-58H-0.1X-1	45	ICP-MS-58H-1	76
Tb (Terbium)	2-5% HNO_3	100 mL	ICP-MS-59N-0.01X-1	42	ICP-MS-59N-0.1X-1	53	ICP-MS-59N-1	129
Tl (Thallium)	2-5% HNO_3	100 mL	ICP-MS-60N-0.01X-1	34	ICP-MS-60N-0.1X-1	45	ICP-MS-60N-1	76
Th (Thorium)	2-5% HNO_3	100 mL	ICP-MS-61N-0.01X-1	34	ICP-MS-61N-0.1X-1	45	----------	--
Tm (Thulium)	2-5% HNO_3	100 mL	ICP-MS-62N-0.01X-1	58	ICP-MS-62N-0.1X-1	70	ICP-MS-62N-1	108
Sn (Tin)	2-5% HNO_3 tr. HF	100 mL	ICP-MS-63N-0.01X-1	34	ICP-MS-63N-0.1X-1	45	ICP-MS-63N-1	76
Ti (Titanium) *	H_2O tr. HF	100 mL	ICP-MS-64W-0.01X-1	34	ICP-MS-64W-0.1X-1	45	ICP-MS-64W-1	76
W (Tungsten) *	H_2O tr. NH_4OH	100 mL	ICP-MS-65W-0.01X-1	34	ICP-MS-65W-0.1X-1	45	ICP-MS-65W-1	76
U (Uranium)	2-5% HNO_3	100 mL	ICP-MS-66N-0.01X-1	42	ICP-MS-66N-0.1X-1	53	----------	--
V (Vanadium)	2-5% HNO_3	100 mL	ICP-MS-67N-0.01X-1	34	ICP-MS-67N-0.1X-1	45	ICP-MS-67N-1	76
Yb (Ytterbium)	2-5% HNO_3	100 mL	ICP-MS-68N-0.01X-1	42	ICP-MS-68N-0.1X-1	53	ICP-MS-68N-1	84
Y (Yttrium)	2-5% HNO_3	100 mL	ICP-MS-69N-0.01X-1	34	ICP-MS-69N-0.1X-1	45	ICP-MS-69N-1	76
Zn (Zinc)	2-5% HNO_3	100 mL	ICP-MS-70N-0.01X-1	34	ICP-MS-70N-0.1X-1	45	ICP-MS-70N-1	76
Zr (Zirconium)	2-5% HNO_3	100 mL	ICP-MS-71N-0.01X-1	34	ICP-MS-71N-0.1X-1	45	ICP-MS-71N-1	76

AA

Single Element

Each standard is prepared from high purity starting materials, 18 megohm de-ionized water and high purity acids. Every standard is instrumentally assayed to verify concentration of specified element. Actual Lot Analysis is provided on the label and a Certificate of Analysis is included for ease of record keeping and availability at audits.

- Traceable to NIST Reference Materials
- Certificate of Analysis included
- Actual Concentration Analysis
- High Purity Starting Materials and Acids
- 18 megohm de-ionized Water
- 36 Month Shelf Life

NoHaz Option with Most ICP & AA Single Element Standards

SAVINGS:

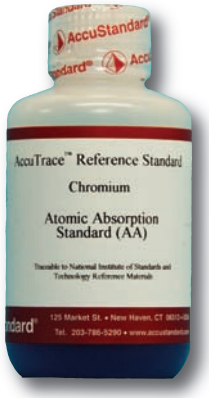
- No Hazardous Shipping Fees
- Lower Shipping Costs (less weight)
- Yields More – 500 mL from 20 mL concentrate
- Includes empty pre-washed, pre-labeled HDPE bottle (250 mL for 10,000 µg/mL; 500 mL for 25,000 µg/mL)

Single Element AAs require a Hazardous Shipping Fee, except the "NoHaz™" products in the right columns, and except elements marked with an asterisk *

Haz Fees

Single Element AA

Element Starting Material Matrix	Unit	1000 µg/mL Cat. No.	Price	NoHaz Size (No Hazardous shipping charge) 20 mL (NoHaz) 10,000 µg/mL Cat. No.	Price	20 mL (NoHaz) 25,000 µg/mL Cat. No.	Price
Aluminum	100 mL	AA01N-1	$ 13	AA01N-10X-20ML	$ 20	AA01N-25X-20ML	$ 37
2-5% Nitric acid	500 mL	AA01N-5	33				
Antimony	100 mL	AA02N-1	13	AA02W-10X-20ML	20	----------	--
2-5% HNO_3 tr.Tartaric acid	500 mL	AA02N-5	33				
Arsenic	100 mL	AA03N-1	13	AA03N-10X-20ML	20	AA03N-25X-20ML	37
2-5% Nitric acid	500 mL	AA03N-5	33				
Barium	100 mL	AA04N-1	12	AA04N-10X-20ML	20	AA04N-25X-20ML	37
2-5% Nitric acid	500 mL	AA04N-5	30				
Beryllium	100 mL	AA05N-1	19	AA05N-10X-20ML	20	----------	--
2-5% Nitric acid	500 mL	AA05N-5	48				
Bismuth	100 mL	AA06N-1	13	AA06N-10X-20ML	20	AA06N-25X-20ML	37
10% Nitric acid	500 mL	AA06N-5	33				
Boron *	100 mL	AA07W-1	13	AA07W-10X-20ML	20	----------	--
Water tr. NH_4OH	500 mL	AA07W-5	33				
Cadmium	100 mL	AA08N-1	13	AA08N-10X-20ML	20	AA08N-25X-20ML	37
2-5% Nitric acid	500 mL	AA08N-5	33				
Calcium	100 mL	AA09N-1	12	AA09N-10X-20ML	20	AA09N-25X-20ML	37
2-5% Nitric acid	500 mL	AA09N-5	30				
Cerium	100 mL	AA11N-1	18	AA11N-10X-20ML	20	AA11N-25X-20ML	45
2-5% Nitric acid	500 mL	AA11N-5	40				
Cesium	100 mL	AA12N-1	15	AA12N-10X-20ML	35	AA12N-25X-20ML	60
2-5% Nitric acid	500 mL	AA12N-5	36				
Chromium	100 mL	AA13N-1	12	AA13N-10X-20ML	20	AA13N-25X-20ML	37
2-5% Nitric acid	500 mL	AA13N-5	30				
Cobalt	100 mL	AA14N-1	12	AA14N-10X-20ML	20	AA14N-25X-20ML	37
2-5% Nitric acid	500 mL	AA14N-5	30				
Copper	100 mL	AA15N-1	12	AA15N-10X-20ML	20	AA15N-25X-20ML	37
2-5% Nitric acid	500 mL	AA15N-5	30				
Dysprosium	100 mL	AA16N-1	20	AA16N-10X-20ML	35	AA16N-25X-20ML	60
2-5% Nitric acid	500 mL	AA16N-5	45				
Erbium	100 mL	AA17N-1	20	AA17N-10X-20ML	35	AA17N-25X-20ML	60
2-5% Nitric acid	500 mL	AA17N-5	45				
Europium	100 mL	AA18N-1	20	AA18N-10X-20ML	35	AA18N-25X-20ML	60
2-5% Nitric acid	500 mL	AA18N-5	45				
Gadolinium	100 mL	AA19N-1	20	AA19N-10X-20ML	35	AA19N-25X-20ML	60
2-5% Nitric acid	500 mL	AA19N-5	45				
Gallium	100 mL	AA20N-1	15	AA20N-10X-20ML	45	----------	--
2-5% Nitric acid	500 mL	AA20N-5	36				
Germanium *	100 mL	AA21W-1	18	AA21W-10X-20ML	35	----------	--
Water tr. HF	500 mL	AA21W-5	40				



Single Element AAs require a Hazardous Shipping Fee, except the "NoHaz™" products in the right columns, and except elements marked with an asterisk *

Haz Fees

Single Element AA				NoHaz Size (No Hazardous shipping charge)			
Element Starting Material Matrix	Unit	1000 µg/mL Cat. No.	Price	20 mL (NoHaz) 10,000 µg/mL Cat. No.	Price	20 mL (NoHaz) 25,000 µg/mL Cat. No.	Price
Gold	100 mL	AA22H-1	$ 66	AA22H-10X-20ML	$ 80	AA22H-25X-20ML	$ 200
5% HCl (min.)	500 mL	AA22H-5	179				
Hafnium	100 mL	AA23N-1	45	AA23N-10X-20ML	60	AA23N-25X-20ML	125
2-5% Nitric acid tr. HF	500 mL	AA23N-5	110				
Holmium	100 mL	AA24N-1	20	AA24N-10X-20ML	35	AA24N-25X-20ML	60
2-5% Nitric acid	500 mL	AA24N-5	45				
Indium	100 mL	AA25N-1	18	AA25N-10X-20ML	35	AA25N-25X-20ML	60
2-5% Nitric acid	500 mL	AA25N-5	40				
Iridium	100 mL	AA26H-1	65	AA26H-10X-20ML	70	AA26H-25X-20ML	165
10% HCl (min.)	500 mL	AA26H-5	150				
Iron	100 mL	AA27N-1	12	AA27N-10X-20ML	20	AA27N-25X-20ML	37
2-5% Nitric acid	500 mL	AA27N-5	30				
Lanthanum	100 mL	AA28N-1	15	AA28N-10X-20ML	20	AA28N-25X-20ML	37
2-5% Nitric acid	500 mL	AA28N-5	36				
Lead	100 mL	AA29N-1	12	AA29N-10X-20ML	20	AA29N-25X-20ML	37
2-5% Nitric acid	500 mL	AA29N-5	30				
Lithium	100 mL	AA30N-1	12	AA30N-10X-20ML	20	AA30N-25X-20ML	37
2-5% Nitric acid	500 mL	AA30N-5	30				
Lutetium	100 mL	AA31N-1	65	AA31N-10X-20ML	80	AA31N-25X-20ML	275
2-5% Nitric acid	500 mL	AA31N-5	250				
Magnesium	100 mL	AA32N-1	12	AA32N-10X-20ML	20	AA32N-25X-20ML	37
2-5% Nitric acid	500 mL	AA32N-5	30				
Manganese	100 mL	AA33N-1	11	AA33N-10X-20ML	20	AA33N-25X-20ML	37
2-5% Nitric acid	500 mL	AA33N-5	28				
Mercury	100 mL	AA34N-1	13	AA34N-10X-20ML	20	AA34N-25X-20ML	37
2-5% Nitric acid	500 mL	AA34N-5	33				
Molybdenum *	100 mL	AA35W-1	13	AA35W-10X-20ML	20	AA35W-25X-20ML	37
Water tr. NH_4OH	500 mL	AA35W-5	33				
Neodymium	100 mL	AA36N-1	20	AA36N-10X-20ML	25	AA36N-25X-20ML	50
2-5% Nitric acid	500 mL	AA36N-5	45				
Nickel	100 mL	AA37N-1	12	AA37N-10X-20ML	20	AA37N-25X-20ML	37
2-5% Nitric acid	500 mL	AA37N-5	30				
Niobium *	100 mL	AA38W-1	15	AA38W-10X-20ML	20	AA38W-25X-20ML	37
Water tr. HF	500 mL	AA38W-5	36				
Palladium	100 mL	AA40H-1	62	AA40H-10X-20ML	80	AA40H-25X-20ML	175
10% HCl (min.)	500 mL	AA40H-5	145				
Phosphorus *	100 mL	AA41W-1	13	AA41W-10X-20ML	20	----------	--
Water	500 mL	AA41W-5	33				
Platinum	100 mL	AA42H-1	62	AA42H-10X-20ML	80	AA42H-25X-20ML	175
2% HCl (min.)	500 mL	AA42H-5	145				
Potassium	100 mL	AA43N-1	12	AA43N-10X-20ML	20	AA43N-25X-20ML	37
2-5% Nitric acid	500 mL	AA43N-5	30				
Praseodymium	100 mL	AA44N-1	20	AA44N-10X-20ML	35	AA44N-25X-20ML	60
2-5% Nitric acid	500 mL	AA44N-5	45				
Rhenium *	100 mL	AA45W-1	65	AA45W-10X-20ML	80	AA45W-25X-20ML	175
Water	500 mL	AA45W-5	150				
Rhodium	100 mL	AA46H-1	80	AA46H-10X-20ML	210	AA46H-25X-20ML	425
10% HCl (min.)	500 mL	AA46H-5	385				
Rubidium	100 mL	AA47N-1	15	AA47N-10X-20ML	20	AA47N-25X-20ML	37
2-5% Nitric acid	500 mL	AA47N-5	36				
Ruthenium	100 mL	AA48H-1	65	AA48H-10X-20ML	80	AA48H-25X-20ML	165
10% HCl	500 mL	AA48H-5	150				
Samarium	100 mL	AA49N-1	20	AA49N-10X-20ML	35	AA49N-25X-20ML	60
2-5% Nitric acid	500 mL	AA49N-5	45				
Scandium	100 mL	AA50N-1	62	AA50N-10X-20ML	75	AA50N-25X-20ML	160
2-5% Nitric acid	500 mL	AA50N-5	145				

- Traceable to NIST Reference Materials
- Certificate of Analysis included
- Actual Concentration Analysis
- High Purity Starting Materials and Acids
- 18 megohm de-ionized Water
- 36 Month Shelf Life

Single Element AAs require a Hazardous Shipping Fee, except the "NoHaz™" products in the right columns, and except elements marked with an asterisk *

Haz Fees

Single Element AA

Element Starting Material Matrix	Unit	1000 µg/mL Cat. No.	Price	NoHaz Size (No Hazardous shipping charge) 20 mL (NoHaz) 10,000 µg/mL Cat. No.	Price	20 mL (NoHaz) 25,000 µg/mL Cat. No.	Price
Selenium	100 mL	AA51N-1	$ 19	AA51N-10X-20ML	$ 20	AA51N-25X-20ML	$ 50
2-5% Nitric acid	500 mL	AA51N-5	46				
Silicon *	100 mL	AA52W-1	13	AA52W-10X-20ML	20	----------	--
Water tr. HF	500 mL	AA52W-5	33				
Silver	100 mL	AA53N-1	16	AA53N-10X-20ML	20	AA53N-25X-20ML	45
2-5% Nitric acid	500 mL	AA53N-5	40				
Sodium	100 mL	AA54N-1	13	AA54N-10X-20ML	20	AA54N-25X-20ML	37
2-5% Nitric acid	500 mL	AA54N-5	33				
Strontium	100 mL	AA55N-1	12	AA55N-10X-20ML	20	AA55N-25X-20ML	37
2-5% Nitric acid	500 mL	AA55N-5	30				
Sulfur *	100 mL	AA56W-1	15	AA56W-10X-20ML	20	AA56W-25X-20ML	37
Water	500 mL	AA56W-5	35				
Tantalum *	100 mL	AA57W-1	15	AA57W-10X-20ML	35	AA57W-25X-20ML	60
Water tr. HF	500 mL	AA57W-5	35				
Tellurium	100 mL	AA58H-1	15	AA58H-10X-20ML	20	----------	--
10% HCl (min.)	500 mL	AA58H-5	35				
Terbium	100 mL	AA59N-1	20	AA59N-10X-20ML	35	AA59N-25X-20ML	60
2-5% Nitric acid	500 mL	AA59N-5	45				
Thallium	100 mL	AA60N-1	15	AA60N-10X-20ML	20	AA60N-25X-20ML	37
2-5% Nitric acid	500 mL	AA60N-5	35				
Thorium	100 mL	AA61N-1	20	----------	--	----------	--
2-5% Nitric acid	500 mL	AA61N-5	45				
Thulium	100 mL	AA62N-1	60	AA62N-10X-20ML	65	AA62N-25X-20ML	150
2-5% Nitric acid	500 mL	AA62N-5	135				
Tin	100 mL	AA63N-1	19	AA63N-10X-20ML	20	AA63N-25X-20ML	50
2-5% Nitric acid tr. HF	500 mL	AA63N-5	46				
Titanium *	100 mL	AA64W-1	13	AA64W-10X-20ML	20	----------	--
Water tr. HF	500 mL	AA64W-5	33				
Tungsten *	100 mL	AA65W-1	15	AA65W-10X-20ML	20	----------	--
Water tr. NH_4OH	500 mL	AA65W-5	35				
Uranium	100 mL	AA66N-1	15	----------	--	----------	--
2-5% Nitric acid	500 mL	AA66N-5	35				
Vanadium	100 mL	AA67N-1	13	AA67N-10X-20ML	20	AA67N-25X-20ML	37
5-10% Nitric acid	500 mL	AA67N-5	33				
Ytterbium	100 mL	AA68N-1	20	AA68N-10X-20ML	35	AA68N-25X-20ML	60
2-5% Nitric acid	500 mL	AA68N-5	45				
Yttrium	100 mL	AA69N-1	15	AA69N-10X-20ML	20	AA69N-25X-20ML	37
2-5% Nitric acid	500 mL	AA69N-5	35				
Zinc	100 mL	AA70N-1	13	AA70N-10X-20ML	20	AA70N-25X-20ML	37
2-5% Nitric acid	500 mL	AA70N-5	33				
Zirconium	100 mL	AA71N-1	15	AA71N-10X-20ML	20	AA71N-25X-20ML	37
2-5% Nitric acid	500 mL	AA71N-5	35				

Matrix Modifier Solutions for Graphite Furnace AA

These Matrix Modifiers enhance sensitivity and suppress background interferences observed in trace metal analysis.

Modifier Description	Modifier Source	Unit	Cat. No.	Price
Ammonium dihydrogen phosphate 40% in H_2O	$NH_4H_2PO_4$	50 mL	MOD-02-0.5	$ 225
		100 mL	MOD-02-1	375
		500 mL	MOD-02-5	535
Ammonium nitrate 5% in H_2O	NH_4NO_3	50 mL	MOD-03-0.5	165
		100 mL	MOD-03-1	270
		500 mL	MOD-03-5	385
Calcium nitrate 2% in 5% in HNO_3	$Ca(NO_3)_2 \bullet 4H_2O$	50 mL	MOD-04-0.5	140
		100 mL	MOD-04-1	235
		500 mL	MOD-04-5	340
Lanthanum chloride 5% in 5% HCl	LaCl	50 mL	MOD-05-0.5	165
		100 mL	MOD-05-1	270
		500 mL	MOD-05-5	385
Lanthanum nitrate 5% in 5% HNO_3	$LaNO_3$	50 mL	MOD-06-0.5	165
		100 mL	MOD-06-1	270
		500 mL	MOD-06-5	385
Magnesium nitrate 2% in 5% HNO_3	$Mg(NO_3)_2$	50 mL	MOD-07-0.5	90
		100 mL	MOD-07-1	150
		500 mL	MOD-07-5	210
Nickel nitrate 5% in 5% HNO_3	$Ni(NO_3)_2$	50 mL	MOD-08-0.5	160
		100 mL	MOD-08-1	265
		500 mL	MOD-08-5	375
Palladium nitrate 0.2% in 5% HNO_3	$Pd(NO_3)_2$	50 mL	MOD-09A-0.5	60
		100 mL	MOD-09A-1	95
		500 mL	MOD-09A-5	135
Palladium nitrate 0.5% in 5% HNO_3	$Pd(NO_3)_2$	50 mL	MOD-09B-0.5	120
		100 mL	MOD-09B-1	200
		500 mL	MOD-09B-5	285
Palladium nitrate 1.0% in 5% HNO_3	$Pd(NO_3)_2$	50 mL	MOD-09C-0.5	225
		100 mL	MOD-09C-1	375
		500 mL	MOD-09C-5	890

Calibration and Matrix Blanks

Nitric Acid Blank

CLP-BLN-5 $ 30 / **500 mL**
CLP-BLN-L-SET $ 45 / **L (2 x 500 mL)**

5% HNO_3 in ASTM Type I Water

Hydrochloric Acid Blank

CLP-BLH-5 $ 30 / **500 mL**
CLP-BLH-L-SET $ 45 / **L (2 x 500 mL)**

5% HCl in ASTM Type I Water

Water Blank

CLP-BLW-5 * $ 30 / **500 mL**
CLP-BLW-L-SET * $ 40 / **L (2 x 500 mL)**

ASTM Type I Water

Mixed Acid Blank

CLP-BLMA-5 $ 30 / **500 mL**
CLP-BLMA-L-SET $ 45 / **L (2 x 500 mL)**

5% HCl + 1% HNO_3 in ASTM Type I Water

Multi-Element Graphite Furnace AA Calibration & Spiking Standards

GFAA Instrument Calibration Standard

CLP-CAL-AA $ 44 / **50 mL**
At stated conc. (µg/mL) in 5% HNO_3 6 comps.

Sb (Antimony)	100
As (Arsenic)	50
Cd (Cadmium)	10
Pb (Lead)	50
Se (Selenium)	100
Tl (Thallium)	50

GFAA Mercury Standard

for Calibration or Spiking
CLP-HG-AA $ 44 / **50 mL**
100 µg/mL in 5% HNO_3

Hg (Mercury)

GFAA Predigestion Spike Solution

CLP-SP1-AA $ 44 / **50 mL**
At stated conc. (µg/mL) in 5% HNO_3 6 comps.

Sb (Antimony)	100
As (Arsenic)	40
Cd (Cadmium)	5
Pb (Lead)	20
Se (Selenium)	10
Tl (Thallium)	50

GFAA Postdigestion Spike Solution

(2 x CRDL except for Lead)
CLP-SP2-AA $ 44 / **50 mL**
At stated conc. (µg/mL) in 5% HNO_3 6 comps.

Sb (Antimony)	120
As (Arsenic)	20
Cd (Cadmium)	10
Pb (Lead)	20
Se (Selenium)	10
Tl (Thallium)	20

GFAA Initial Calibration Verification

(Meets CLP Second Source Requirements)
CLP-ICV-AA $ 44 / **50 mL**
At stated conc. (µg/mL) in 5% HNO_3 6 comps.

Sb (Antimony)	50
As (Arsenic)	25
Cd (Cadmium)	5
Pb (Lead)	25
Se (Selenium)	50
Tl (Thallium)	25

GFAA Set

CLP-AA-SET $ 175 / **5 x 50 mL**

CLP-CAL-AA
CLP-SPI-AA
CLP-ICV-AA
CLP-HG-AA
CLP-SP2-AA

These products require a Hazardous Shipping Fee, <u>except</u> products marked with an asterisk *

- 99.99% High Purity Starting Materials
- 18 Megohm, ASTM type I de-ionized Water
- Packaged in pre-cleaned high quality HDPE bottles.
- Each Standard is Supplied with a Certificate of Analysis, stating traceability to NIST, certified value and expiration date.
- Final Solution is filtered through a 0.2 µm filter to eliminate contaminants (such as suspended solids and microbes). This extends shelf life and protects your column.
- Ready-To-Use Mixes and Calibration Sets.
- Standards may be used for other "Classical or Wet" methods.

Anions

		100 µg/mL		200 µg/mL		1000 µg/mL	
Water Matrix	Unit	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price
■ Acetate	100 mL	IC-ACET-1X-1	$ 15	----------	--	IC-ACET-10X-1	$ 45
	500 mL	IC-ACET-1X-5	55	----------	--	IC-ACET-10X-5	70
Br (Bromate) ***NEW***	100 mL	----------	--	----------	--	IC-BROM-10X-1	45
	500 mL	----------	--	----------	--	IC-BROM-10X-5	70
Br (Bromide)	100 mL	IC-BR-1X-1	15	IC-BR-2X-1	$ 25	IC-BR-10X-1	45
	500 mL	IC-BR-1X-5	55	IC-BR-2X-5	60	IC-BR-10X-5	70
■ Chlorate	100 mL	IC-CHLR-1X-1	15	----------	--	IC-CHLR-10X-1	45
	500 mL	IC-CHLR-1X-5	55	----------	--	IC-CHLR-10X-5	70
Citrate ***NEW***	100 mL	----------	--	----------	--	IC-CITR-10X-1	45
Cl (Chloride)	100 mL	IC-Cl-1X-1	15	IC-Cl-2X-1	25	IC-Cl-10X-1	45
	500 mL	IC-Cl-1X-5	55	IC-Cl-2X-5	60	IC-Cl-10X-5	70
■ Chromate	100 mL	IC-CHRM-1X-1	15	----------	--	IC-CHRM-10X-1	45
	500 mL	IC-CHRM-1X-5	55	----------	--	IC-CHRM-10X-5	70
F (Fluoride)	100 mL	IC-F-1X-1	15	IC-F-2X-1	25	IC-F-10X-1	45
	500 mL	IC-F-1X-5	55	IC-F-2X-5	60	IC-F-10X-5	70
■ Formate	100 mL	IC-FORM-1X-1	15	----------	--	IC-FORM-10X-1	45
	500 mL	IC-FORM-1X-5	55	----------	--	IC-FORM-10X-5	70
Glycolate ***NEW***	100 mL	----------	--	----------	--	IC-GLYC-10X-1	45
Iodide	100 mL	----------	--	----------	--	IC-I-10X-1	45
Lactate ***NEW***	100 mL	----------	--	----------	--	IC-LACT-10X-1	45
Malate ***NEW***	100 mL	----------	--	----------	--	IC-MALA-10X-1	45
Maleate ***NEW***	100 mL	----------	--	----------	--	IC-MALE-10X-1	45
NO_2 (Nitrite)	100 mL	IC-NO2-1X-1	15	IC-NO2-2X-1	25	IC-NO2-10X-1	45
	500 mL	IC-NO2-1X-5	55	IC-NO2-2X-5	60	IC-NO2-10X-5	70
NO_3 (Nitrate)	100 mL	IC-NO3-1X-1	15	IC-NO3-2X-1	25	IC-NO3-10X-1	45
	500 mL	IC-NO3-1X-5	55	IC-NO3-2X-5	60	IC-NO3-10X-5	70
■ Oxalate	100 mL	IC-OXAL-1X-1	15	----------	--	IC-OXAL-10X-1	45
	500 mL	IC-OXAL-1X-5	55	----------	--	IC-OXAL-10X-5	70
Perchlorate ***NEW***	100 mL	----------	--	----------	--	IC-PER-10X-1	55
Phthalate ***NEW***	100 mL	----------	--	----------	--	IC-PHTH-10X-1	45
PO_4 (Phosphate)	100 mL	IC-PO4-1X-1	15	IC-PO4-2X-1	25	IC-PO4-10X-1	45
	500 mL	IC-PO4-1X-5	55	IC-PO4-2X-5	60	IC-PO4-10X-5	70
Propionate ***NEW***	100 mL	----------	--	----------	--	IC-PROP-10X-1	45
Succinate ***NEW***	100 mL	----------	--	----------	--	IC-SUCC-10X-1	45
SO_4 (Sulfate)	100 mL	IC-SO4-1X-1	15	IC-SO4-2X-1	25	IC-SO4-10X-1	45
	500 mL	IC-SO4-1X-5	55	IC-SO4-2X-5	60	IC-SO4-10X-5	70
Tartrate ***NEW***	100 mL	----------	--	----------	--	IC-TART-10X-1	45

■ **Organic Acid Salt Standards**

Anion Kits

IC-AN-1X-1-SET $ 75 / **7 x 100 mL**
IC-AN-1X-5-SET $ 285 / **7 x 500 mL**
Each at 100 µg/mL in Water
IC-AN-2X-1-SET $ 130 / **7 x 100 mL**
IC-AN-2X-5-SET $ 315 / **7 x 500 mL**
Each at 200 µg/mL in Water
IC-AN-10X-1-SET $ 235 / **7 x 100 mL**
IC-AN-10X-5-SET $ 365 / **7 x 500 mL**
Each at 1000 µg/mL in Water

Fluoride
Chloride
Nitrite
Nitrate
Bromide
Phosphate
Sulfate

These products do not require Hazardous Shipping charges at this time

Ion Chrom - Ion Singles as the Element

	Unit	100 µg/mL	Price	1000 µg/mL	Price
NO_2-N (Nitrite-Nitrogen)	100 mL	IC-NO2-N-1X-1	$ 15	IC-NO2-N-10X-1	$ 45
Water Matrix	500 mL	IC-NO2-N-1X-5	55	IC-NO2-N-10X-5	70
NO_3-N (Nitrate-Nitrogen)	100 mL	IC-NO3-N-1X-1	15	IC-NO3-N-10X-1	45
Water Matrix	500 mL	IC-NO3-N-1X-5	55	IC-NO3-N-10X-5	70
PO_4-P (Phosphate-Phosphorous)	100 mL	IC-PO4-P-1X-1	15	IC-PO4-P-10X-1	45
Water Matrix	500 mL	IC-PO4-P-1X-5	55	IC-PO4-P-10X-5	70
SO_4-S (Sulfate-Sulfur)	100 mL	IC-SO4-S-1X-1	15	IC-SO4-S-10X-1	45
Water Matrix	500 mL	IC-SO4-S-1X-5	55	IC-SO4-S-10X-5	70
NH_4-N (Ammonium-Nitrogen)	100 mL	IC-NH4-N-1X-1	15	IC-NH4-N-10X-1	45
Water Matrix	500 mL	IC-NH4-N-1X-5	55	IC-NH4-N-10X-5	70

Anion Single Kits

IC-AN-KIT-R-10X-1-SET $ 235 / **7 x 100 mL**
IC-AN-KIT-R-10X-5-SET $ 365 / **7 x 500 mL**
Each at 1000 µg/mL

Fluoride
Chloride
Nitrite-Nitrogen
Nitrate-Nitrogen
Bromide
Phosphate-Phosphorous
Sulfate-Sulfur

TRACEABLE AccuIon Reference Standards CERTIFIED

Organic Acid Salt Standard

	Unit	100 µg/mL	Price	1000 µg/mL	Price
Formate	100 mL	IC-FORM-1X-1	$ 15	IC-FORM-10X-1	$ 45
Water Matrix	500 mL	IC-FORM-1X-5	55	IC-FORM-10X-5	70
Acetate	100 mL	IC-ACET-1X-1	15	IC-ACET-10X-1	45
Water Matrix	500 mL	IC-ACET-1X-5	55	IC-ACET-10X-5	70
Oxalate	100 mL	IC-OXAL-1X-1	15	IC-OXAL-10X-1	45
Water Matrix	500 mL	IC-OXAL-1X-5	55	IC-OXAL-10X-5	70
Chlorate	100 mL	IC-CHLR-1X-1	15	IC-CHLR-10X-1	45
Water Matrix	500 mL	IC-CHLR-1X-5	55	IC-CHLR-10X-5	70
Chromate	100 mL	IC-CHRM-1X-1	15	IC-CHRM-10X-1	45
Water Matrix	500 mL	IC-CHRM-1X-5	55	IC-CHRM-10X-5	70

Method 314.0 Perchlorate in Drinking Water by IC

Perchlorate has become an analyte of environmental interest since being detected in a number of drinking and groundwater supplies located in Midwestern states. EPA method 314.0 was released as an approved method to achieve the required sensitivity.

Perchlorate Standard

IC-PER-10X-1 $ 45 / **100 mL**
1000 µg/mL in Water

Perchlorate

Mixed Common Anion Stock

M-314.0-MCA-250X-1
$ 150 / **100 mL**
25 mg/mL in Water 3 comps.

Chloride
Sulfate
Carbonate

Conductivity Meter Calibration Standard

M-314.0-CMCS-1 $ 35 / **100 mL**
1410 µs/cm @ 25˚C in Water

Method 314.0 Perchlorate Calibration Set

M-314.0-SET $ 205 / 3 x **100 mL**

IC-PER-10X-1
M-314.0-MCA-250X-1
M-314.0-CMCS-1

Ion Chrom Eluents

0.5 M Sodium bicarbonate (100X concentrate)	**50 mL** $ 45 IC-ELU-01-0.5	**100 mL** $ 60 IC-ELU-01-1	**5 x 50 mL** $ 180 IC-ELU-01-0.5-PAK	**5 x 100 mL** $ 240 IC-ELU-01-1-PAK
0.5 M Sodium carbonate (100X concentrate)	**50 mL** $ 45 IC-ELU-02-0.5	**100 mL** $ 60 IC-ELU-02-1	**5 x 50 mL** $ 180 IC-ELU-02-0.5-PAK	**5 x 100 mL** $ 240 IC-ELU-02-1-PAK
0.18 M Sodium carbonate/ 0.17 M Sodium bicarbonate (100X concentrate)	**50 mL** $ 25 IC-ELU-03-0.5	**100 mL** $ 30 IC-ELU-03-1	**5 x 50 mL** $ 100 IC-ELU-03-0.5-PAK	**5 x 100 mL** $ 120 IC-ELU-03-1-PAK

Technical Note

Easy to use, ready to dilute concentrates. Open a fresh bottle and dilute the volume (50 mL to 5 L or 100 mL to 10 L) and be assured of a fresh uncontaminated mobile phase

These products do not require Hazardous Shipping charges at this time

Anion Mixes

Anion Mix #1
IC-MAN-01-1 $ 100 / **100 mL**
Water Matrix 5 comps.

F (Fluoride)	20 µg/mL
Cl (Chloride)	30 µg/mL
NO_3 (Nitrate)	100 µg/mL
PO_4 (Phosphate)	150 µg/mL
SO_4 (Sulfate)	150 µg/mL

Anion Mix #2
IC-MAN-02-1 $ 115 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	100 µg/mL
Cl (Chloride)	200 µg/mL
Br (Bromide)	400 µg/mL
NO_3 (Nitrate)	400 µg/mL
PO_4 (Phosphate)	600 µg/mL
SO_4 (Sulfate)	400 µg/mL

Anion Mix #3
IC-MAN-03-1 $ 75 / **100 mL**
Water Matrix 3 comps.

F (Fluoride)	100 µg/mL
Cl (Chloride)	100 µg/mL
SO_4 (Sulfate)	100 µg/mL

Anion Mix #4
IC-MAN-04-1 $ 115 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	100 µg/mL
Cl (Chloride)	100 µg/mL
Br (Bromide)	100 µg/mL
NO_3 (Nitrate)	100 µg/mL
PO_4 (Phosphate)	100 µg/mL
SO_4 (Sulfate)	100 µg/mL

Anion Mix #5
IC-MAN-05-R1-1 $ 85 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	10 µg/mL
Cl (Chloride)	20 µg/mL
Br (Bromide)	20 µg/mL
NO_3 (Nitrate)	20 µg/mL
PO_4 (Phosphate)	5 µg/mL
SO_4 (Sulfate)	30 µg/mL

Anion Mix #6
IC-MAN-06-R1-1 $ 85 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	1 µg/mL
Cl (Chloride)	5 µg/mL
Br (Bromide)	5 µg/mL
NO_3 (Nitrate)	5 µg/mL
PO_4 (Phosphate)	5 µg/mL
SO_4 (Sulfate)	10 µg/mL

Technical Note

To enhance the shelf life and long term stability of our IC products, Nitrite has been split out of mixes that contain Nitrate.

Anion Mix #7
IC-MAN-07-R1-1 $ 85 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	1 µg/mL
Cl (Chloride)	10 µg/mL
Br (Bromide)	10 µg/mL
NO_3 (Nitrate)	10 µg/mL
PO_4 (Phosphate)	10 µg/mL
SO_4 (Sulfate)	10 µg/mL

Anion Mix #8
IC-MAN-08-R1-1 $ 85 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	10 µg/mL
Cl (Chloride)	20 µg/mL
Br (Bromide)	20 µg/mL
NO_3 (Nitrate)	20 µg/mL
PO_4 (Phosphate)	20 µg/mL
SO_4 (Sulfate)	20 µg/mL

Anion Mix #9
IC-MAN-09-R1-1 $ 85 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	20 µg/mL
Cl (Chloride)	40 µg/mL
Br (Bromide)	40 µg/mL
NO_3 (Nitrate)	40 µg/mL
PO_4 (Phosphate)	40 µg/mL
SO_4 (Sulfate)	40 µg/mL

Anion Mix #10
IC-MAN-10-R1-1 $ 85 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	25 µg/mL
Cl (Chloride)	50 µg/mL
Br (Bromide)	50 µg/mL
NO_3 (Nitrate)	50 µg/mL
PO_4 (Phosphate)	50 µg/mL
SO_4 (Sulfate)	50 µg/mL

IC Anion Set
IC-MAN-CAL-SET
$ 395 / **5 units**
Contains one each of:

- CLP-BLW-5 (500 mL)
- IC-MAN-07-R1-1 (100 mL)
- IC-MAN-08-R1-1 (100 mL)
- IC-MAN-09-R1-1 (100 mL)
- IC-MAN-10-R1-1 (100 mL)

Technical Note

This Ready-to-Use set of standards can be used to generate a 5 point calibration curve (including blank)

Technical Note

We offer several Nitrite concentrations that can be added just prior to analysis for maximum stability.

Anion Mix #11
IC-MAN-11-1 $ 175 / **100 mL**
Water Matrix 5 comps.

Cl (Chloride)	1000 µg/mL
Br (Bromide)	1000 µg/mL
NO_3 (Nitrate)	1000 µg/mL
PO_4 (Phosphate)	1000 µg/mL
SO_4 (Sulfate)	1000 µg/mL

Anion Mix #12
IC-MAN-12-1 $ 100 / **100 mL**
Water Matrix 5 comps.

Cl (Chloride)	15 µg/mL
Br (Bromide)	15 µg/mL
NO_3 (Nitrate)	15 µg/mL
PO_4 (Phosphate)	15 µg/mL
SO_4 (Sulfate)	15 µg/mL

Anion Mix #13
IC-MAN-13-1 $ 75 / **100 mL**
Water Matrix 3 comps.

F (Fluoride)	25 µg/mL
Cl (Chloride)	50 µg/mL
SO_4 (Sulfate)	100 µg/mL

Anion Mix #14
IC-MAN-14-R3-1 $ 100 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	20 µg/mL
Cl (Chloride)	30 µg/mL
NO_3 (Nitrate)	100 µg/mL
Br (Bromide)	100 µg/mL
PO_4 (Phosphate)	150 µg/mL
SO_4 (Sulfate)	150 µg/mL

Anion Mix #14 plus IC-NO2-N-1X is perfect for US EPA Method 300.1

Anion Mix #14 Revised
IC-MAN-14-R2-1 $ 100 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	20 µg/mL
Cl (Chloride)	30 µg/mL
Br (Bromide)	100 µg/mL
N-NO_3 (Nitrogen-Nitrate)	100 µg/mL
P-PO_4 (Phosphorus-Phosphate)	150 µg/mL
SO_4 (Sulfate)	150 µg/mL

Technical Note

This "Determination of Inorganic Anions by Ion Chromatography" and **ASTM D-4327**, "Test Method for Anions in Water by Chemically Suppressed Ion Chromatography."

Nitrite

IC-NO2-10X-1	$ 45 / **100 mL**
NO_2 *(Nitrite)*	1000 µg/mL
IC-NO2-1X-1	$ 15 / **100 mL**
NO_2 *(Nitrite)*	100 µg/mL
IC-NO2-0.1X-1	$ 15 / **100 mL**
NO_2 *(Nitrite)*	10 µg/mL
IC-NO2-N-1X-1	$ 15 / **100 mL**
NO_2 *(Nitrite)*	100 µg/mL

Anion Mix #15
IC-MAN-15-R2-1 $ 70 / **100 mL**
Water Matrix 3 comps.

F *(Fluoride)*	100 µg/mL
NO_3 *(Nitrate)*	100 µg/mL
PO_4 *(Phosphate)*	100 µg/mL

Anion Mix #16
IC-MAN-16-R1-1 $ 100 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	100 µg/mL
Cl (Chloride)	200 µg/mL
Br (Bromide)	100 µg/mL
NO_3 (Nitrate)	20 µg/mL
PO_4 (Phosphate)	30 µg/mL
SO_4 (Sulfate)	20 µg/mL

Anion Mix #17
IC-MAN-17-R1-1 $ 85 / **100 mL**
Water Matrix 5 comps.

Cl (Chloride)	20 µg/mL
Br (Bromide)	12 µg/mL
NO_3 (Nitrate)	12 µg/mL
PO_4 (Phosphate)	12 µg/mL
SO_4 (Sulfate)	80 µg/mL

Anion Mix #18
IC-MAN-18-R1-1 $ 85 / **100 mL**
Water Matrix 5 comps.

F (Fluoride)	100 µg/mL
Cl (Chloride)	100 µg/mL
NO_3 (Nitrate)	100 µg/mL
PO_4 (Phosphate)	100 µg/mL
SO_4 (Sulfate)	100 µg/mL

Dichloroacetate Surrogate Standard
M-300.1-SS
$ 125 / **100 mL**
0.5 mg/mL Dichloroacetate in Water

These products do not require Hazardous Shipping charges at this time

Ion Chrom - Cation Singles

Dilute HNO_3 Matrix	Unit	100 µg/mL Cat. No.	Price	200 µg/mL Cat. No.	Price	1,000 µg/mL Cat. No.	Price
Ca (Calcium)	100 mL	IC-CA-1X-1	$ 15	IC-CA-2X-1	$ 25	IC-CA-10X-1	$ 45
	500 mL	IC-CA-1X-5	55	IC-CA-2X-5	60	IC-CA-10X-5	70
NH_4 (Ammonium)	100 mL	IC-NH4-1X-1	15	IC-NH4-2X-1	25	IC-NH4-10X-1 †	45
	500 mL	IC-NH4-1X-5	55	IC-NH4-2X-5	60	IC-NH4-10X-5 †	70
Mg (Magnesium)	100 mL	IC-MG-1X-1	15	IC-MG-2X-1	25	IC-MG-10X-1	45
	500 mL	IC-MG-1X-5	55	IC-MG-2X-5	60	IC-MG-10X-5	70
K (Potassium)	100 mL	IC-K-1X-1	15	IC-K-2X-1	25	IC-K-10X-1	45
	500 mL	IC-K-1X-5	55	IC-K-2X-5	60	IC-K-10X-5	70
Na (Sodium)	100 mL	IC-NA-1X-1	15	IC-NA-2X-1	25	IC-NA-10X-1	45
	500 mL	IC-NA-1X-5	55	IC-NA-2X-5	60	IC-NA-10X-5	70
Li (Lithium)	100 mL	IC-LI-1X-1	15	IC-LI-2X-1	25	IC-LI-10X-1	45
	500 mL	IC-LI-1X-5	55	IC-LI-2X-5	60	IC-LI-10X-5	70
Ba (Barium)	100 mL	IC-BA-1X-1	15	IC-BA-2X-1	25	IC-BA-10X-1	45
	500 mL	IC-BA-1X-5	55	IC-BA-2X-5	60	IC-BA-10X-5	70
Sr (Strontium)	100 mL	IC-SR-1X-1	15	IC-SR-2X-1	25	IC-SR-10X-1	45
	500 mL	IC-SR-1X-5	55	IC-SR-2X-5	60	IC-SR-10X-5	70
Sets	**8 x 100 mL**	IC-CAT-1X-1-SET	75	IC-CAT-2X-1-SET	130	IC-CAT-10X-1-SET	235
Above Listed	**8 x 500 mL**	IC-CAT-1X-5-SET	285	IC-CAT-2X-5-SET	315	IC-CAT-10X-5-SET	365

† **1,000 µg/mL as Ammonium (NH_4) Other Nitrogen species equivalents are:**

NH_3 (Ammonia) = 944 µg/mL
N (Nitrogen) = 776 µg/mL

Ion Chrom - Cation Mixes

Cation Mix #1

IC-MCA-01-1 $ 150 / **100 mL**
Dilute HNO_3 6 comps.

Ca (Calcium)	1000 µg/mL
NH_4 (Ammonium)	400 µg/mL
Mg (Magnesium)	200 µg/mL
K (Potassium)	200 µg/mL
Na (Sodium)	200 µg/mL
Li (Lithium)	50 µg/mL

Cation Mix #2

IC-MCA-02-1 $ 125 / **100 mL**
Dilute HNO_3 6 comps.

Ca (Calcium)	100 µg/mL
NH_4 (Ammonium)	100 µg/mL
Mg (Magnesium)	100 µg/mL
K (Potassium)	100 µg/mL
Na (Sodium)	100 µg/mL
Li (Lithium)	100 µg/mL

Cation Mix #3

IC-MCA-03-1 $ 100 / **100 mL**
Dilute HNO_3 4 comps.

Ca (Calcium)	100 µg/mL
K (Potassium)	100 µg/mL
Na (Sodium)	50 µg/mL
Li (Lithium)	10 µg/mL

Cation Mix #4

IC-MCA-04-1 $ 100 / **100 mL**
Dilute HNO_3 4 comps.

Ca (Calcium)	400 µg/mL
Mg (Magnesium)	200 µg/mL
Ba (Barium)	1600 µg/mL
Sr (Strontium)	600 µg/mL

Cation Mix #5

IC-MCA-05-1 $ 100 / **100 mL**
Dilute HNO_3 4 comps.

NH_4 (Ammonium)	3 µg/mL
K (Potassium)	6 µg/mL
Na (Sodium)	3 µg/mL
Li (Lithium)	0.5 µg/mL

Cation Mix #6

IC-MCA-06-1 $ 100 / **100 mL**
Dilute HNO_3 6 comps.

Ca (Calcium)	2 µg/mL
NH_4 (Ammonium)	1.5 µg/mL
Mg (Magnesium)	2 µg/mL
K (Potassium)	2.5 µg/mL
Na (Sodium)	1.5 µg/mL
Li (Lithium)	0.2 µg/mL

These products do not require Hazardous Shipping charges at this time

Wet Chemicals

Our Wet Chemical Line offers Inorganic Chemists the certified standards they need. All of our Wet Chemical standards are subjected to the same rigorous quality control procedures as our ICP and IC standards.

Each Standard is prepared from the highest quality raw material, according to ASTM, EPA or "*Standard Methods*"[1] procedures. All the balances used in the preparation are calibrated regularly versus NIST traceable weights.

Each batch of finished standards is then analyzed to verify concentration, against NIST standards where possible. Finally, each batch is packaged for the maximum stability and shelf life so that you receive the best possible product.

1 Standard Methods for the Examination of Water and Wastewater. American Public Health Association, American Water Works Association, Water Environment Federation

Inorganic Non-Metallic Constituents

Many of these methods use classical wet chemical methods to determine the components of either potable or wastewater.

Bromide
IC-BR-10X-1 $ 45 / **100 mL**
1000 µg/mL Bromide in Water

Method 300.1 Ion Chrom Standard Revised
IC-MAN-14-R2-1 $ 100 / **100 mL**
Water Matrix 6 comps.

F (Fluoride)	20 µg/mL
Cl (Chloride)	30 µg/mL
Br (Bromide)	100 µg/mL
NO_3-N (Nitrate-Nitrogen)	100 µg/mL
PO_4-P (Phosphate-Phosphorus)	150 µg/mL
SO_4 (Sulfate)	150 µg/mL

Technical Note
This product was designed to more closely meet the EPA standard by having the concentrations for the nutrients calculated back to the element rather than the anion.

Dichloroacetate Surrogate Standard
NEW
M-300.1-SS $ 125 / **100 mL**
0.5 mg/mL Dichloroacetate in Water

Cyanide
WC-CN-10X-1 Δ $ 45 / **100 mL**
1000 µg/mL Cyanide in Water tr. NaOH

Chloride
IC-CL-10X-1 $ 45 / **100 mL**
1000 µg/mL Chloride in Water

Total Residual Chlorine
WC-TRC-10X-10ML $ 35 / **10 mL**
1000 µg/mL Chlorine in Water

Technical Note
This product is shipped in an amber flame sealed ampule for maximum stability.

Fluoride
IC-F-10X-1 $ 45 / **100 mL**
1000 µg/mL Fluoride in Water

Iodide
IC-I-10X-1 $ 45 / **100 mL**
1000 µg/mL Iodide in Water

pH
WC-PH-4-1 $ 25 / **100 mL**
pH of 4.0 in Water
WC-PH-7-1 ***NEW*** $ 25 / **100 mL**
pH of 7.0 in Water
WC-PH-10-1 ***NEW*** $ 25 / **100 mL**
pH of 10.0 in Water

Phosphorus - Total
IC-PO4-P-10X-1 $ 45 / **100 mL**
1000 µg/mL Phosphorus in Water

Technical Note
Can also be used for ortho-phosphate analysis.

Technical Note
Nitrogen Species are all calculated back to Nitrogen - Not the Anion or Cation species.

Nitrogen - Ammonium
IC-NH4-N-10X-1 $ 45 / **100 mL**
1000 µg/mL Ammonium-Nitrogen in Water

Nitrogen - Nitrite
IC-NO2-N-10X-1 $ 45 / **100 mL**
1000 µg/mL Nitrite-Nitrogen in Water

Nitrogen - Nitrate
IC-NO3-N-10X-1 $ 45 / **100 mL**
1000 µg/mL Nitrate-Nitrogen in Water

Nitrogen - Total Organic
WC-TON-10X-1 $ 45 / **100 mL**
1000 µg/mL Total Organic Nitrogen in Water

Silica
WC-SIO2-10X-1 $ 45 / **100 mL**
1000 µg/mL as Silica (SiO_2) in Water tr. HF

Sulfate
IC-SO4-10X-1 $ 45 / **100 mL**
1000 µg/mL Sulfate (SO_4) in Water

Δ Requires a Hazardous Shipping Fee

Physical & Aggregate Properties

These Standards are concerned primarily with measuring actual physical characteristics of a sample as opposed to the chemical characteristics. These analytes are measured frequently in both drinking and waste waters.

Turbidity
WC-TURB-4X-1 $ 45 / **100 mL**
400 NTU non-ratio Turbidity Standard
A stable solution of microspheres in an aqueous matrix. Can be diluted in turbidity free water to make a calibration curve.
Do not shake prior to use.

Alkalinity
WC-ALK-10X-1 $ 25 / **100 mL**
1000 µg/L $CaCO_3$ to pH 4.5

Hardness
WC-HARD-10X-1 $ 45 / **100 mL**
1000 µg/mL equivalent $CaCO_3$
A combination of Ca and Mg to give an approximate concentration of 1000 µg/mL $CaCO_3$. Hardness µg/mL equivalent $CaCO_3$ = 2.497 [Ca µg/mL] + 4.118 [Mg µg/mL]

Conductivity
WC-COND-10X-1 $ 25 / **100 mL**
1000 µmhos in Water

Solids
WC-SOL $ 25 / **sample**
2 comps.
1000 ppm TSS (Total Suspended Solids) and 1000 ppm TDS (Total Disolved Solids) for a 2000 ppm TS (Total Solids).

Dilute to 100 mL. Rinse vial and cap several times to recover all solids.

Methylene Blue Activated Substance (MBAS)
WC-MBAS-R1-10X-1 $ 35 / **100 mL**
1000 µg/mL in Water

Aggregate Organic

Rather than determining individual organic analytes, these Standards are used to determine organic matter in broad categories, based primarily on how they react.

Biochemical Oxygen Demand (BOD)

WC-BOD-10ML $ 25 / **10 mL**
100 µg/mL BOD

75 mg/L glucose and 75 mg / L glutamic acid provided in a flame sealed ampule. Dilute to 1L immediately before use.

Conductivity

WC-COND-10X-1 $ 25 / **100 mL**
1000 µmhos in water

Chemical Oxygen Demand (COD)

WC-COD-5X-10ML $ 25 / **10 mL**
500 µg/mL COD in water

Total Organic Carbon (TOC)

WC-TOC-10X-1 $ 25 / **100 mL**
1000 µg/mL TOC

Total Organic Halides (TOX)

WC-TOX-10X-1 $ 25 / **1 mL**
WC-TOX-10X-1-PAK $ 25 / **5 x 1 mL**
1000 µg/mL MeOH

Oil and Grease

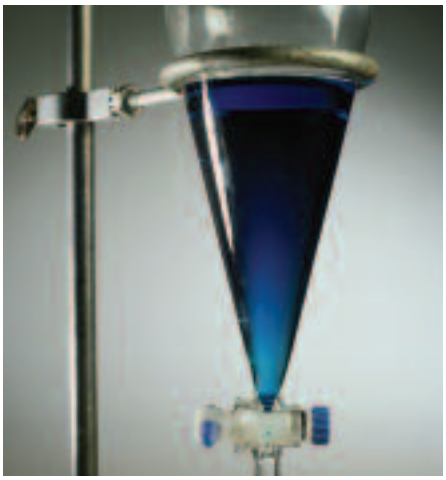
WC-OILG-10X-1 Δ $ 45 / **100 mL**
1000 µg/mL Total Oil and Grease in n-Propanol

Contains 500 µg/mL vegetable oil and 500 µg/mL of petroleum oil. Shake well before use.

Phenols

WC-PHEN-10X-1 $ 45 / **100 mL**
1000 µg/mL Phenol in water.

Δ Requires a Hazardous Shipping Fee



Method 1664 Oil, Grease & Total Petroleum Hydrocarbon (TPH)

Precision and Recovery (PAR) Spiking Solution

M-1664-5ML $ 15 / **1 x 5 mL**
M-1664-5ML-PAK *SAVE 20%* $ 60 / **5 x 5 mL**
4.0 mg/mL each in Acetone 2 comps.
M-1664-20ML $ 25 / **1 x 20 mL**
M-1664-20ML-PAK *SAVE 20%* $ 100 / **5 x 20 mL**
4.0 mg/mL each in Acetone 2 comps.

Hexadecane Stearic acid

Technical Note

This Precison and Recovery (PAR) Spiking Solution was developed for the Method 1664. This performance based method was developed to replace previous gravimetric procedures incorporating Freon-113 as the extraction solvent for the determination of Oil and Grease and Total Petroleum Hydrocarbons. Each standard is packaged in a flame sealed ampule conveniently sized for quality control of the analytical batch.

Method 413.2 & 418.1 Total Petroleum Hydrocarbon Analysis by IR

Oil, Grease & Petroleum Hydrocarbon Concentrates Mix

M-418-CON $ 35 / **1 x 1 mL**
% by volume 3 comps.

Chlorobenzene (25.0) Hexadecane (37.5)
Isooctane (37.5)

Oil, Grease and Petroleum Hydrocarbon Total Recoverable (IR Method)

M-418 $ 30 / **1 x 1 mL**
M-418-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
Total 4.15 mg/mL in Freon 113, (Parts by volume) 3 comps.

Chlorobenzene (10.0) Isooctane (15.0)
n-Hexadecane (15.0)

Method 8440 Total Petroleum Hydrocarbon Analysis

Total Recoverable Petroleum Hydrocarbon Mix

M-8440 $ 20 / **1 x 1 mL**
M-8440-PAK *SAVE 20%* $ 80 / **5 x 1 mL**
At stated conc. in Tetrachloroethene 3 comps.

Chlorobenzene (0.10 w/w %) Isooctane (0.15 w/w %)
n-Hexadecane (0.15 w/w %)

Silica Gel Cleanup Calibration Solution

M-8440-SGC $ 10 / **1 x 1 mL**
M-8440-SGC-PAK *SAVE 20%* $ 40 / **5 x 1 mL**
10.0 mg/mL in Tetrachloroethene

Corn Oil

Total Petroleum Hydrocarbon Concentrate Mix

M-8440-CON $ 30 / **1 x 1 mL**
M-8440-CON-PAK *SAVE 20%* $ 120 / **5 x 1 mL**
3 comps.

Chlorobenzene (25.0 vol %) Isooctane (37.5 vol %)
n-Hexadecane (37.5 vol %)

Standards of Interest

AccuStandard offers the widest selection of Petroleum standards. These TPH oil analysis standards are a sample of the hundreds in our Fuel and Hydrocarbon section.

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

- Traceable to NIST Reference Materials
- Formulated from Ultra High Purity Starting Materials, Water and Acids
- Meets EPA and Customer Applications
- Concentration Verified by Wet Chemical and Instrumental Analysis
- Packaged in Specially prepared Acid Leached Bottles
- Full Documentation

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Quality Control Standards

Quality Control Standards can be used for many different applications. AccuTrace QC Standards are ideal for calibration when performing NPDES monitoring requirements and can be used for standard curve checks, inter-element correction methods, interference checks or any other unique application.

QC Standard #1

QCS-01-1 $ 182 / **100 mL**
QCS-01-5 $ 354 / **500 mL**
100 µg/mL each in 5% HNO_3 tr. HF 23 comps.

Sb (Antimony)	Mn (Manganese)
As (Arsenic)	Mo (Molybdenum)
Be (Beryllium)	Ni (Nickel)
Cd (Cadmium)	P (Phosphorus)
Ca (Calcium)	Se (Selenium)
Cr (Chromium)	Sr (Strontium)
Co (Cobalt)	Tl (Thallium)
Cu (Copper)	Sn (Tin)
Fe (Iron)	Ti (Titanium)
Pb (Lead)	V (Vanadium)
Li (Lithium)	Zn (Zinc)
Mg (Magnesium)	

QC Standard #2

QCS-02-1 $ 89 / **100 mL**
QCS-02-5 $ 174 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF
7 comps

Al (Aluminum)	100
Ba (Barium)	100
B (Boron)	100
K (Potassium)	1000
Si (Silicon) †	500
Ag (Silver)	50
Na (Sodium)	100

† 1070 µg/mL as SiO_2

QC Standard #2R

QCS-02-R1-1 $ 89 / **100 mL**
QCS-02-R1-5 $ 174 / **500 mL**
100 µg/mL each in 5% HNO_3 tr. HF 7 comps.

Al (Aluminum)	Si (Silicon) †
Ba (Barium)	Ag (Silver)
B (Boron)	Na (Sodium)
K (Potassium)	

† 214 µg/mL as SiO_2

QC Standard #3

QCS-03-1 $ 135 / **100 mL**
QCS-03-5 $ 264 / **500 mL**
100 µg/mL each in 5% HNO_3 15 comps.

Al (Aluminum)	Pb (Lead)
Ba (Barium)	Mg (Magnesium)
Cd (Cadmium)	Mn (Manganese)
Ca (Calcium)	Ni (Nickel)
Cr (Chromium)	Na (Sodium)
Co (Cobalt)	Ti (Titanium)
Cu (Copper)	Zn (Zinc)
Fe (Iron)	

QC Standard #4

QCS-04-1 $ 176 / **100 mL**
At stated conc. (µg/mL) in 5% HNO_3 19 comps.

Al (Aluminum)	100
Ba (Barium)	5
Be (Beryllium)	1
Bi (Bismuth)	200
B (Boron)	15
Cd (Cadmium)	20
Cr (Chromium)	25
Co (Cobalt)	20
Cu (Copper)	20
Ga (Gallium)	150
In (Indium)	200
Fe (Iron)	15
Pb (Lead)	200
Mn (Manganese)	5
Ni (Nickel)	50
Ag (Silver)	50
Sr (Strontium)	1
Tl (Thallium)	40
Zn (Zinc)	20

QC Standard #5

QCS-05-1 $ 109 / **100 mL**
At stated conc. (µg/mL) in 2% HNO_3 3 comps.

Li (Lithium)	250
K (Potassium)	10,000
Na (Sodium)	1000

QC Standard #6

QCS-06-1 $ 109 / **100 mL**
1000 µg/mL each in 2% HNO_3 4 comps.

Ba (Barium)	Mg (Magnesium)
Ca (Calcium)	Sr (Strontium)

Quality Control Standards Sets

QCS-1-SET $ 325 / **3 x 100 mL**
QCS-01-1 QCS-02-1 QCS-03-1

QCS-5-SET $ 635 / **3 x 500 mL**
QCS-01-5 QCS-02-5 QCS-03-5

Second Source QC Standards

These Alternative Source Line Standards exactly match a formulation from another source you may be already using. Our ASL formulations save you the cost of a custom formulation by providing you with true independent lots.

Second Source QC Standard #1

QCS-ASL-7-1 $ 85 / **1 x 100 mL**
QCS-ASL-7-5 $ 165 / **1 x 500 mL**
At stated conc. (µg/mL) in 2-5% HNO_3 tr. HF
7 comps.

Al (Aluminum)	100
Ba (Barium)	100
B (Boron)	100
K (Potassium)	1000
Si (Silicon)	50
Ag (Silver)	100
Na (Sodium)	100

Second Source QC Standard #2

QCS-ASL-21-1 $ 190 / **1 x 100 mL**
QCS-ASL-21-5 $ 370 / **1 x 500 mL**
100 µg/mL each in 2-5% HNO_3 tr. HF 21 comps.

Sb (Antimony)	Mg (Magnesium)
As (Arsenic)	Mn (Manganese)
Be (Beryllium)	Mo (Molybdenum)
Cd (Cadmium)	Ni (Nickel)
Ca (Calcium)	Se (Selenium)
Cr (Chromium)	Sr (Strontium)
Co (Cobalt)	Tl (Thallium)
Cu (Copper)	Ti (Titanium)
Fe (Iron)	V (Vanadium)
Pb (Lead)	Zn (Zinc)
Li (Lithium)	

- **NIST Traceable**
- **Independent Lots**
- **Exact Match**

Match Other Supplier's Products.
Use as a True Second Source.

These products require a Hazardous Shipping Fee except products marked with an asterisk *

Instrument Check Standards

These instrument check standards are used to verify ICP instrumentation performance over specific wavelength ranges from 160 nm to 790 nm. These standards are ideal for method development, technician training and other calibration uses.

Instrument Check Standard #1

ICS-01-1 $ 90 / **100 mL**
ICS-01-5 $ 175 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 9 comps.

Al (Aluminum)	100
Ba (Barium)	10
Be (Beryllium)	10
B (Boron)	100
Ca (Calcium)	10
Ni (Nickel)	100
P (Phosphorus)	1000
Sc (Scandium)	10
Zn (Zinc)	100

Instrument Check Standard #2

ICS-02-1 $ 77 / **100 mL**
ICS-02-5 $ 150 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 7 comps.

Ba (Barium)	50
Be (Beryllium)	20
La (Lanthanum)	20
Mn (Manganese)	20
Ni (Nickel)	20
Sc (Scandium)	20
Zn (Zinc)	20

Instrument Check Standard #3

ICS-03-1 $ 104 / **100 mL**
ICS-03-5 $ 202 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 tr. HF 11 comps.

As (Arsenic)	20
La (Lanthanum)	20
Li (Lithium)	20
Mn (Manganese)	20
Mo (Molybdenum)	20
Ni (Nickel)	20
P (Phosphorus)	100
K (Potassium)	100
Sc (Scandium)	20
Na (Sodium)	20
S (Sulfur)	100

Instrument Check Standard #4

ICS-04-1 $ 112 / **100 mL**
ICS-04-5 $ 218 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 12 comps.

Al (Aluminum)	100
As (Arsenic)	100
Ba (Barium)	10
Cu (Copper)	100
Pb (Lead)	100
Mn (Manganese)	100
Ni (Nickel)	100
P (Phosphorus)	100
K (Potassium)	500
Sc (Scandium)	100
Na (Sodium)	100
Zn (Zinc)	100

Instrument Check Standard #5

ICS-05-1 $ 134 / **100 mL**
ICS-05-5 $ 261 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 15 comps.

Al (Aluminum)	100
As (Arsenic)	100
Cd (Cadmium)	100
Cr (Chromium)	100
Co (Cobalt)	100
Cu (Copper)	100
Fe (Iron)	100
Pb (Lead)	100
Mg (Magnesium)	100
Mn (Manganese)	100
Ni (Nickel)	100
K (Potassium)	100
Na (Sodium)	100
Y (Yttrium)	600
Zn (Zinc)	100

Instrument Check Standard #6

ICS-06-1 $ 86 / **100 mL**
ICS-06-5 $ 168 / **500 mL**
50 µg/mL each in 2% HNO_3 9 comps.

Al (Aluminum)	Pb (Lead)
As (Arsenic)	P (Phosphorus)
Cr (Chromium)	K (Potassium)
Co (Cobalt)	Na (Sodium)
Cu (Copper)	

Instrument Check Standard #7

ICS-07-1 $ 90 / **100 mL**
ICS-07-5 $ 175 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 7 comps.

Al (Aluminum)	50
Ba (Barium)	50
Cd (Cadmium)	50
Cu (Copper)	50
Mn (Manganese)	50
K (Potassium)	500
Zn (Zinc)	50

Screening Standards

These three Qualitative Standards can be combined to scan samples quickly and easily for elements present. They should be used for element identification only. The concentration of each element is approximately 10 µg/mL. To screen for all 69 elements these 3 semi-quantitative standards can be blended together and used immediately.

Semi-Quantitative Standard #1

SQS-01-1 $ 175 / **1 x 100 mL**
10 µg/mL each in 2-5% HNO_3 tr. HF 33 comps.

Al (Aluminum)	Na (Sodium)
As (Arsenic)	Nd (Neodymium)
Ba (Barium)	P (Phosphorus)
Bi (Bismuth)	Pb (Lead)
Ca (Calcium)	Pr (Praseodymium)
Cd (Cadmium)	Sc (Scandium)
Ce (Cerium)	Se (Selenium)
Dy (Dysprosium)	Sm (Samarium)
Er (Erbium)	Sr (Strontium)
Eu (Europium)	Tb (Terbium)
Ga (Gallium)	Th (Thorium)
Gd (Gadolinium)	Tl (Thallium)
Ho (Holmium)	Tm (Thulium)
In (Indium)	U (Uranium)
La (Lanthanum)	Y(Yttrium)
Lu (Lutetium)	Yb (Ytterbium)
Mg (Magnesium)	

Semi-Quantitative Standard #2

SQS-02-1 $ 175 / **1 x 100 mL**
10 µg/mL each in 2-5% HNO_3 tr. HCl tr. HF 34 comps.

Au (Gold)	Pd (Palladium)
B (Boron)	Pt (Platinum)
Be (Beryllium)	Rb (Rubidium)
Co (Cobalt)	Re (Rhenium)
Cr (Chromium)	Rh (Rhodium)
Cs (Cesium)	Ru (Ruthenium)
Cu (Copper)	S (Sulfur)
Fe (Iron)	Sb (Antimony)
Ge (Germanium)	Si (Silicon)
Hf (Hafnium)	Sn (Tin)
Ir (Iridium)	Ta (Tantalum)
K (Potassium)	Te (Tellurium)
Li (Lithium)	Ti (Titanium)
Mn (Manganese)	V (Vanadium)
Mo (Molybdenum)	W (Tungsten)
Nb (Niobium)	Zn (Zinc)
Ni (Nickel)	Zr (Zirconium)

Semi-Quantitative Standard #3

SQS-03-1 $ 35 / **1 x 100 mL**
10 µg/mL each in 2-5% HNO_3 2 comps.

Hg (Mercury)	Ag (Silver)

- **69 Elements in Three Mixes**
- **Economical**
- **Easy to Use**

Technical Note

To verify screening results, use single element standards to confirm and quantify the concentration.

SDWA Standards

For use in SW-846, Method 1310 and U.S. NPDWR 40CFR Part 141. The three Drinking Water Standards are used for monitoring drinking water and/or ground and surface water.

Primary Drinking Water Metals

SDWA-01-1 $ 85 / **100 mL**
SDWA-01-5 $ 165 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 7 comps.

As (Arsenic)	10
Ba (Barium)	100
Cd (Cadmium)	5
Cr (Chromium)	10
Pb (Lead)	10
Se (Selenium)	5
Ag (Silver)	10

Secondary Drinking Water Metals

SDWA-02-1 $ 72 / **100 mL**
SDWA-02-5 $ 139 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 4 comps.

Cu (Copper)	100
Fe (Iron)	30
Mn (Manganese)	5
Zn (Zinc)	500

Mercury Solution

SDWA-03-1 $ 34 / **100 mL**
SDWA-03-5 $ 67 / **500 mL**
10 µg/mL in 5% HNO_3

Hg (Mercury)

Drinking Water Sets

SDWA-1-SET $ 154 / **3 x 100 mL**
SDWA-01-1 SDWA-02-1 SDWA-03-1

SDWA-5-SET $ 298 / **3 x 500 mL**
SDWA-01-5 SDWA-02-5 SDWA-03-5

Standards for Analytes covered in the Safe Drinking Water Act (SDWA)

Primary Metals for Analysis by ICP

Contains all approved elements
SDWA-04-1 $ 95 / **100 mL**
SDWA-04-5 $ 185 / **500 mL**
At stated conc. (µg/mL) in 2-5% HNO_3 9 comps.

As (Arsenic)	100
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Ca (Calcium)	100
Cr (Chromium)	10
Cu (Copper)	10
Ni (Nickel)	10
Na (Sodium)	100

Primary Metals for Analysis by GFAA

Contains GFAA approved elements
SDWA-05-1 $ 95 / **100 mL**
SDWA-05-5 $ 185 / **500 mL**
10 µg/mL each in 2-5% HNO_3 9 comps.

Sb (Antimony)
As (Arsenic)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Pb (Lead)
Ni (Nickel)
Se (Selenium)
Tl (Thallium)

Primary Metals for Analysis by ICP-MS

Contains all approved elements
SDWA-06-MS-1 $ 115 / **100 mL**
SDWA-06-MS-5 $ 225 / **500 mL**
10 µg/mL each in 2% HNO_3 11 comps.

Sb (Antimony)
As (Arsenic)
Ba (Barium)
Be (Beryllium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Pb (Lead)
Ni (Nickel)
Se (Selenium)
Tl (Thallium)

Primary Metals for Analysis by GFAA/ICP/ICP-MS

SDWA-07-1 $ 135 / **100 mL**
SDWA-07-5 $ 264 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 tr. HF 14 comps.

Sb (Antimony)	100
As (Arsenic)	100
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Ca (Calcium)	100
Cr (Chromium)	10
Cu (Copper)	10
Pb (Lead)	10
Ni (Nickel)	10
Se (Selenium)	10
Si (Silicon) †	100
Na (Sodium)	100
Tl (Thallium)	10

† 214 µg/mL as SiO_2

Secondary Metals for Analysis by GFAA/ICP/ICP-MS

SDWA-08-1 $ 75 / **100 mL**
SDWA-08-5 $ 146 / **500 mL**
At stated conc. (µg/mL) in 2-5% HNO_3 5 comps.

Al (Aluminum)	10
Fe (Iron)	100
Mn (Manganese)	10
Ag (Silver)	10
Zn (Zinc)	10

Primary & Secondary Metals for Analysis by GFAA/ICP/ICP-MS

Contains all Primary & Secondary Metals
SDWA-09-1 $ 195 / **100 mL**
SDWA-09-5 $ 370 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 19 comps.

Al (Aluminum)	10
Sb (Antimony)	100
As (Arsenic)	100
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Ca (Calcium)	100
Cr (Chromium)	10
Cu (Copper)	10
Fe (Iron)	100
Pb (Lead)	10
Mn (Manganese)	10
Ni (Nickel)	10
Se (Selenium)	10
Si (Silicon) †	100
Ag (Silver)	10
Na (Sodium)	100
Tl (Thallium)	10
Zn (Zinc)	10

† 214 µg/mL as SiO_2

These products require a Hazardous Shipping Fee except products marked with an asterisk *

Groundwater & Wastewater Standards

Trace Metals I, II, III

Trace Metals I

WPTM-01-1 $ 140 / **100 mL**
WPTM-01-5 $ 273 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 15 comps.

Al (Aluminum)	500
As (Arsenic)	100
Be (Beryllium)	100
Cd (Cadmium)	25
Cr (Chromium)	100
Co (Cobalt)	100
Cu (Copper)	100
Fe (Iron)	100
Pb (Lead)	100
Mn (Manganese)	100
Hg (Mercury)	5
Ni (Nickel)	100
Se (Selenium)	25
V (Vanadium)	250
Zn (Zinc)	100

Trace Metals II

WPTM-02-1 $ 64 / **100 mL**
WPTM-02-5 $ 123 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 3 comps.

Sb (Antimony)	20
Ag (Silver)	10
Tl (Thallium)	20

Trace Metal Sets

WPTM-1-SET $ 230 / **3 x 100 mL**
WPTM-01-1 WPTM-03-1
WPTM-02-1

WPTM-5-SET $ 445 / **3 x 500 mL**
WPTM-01-5 WPTM-03-5
WPTM-02-5

Trace Metals III

WPTM-03-1 $ 85 / **100 mL**
WPTM-03-5 $ 165 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 6 comps.

Ba (Barium)	500
Ca (Calcium)	500
Mg (Magnesium)	100
Mo (Molybdenum)	500
K (Potassium)	100
Na (Sodium)	500

Alternate Metals for Groundwater and Wastewater Analysis

Alternate Metals I

WPAM-01-1 $ 105 / **100 mL**
WPAM-01-5 $ 200 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 11 comps.

Al (Aluminum)	20
Sb (Antimony)	5
Be (Beryllium)	5
Co (Cobalt)	10
Cu (Copper)	10
Fe (Iron)	20
Mn (Manganese)	10
Ni (Nickel)	10
Tl (Thallium)	5
V (Vanadium)	20
Zn (Zinc)	10

Alternate Metals III

WPAM-03-1 $ 65 / **100 mL**
WPAM-03-5 $ 125 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 4 comps.

Ca (Calcium)	500
Mg (Magnesium)	100
K (Potassium)	100
Na (Sodium)	500

Alternate Trace Metal Sets

WPAM-1-SET $ 133 / **2 x 100 mL**
WPAM-01-1 WPAM-03-1

WPAM-5-SET $ 260 / **2 x 500 mL**
WPAM-01-5 WPAM-03-5

TCLP Multi-Element Calibration Standards

For use in SW-846, Method 1311 Toxicity Characteristic Leaching Procedure

TCLP Standard #1

TCLP-01-1 $ 98 / **100 mL**
TCLP-01-5 $ 190 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 7 comps.

As (Arsenic)	25
Ba (Barium)	500
Cd (Cadmium)	5
Cr (Chromium)	25
Pb (Lead)	25
Se (Selenium)	5
Ag (Silver)	25

TCLP Standard for ICP

TCLP-ICP-1 $ 68 / **100 mL**
TCLP-ICP-5 $ 132 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 4 comps.

Ba (Barium)	500
Cd (Cadmium)	5
Cr (Chromium)	25
Ag (Silver)	25

TCLP Standard for GFAA

TCLP-GFAA-1 $ 50 / **100 mL**
TCLP-GFAA-5 $ 110 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 3 comps.

As (Arsenic)	25
Pb (Lead)	25
Se (Selenium)	5

TCLP Standard #2

For Mercury Analysis using ICP or Cold Vapor AA
TCLP-02-1 $ 34 / **100 mL**
TCLP-02-5 $ 67 / **500 mL**
20 µg/mL in 5% HNO_3

Hg (Mercury)

MISA Test Group 29 Analysis Calibration Standards

For use in MISA Test Group 29 Analysis or general use standards. Set of six standards contains 69 elements at 100 µg/mL each. Ideal for the laboratory that wants to analyze for everything.

MISA Standard 1
Rare Earth Metals

MISA-01-1 $ 125 / **100 mL**
100 µg/mL each in 5% HNO_3 18 comps.

Ce (Cerium)	Pr (Praseodymium)
Dy (Dysprosium)	Sc (Scandium)
Er (Erbium)	Sm (Samarium)
Eu (Europium)	Tb (Terbium)
Gd (Gadolinium)	Th (Thorium)
Ho (Holmium)	Tm (Thulium)
La (Lanthanum)	U (Uranium)
Lu (Lutetium)	Yb (Ytterbium)
Nd (Neodymium)	Y (Yttrium)

MISA Standard 2
Precious Metals

MISA-02-1 $ 125 / **100 mL**
100 µg/mL each in 10% HCl 6 comps.

Au (Gold)	Pt (Platinum)
Ir (Iridium)	Rh (Rhodium)
Pd (Palladium)	Ru (Ruthenium)

MISA Standard 3
Tellurium

MISA-03-1 $ 34 / **100 mL**
100 µg/mL in 10% HCl

Te (Tellurium)

MISA Standard 4
Alkali, Alkaline Earth, Non-Transition Group

MISA-04-1 $ 125 / **100 mL**
100 µg/mL each in 10% HNO_3 16 comps.

Al (Aluminum)	In (Indium)
As (Arsenic)	Li (Lithium)
Ba (Barium)	Mg (Magnesium)
Be (Beryllium)	K (Potassium)
Bi (Bismuth)	Rb (Rubidium)
Ca (Calcium)	Se (Selenium)
Cs (Cesium)	Na (Sodium)
Ga (Gallium)	Sr (Strontium)

MISA Calibration Set

MISA-1-SET $ 525 / **6 x 100 mL**

MISA-01-1	MISA-03-1	MISA-05-1
MISA-02-1	MISA-04-1	MISA-06-1

MISA Standard 5
Fluoride Soluble Group

MISA-05-1 $ 125 / **100 mL**
100 µg/mL each in 5% HNO_3 tr. HF 15 comps.

Sb (Antimony)	Si (Silicon)
B (Boron)	S (Sulfur)
Ge (Germanium)	Ta (Tantalum)
Hf (Hafnium)	Sn (Tin)
Mo (Molybdenum)	Ti (Titanium)
Nb (Niobium)	W (Tungsten)
P (Phosphorus)	Zr (Zirconium)
Re (Rhenium)	

MISA Standard 6
Transition Metals

MISA-06-1 $ 125 / **100 mL**
100 µg/mL each in 10% HNO_3 13 comps.

Cd (Cadmium)	Hg (Mercury)
Co (Cobalt)	Ni (Nickel)
Cu (Copper)	Ag (Silver)
Cr (Chromium)	Tl (Thallium)
Fe (Iron)	V (Vanadium)
Pb (Lead)	Zn (Zinc)
Mn (Manganese)	

Calibration and Matrix Blanks

Nitric Acid Blank
CLP-BLN-5 $ 30 / **500 mL**
CLP-BLN-L-SET $ 45 / **L (2 x 500 mL)**

5% HNO_3 in ASTM Type I Water

Hydrochloric Acid Blank
CLP-BLH-5 $ 30 / **500 mL**
CLP-BLH-L-SET $ 45 / **L (2 x 500 mL)**

5% HCl in ASTM Type I Water

Water Blank
CLP-BLW-5 * $ 30 / **500 mL**
CLP-BLW-L-SET * $ 40 / **L (2 x 500 mL)**

ASTM Type I Water

Mixed Acid Blank
CLP-BLMA-5 $ 30 / **500 mL**
CLP-BLMA-L-SET $ 45 / **L (2 x 500 mL)**

5% HCl + 1% HNO_3 in ASTM Type I Water

These products require a Hazardous Shipping Fee except products marked with an asterisk *

Calibration Check Standards

Calibration Standard #1
CLP-CAL-01-1 $ 110 / **100 mL**
5000 µg/mL each in 5% HNO_3 4 comps.

Ca (Calcium)	K (Potassium)
Mg (Magnesium)	Na (Sodium)

Calibration Standard #2
CLP-CAL-02-1 $ 75 / **100 mL**
At stated conc. (µg/mL) in 5% HNO_3 5 comps.

Cr (Chromium)	100
Mn (Manganese)	150
Ni (Nickel)	400
Ag (Silver)	100
Zn (Zinc)	200

CLP Calibration Standard Set
CLP-CAL-1-SET $ 375 / **7 x 100 mL**

CLP-CAL-01	CLP-CAL-05
CLP-CAL-02	CLP-CAL-06
CLP-CAL-03	CLP-CAL-07
CLP-CAL-04	

Calibration Standard #3
CLP-CAL-03-1 $ 95 / **100 mL**
At stated conc. (µg/mL) in 5% HNO_3 7 comps.

Al (Aluminum)	2000
Ba (Barium)	2000
Be (Beryllium)	50
Co (Cobalt)	500
Cu (Copper)	250
Fe (Iron)	1000
V (Vanadium)	500

Calibration Standard #4
CLP-CAL-04-1 $ 65 / **100 mL**
At stated conc. (µg/mL) in 5% HNO_3 5 comps.

As (Arsenic)	100
Cd (Cadmium)	50
Pb (Lead)	50
Se (Selenium)	50
Tl (Thallium)	100

Calibration Standard #5
CLP-CAL-05-1 $ 34 / **100 mL**
600 µg/mL in 2% HNO_3

Sb (Antimony)

Calibration Standard #6
CLP-CAL-06-1 $ 34 / **100 mL**
100 µg/mL in 5% HNO_3

Hg (Mercury)

Calibration Standard #7
CLP-CAL-07-1 * $ 55 / **100 mL**
500 µg/mL each in 5% HNO_3 tr. HF 3 comps.

B (Boron)	Si (Silicon)
Mo (Molybdenum)	

Calibration and Matrix Blanks

Nitric Acid Blank
CLP-BLN-5 $ 30 / **500 mL**
CLP-BLN-L-SET $ 45 / **L (2 x 500 mL)**

5% HNO_3 in ASTM Type I Water

Water Blank
CLP-BLW-5 * $ 30 / **500 mL**
CLP-BLW-L-SET * $ 40 / **L (2 x 500 mL)**

ASTM Type I Water

Hydrochloric Acid Blank
CLP-BLH-5 $ 30 / **500 mL**
CLP-BLH-L-SET $ 45 / **L (2 x 500 mL)**

5% HCl in ASTM Type I Water

Mixed Acid Blank
CLP-BLMA-5 $ 30 / **500 mL**
CLP-BLMA-L-SET $ 45 / **L (2 x 500 mL)**

5% HCl + 1% HNO_3 in ASTM Type I Water

Technical Note
D5600 Ready-to-Aspirate Standards
AccuStandard has formulated the following stock standards for ASTM Method D5600. We have prepared numerous **Ready-to-Aspirate** ICP multi-element solutions. Should your company want to eliminate the preparation process for Inorganic standards contact our Technical Department for a quote on a **Ready-to-Aspirate** working level Inorganic standard.

Verification Standards

Initial Calibration Verification

CLP-ICV-01-1 $ 225 / **100 mL**
CLP-ICV-01-5 $ 445 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 22 comps.

Al (Aluminum)	200
Sb (Antimony)	60
As (Arsenic)	10
Ba (Barium)	200
Be (Beryllium)	5
Cd (Cadmium)	5
Ca (Calcium)	5000
Cr (Chromium)	10
Co (Cobalt)	50
Cu (Copper)	25
Fe (Iron)	100
Pb (Lead)	5
Mg (Magnesium)	5000
Mn (Manganese)	15
Ni (Nickel)	40
K (Potassium)	5000
Se (Selenium)	5
Ag (Silver)	10
Na (Sodium)	5000
Tl (Thallium)	10
V (Vanadium)	50
Zn (Zinc)	20

Initial & Continuing Calibration Verification Sets

CLP-VER-1-SET $ 445 / **4 x 100 mL**
CLP-ICV-01-1, CLP-CCV-01-1, CLP-CCV-02-1, CLP-CCV-03-1

CLP-VER-5-SET $ 870 / **4 x 500 mL**
CLP-ICV-01-5, CLP-CCV-01-5, CLP-CCV-02-5, CLP-CCV-03-5

Initial Calibration Verification

CLP-ICV-01-R-1 $ 225 / **100 mL**
CLP-ICV-01-R-5 $ 445 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 22 comps.

Al (Aluminum)	200
Sb (Antimony)	60
As (Arsenic)	10
Ba (Barium)	200
Be (Beryllium)	5
Cd (Cadmium)	5
Ca (Calcium)	500
Cr (Chromium)	10
Co (Cobalt)	50
Cu (Copper)	25
Fe (Iron)	100
Pb (Lead)	5
Mg (Magnesium)	500
Mn (Manganese)	15
Ni (Nickel)	40
K (Potassium)	500
Se (Selenium)	5
Ag (Silver)	10
Na (Sodium)	500
Tl (Thallium)	10
V (Vanadium)	50
Zn (Zinc)	20

Technical Note

CLP-ICV-01-R has the Ca, Mg, K & Na at 1/10 the concentration of CLP-ICV-01. This improves plasma robustness and often results in superior recoveries.

Initial & Continuing Calibration Revised Verification Sets

CLP-VER-R-1-SET $ 445 / **4 x 100 mL**
CLP-ICV-01-R-1, CLP-CCV-01-1, CLP-CCV-02-1, CLP-CCV-03-1

CLP-VER-R-5-SET $ 870 / **4 x 500 mL**
CLP-ICV-01-R-5, CLP-CCV-01-5, CLP-CCV-02-5, CLP-CCV-03-5

Continuing Calibration Verification

(Meets CLP QA Second Source Requirements)
CLP-CCV-01-1 $ 225 / **100 mL**
CLP-CCV-01-5 $ 445 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 16 comps.

Al (Aluminum)	1000
Ba (Barium)	1000
Be (Beryllium)	25
Ca (Calcium)	2500
Cr (Chromium)	50
Co (Cobalt)	250
Cu (Copper)	125
Fe (Iron)	500
Mg (Magnesium)	2500
Mn (Manganese)	75
Ni (Nickel)	200
K (Potassium)	2500
Ag (Silver)	50
Na (Sodium)	2500
V (Vanadium)	250
Zn (Zinc)	100

CLP-CCV-02-1 $ 75 / **100 mL**
CLP-CCV-02-5 $ 146 / **500 mL**
At stated conc. (µg/mL)s in 5% HNO_3 5 comps.

As (Arsenic)	50
Cd (Cadmium)	25
Pb (Lead)	25
Se (Selenium)	25
Tl (Thallium)	50

CLP-CCV-03-1 $ 34 / **100 mL**
CLP-CCV-03-5 $ 67 / **500 mL**
300 µg/mL in 2% HNO_3

Sb (Antimony)

Continuing Calibration Verification Standard Sets

CLP-CCV-1-SET $ 275 / **3 x 100 mL**
CLP-CCV-01-1, CLP-CCV-02-1, CLP-CCV-03-1

CLP-CCV-5-SET $ 525 / **3 x 500 mL**
CLP-CCV-01-5, CLP-CCV-02-5, CLP-CCV-03-5

Spiking Standards

Spiking Solution

CLP-SPS-01-1 $ 185 / **100 mL**
At stated conc. (µg/mL) in 5% HNO_3 18 comps.

Al (Aluminum)	200
Sb (Antimony)	50
As (Arsenic)	200
Ba (Barium)	200
Be (Beryllium)	5
Cd (Cadmium)	5
Cr (Chromium)	20
Co (Cobalt)	50
Cu (Copper)	25
Fe (Iron)	100
Pb (Lead)	50
Mn (Manganese)	50
Ni (Nickel)	50
Se (Selenium)	200
Ag (Silver)	5
Tl (Thallium)	200
V (Vanadium)	50
Zn (Zinc)	50

CLP Soil Spiking Solution

CLP-SPS-02-1 $ 175 / **100 mL**
At stated conc. (µg/mL) in 5% HNO_3 16 comps.

Sb (Antimony)	100
As (Arsenic)	400
Ba (Barium)	400
Be (Beryllium)	10
Cd (Cadmium)	10
Cr (Chromium)	40
Co (Cobalt)	100
Cu (Copper)	50
Pb (Lead)	100
Mn (Manganese)	100
Ni (Nickel)	100
Se (Selenium)	400
Ag (Silver)	10
Tl (Thallium)	400
V (Vanadium)	100
Zn (Zinc)	100

Technical Note

Spiking solution CLP-SPS-01 can be used for both aqueous and solid samples. An additional spiking solution for soil as outlined in CLP SOW ILM03.0 is also available, CLP-SPS-02.

CLP Spiking Set

CLP-SPS-1-SET $ 288 / **2 x 100 mL**
CLP-SPS-01-1, CLP-SPS-02-1

These products require a Hazardous Shipping Fee except products marked with an asterisk *

Interference Check & Analyte Standards

The common interferents checked for by CLP requirements and their associated analytes are listed in our primary interferent analyte solutions. Occasionally, additional interferents may cause other analytical problems according to CLP SOW ILM03.0. These additional six elements are available with their respective analytes in the alternate interferent/analyte solutions.

Primary Analytes

CLP-PAN-01-1 $ 110 / **100 mL**
CLP-PAN-01-5 $ 225 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 12 comps.

Ag *(Silver)*	100
Ba *(Barium)*	50
Be *(Beryllium)*	50
Cd *(Cadmium)*	100
Co *(Cobalt)*	50
Cr *(Chromium)*	50
Cu *(Copper)*	50
Mn *(Manganese)*	50
Ni *(Nickel)*	100
Pb *(Lead)*	100
V *(Vanadium)*	50
Zn *(Zinc)*	100

Primary Interferents

CLP-PIN-01-1 $ 110 / **100 mL**
CLP-PIN-01-5 $ 215 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 4 comps.

Al (Aluminum)	5000
Ca (Calcium)	5000
Fe (Iron)	2000
Mg (Magnesium)	5000

Alternate Interferents

CLP-PIN-02-1 $ 98 / **100 mL**
CLP-PIN-02-5 $ 185 / **500 mL**
1000 µg/mL each in 5% HNO_3 6 comps.

Cr (Chromium)	Ni (Nickel)
Cu (Copper)	Ti (Titanium)
Mn (Manganese)	V (Vanadium)

Interferent / Analyte Sets

CLP-IA-1-SET $ 345 / **4 x 100 mL**

CLP-PIN-01-1	CLP-PIN-02-1
CLP-PAN-01-1	CLP-PAN-02-1

CLP-IA-5-SET $ 680 / **4 x 500 mL**

CLP-PIN-01-5	CLP-PIN-02-5
CLP-PAN-01-5	CLP-PAN-02-5

Alternate Analytes

CLP-PAN-02-1 $ 115 / **100 mL**
CLP-PAN-02-5 $ 225 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 12 comps.

Al (Aluminum)	100
Sb (Antimony)	100
As (Arsenic)	100
B (Boron)	100
Ca (Calcium)	10
Fe (Iron)	10
Mg (Magnesium)	10
Mo (Molybdenum)	100
Se (Selenium)	100
Si (Silicon)	10
Na (Sodium)	100
Tl (Thallium)	100

Detection Limit Standards

Contract Required Detection Limits (CRDL) Standard Solutions. We offer the flexibility of two convenient solutions:

CLP Detection Limits Standard #1

CLP-CRDL-01-1 $ 130 / **100 mL**
At stated conc. (µg/mL) in 5% HNO_3 15 comps.

Sb (Antimony)	120
As (Arsenic)	120
Be (Beryllium)	10
Cd (Cadmium)	10
Cr (Chromium)	20
Co (Cobalt)	100
Cu (Copper)	50
Pb (Lead)	120
Mn (Manganese)	30
Ni (Nickel)	80
Se (Selenium)	120
Ag (Silver)	20
Tl (Thallium)	120
V (Vanadium)	100
Zn (Zinc)	40

Contract Required Detection Limits (CRDL) Set

CLP-CRDL-1-SET $ 205 / **2 x 100 mL**

CLP-CRDL-01
CLP-CRDL-02

Technical Note

These standards are prepared to meet the requirements of the CLP protocol; Arsenic (As), Lead (Pb), Selenium (Se) and Thallium (Tl) are at a concentration of two times the instrument detection limit (IDL) while the remaining elements are at two times the CRDL.

CLP Detection Limits Standard #2

CLP-CRDL-02-1 $ 130 / **100 mL**
At stated conc. (µg/mL) in 5% HNO_3 15 comps.

Sb (Antimony)	120
As (Arsenic)	20
Be (Beryllium)	10
Cd (Cadmium)	10
Cr (Chromium)	20
Co (Cobalt)	100
Cu (Copper)	50
Pb (Lead)	6
Mn (Manganese)	30
Ni (Nickel)	80
Se (Selenium)	10
Ag (Silver)	20
Tl (Thallium)	20
V (Vanadium)	100
Zn (Zinc)	40

Technical Note

These standards are designed for ICPs equipped with ultrasonic nebulizers and they offer the elements of interest at two times the CRDL level.

SW-846, Method 200.7 & 6010 Calibration Standards

Mixed Calibration Standard #1

MCS-01-1 $ 85 / **100 mL**
MCS-01-5 $ 165 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 6 comps.

Be (Beryllium)	50
Cd (Cadmium)	150
Pb (Lead)	500
Mn (Manganese)	100
Se (Selenium)	200
Zn (Zinc)	150

Mixed Calibration Standard #2

MCS-02-1 $ 85 / **100 mL**
MCS-02-5 $ 165 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 5 comps.

Ba (Barium)	100
Co (Cobalt)	100
Cu (Copper)	100
Fe (Iron)	10,000
V (Vanadium)	100

Complete 6010B, Rev. 2, 1996 Calibration Set

MCS-1996-1-SET $ 385 / **7 x 100 mL**

MCS-01-1, MCS-02-1, MCS-03R-1, MCS-04R-1, MCS-05R-1, MCS-06R-1, TCLP-02-1

MCS-1996-5-SET $ 750 / **7 x 500 mL**

MCS-01-5, MCS-02-5, MCS-03R-5, MCS-04R-5, MCS-05R-5, MCS-06R-5, TCLP-02-5

Mixed Calibration Standard #3R

MCS-03R-1 $ 55 / **100 mL**
MCS-03R-5 $ 107 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 tr. HF 2 comps.

As (Arsenic)	500
Mo (Molybdenum)	100

Mixed Calibration Standard #4R

MCS-04R-1 $ 98 / **100 mL**
MCS-04R-5 $ 191 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 8 comps.

Al (Aluminum)	200
Ca (Calcium)	1000
Cr (Chromium)	20
Li (Lithium)	100
Ni (Nickel)	20
K (Potassium)	400
Na (Sodium)	200
Sr (Strontium)	10

Technical Note

Additional Analyte Calibration Standards. The use of this Standard Solution (MCS-06R), plus a Mercury Standard (TCLP-02), completes the analyte list for the 1996 Revision 2.

Mixed Calibration Standard #5R

MCS-05R-1 $ 76 / **100 mL**
MCS-05R-5 $ 148 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 4 comps.

Sb (Antimony)	200
Mg (Magnesium)	1000
Ag (Silver)	50
Tl (Thallium)	200

Mixed Calibration Standard 6R

MCS-06R-1 $ 64 / **100 mL**
MCS-06R-5 $ 123 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3, tr. HF 5 comps.

P (Phosphorus)	200
Sn (Tin)	200
Ti (Titanium)	100
B (Boron)	50
Si (Silicon) †	100

† 214 µg/mL as SiO_2

Mercury Standard

Mercury is available in a separate solution due to its incompatibility with other elements.

TCLP-02-1 $ 34 / **100 mL**
TCLP-02-5 $ 67 / **500 mL**
20 µg/mL in 5% HNO_3

Hg (Mercury)

Method 200.7 (Revision 4.4, May 1994) Calibration Standards

Mixed Calibration Standard #1

M-200.7-01-1 $ 96 / **100 mL**
M-200.7-01-5 $ 187 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 10 comps.

Sb (Antimony)	50
As (Arsenic)	100
Ba (Barium)	10
B (Boron)	20
Cd (Cadmium)	20
Ca (Calcium)	100
Cu (Copper)	20
Mn (Manganese)	20
Se (Selenium)	50
Ag (Silver)	5

Mixed Calibration Standard #2

M-200.7-02R-1 $ 75 / **100 mL**
M-200.7-02R-5 $ 135 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 6 comps.

Li (Lithium)	50
Mo (Molybdenum)	100
K (Potassium)	200
Na (Sodium)	100
Sr (Strontium)	10
Ti (Titanium)	100

Mixed Calibration Standard #3

M-200.7-03R-1 $ 55 / **100 mL**
M-200.7-03R-5 $ 105 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 4 comps.

Ce (Cerium)	20
Co (Cobalt)	20
P (Phosphorus)	100
V (Vanadium)	20

Mixed Calibration Standard #4

M-200.7-04-1 $ 69 / **100 mL**
M-200.7-04-5 $ 134 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 5 comps.

Al (Aluminum)	100
Cr (Chromium)	50
Si (Silicon) †	100
Sn (Tin)	40
Zn (Zinc)	50

† 214 µg/mL as SiO_2

Mixed Calibration Standard #5

M-200.7-05-1 $ 69 / **100 mL**
M-200.7-05-5 $ 134 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 6 comps.

Be (Beryllium)	10
Fe (Iron)	100
Pb (Lead)	100
Mg (Magnesium)	100
Ni (Nickel)	20
Tl (Thallium)	50

Mixed Calibration Standards Sets

M-200.7-1-R-SET $ 280 / **5 x 100 mL**

M-200.7-01-1, M-200.7-02R-1, M-200.7-03R-1, M-200.7-04-1, M-200.7-05-1

M-200.7-5-R-SET $ 545 / **5 x 500 mL**

M-200.7-01-5, M-200.7-02R-5, M-200.7-03-5R, M-200.7-04-5, M-200.7-05-5

These products require a Hazardous Shipping Fee except products marked with an asterisk *

Method 200.7 Instrument Performance Standards

Instrument Performance Check Standard #1

M-200.7-IPC-01-1 $ 210 / **100 mL**
M-200.7-IPC-01-5 $ 430 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 26 comps.

Al (Aluminum)	20	Li (Lithium)	20
As (Arsenic)	20	Mg (Magnesium)	20
Ba (Barium)	20	Mn (Manganese)	20
Be (Beryllium)	20	Ni (Nickel)	20
B (Boron)	20	P (Phosphorus)	100
Cd (Cadmium)	20	K (Potassium)	100
Ca (Calcium)	20	Se (Selenium)	20
Ce (Cerium)	20	Ag (Silver)	2.5
Cr (Chromium)	20	Na (Sodium)	20
Co (Cobalt)	20	Sr (Strontium)	20
Cu (Copper)	20	Tl (Thallium)	20
Fe (Iron)	20	V (Vanadium)	20
Pb (Lead)	20	Zn (Zinc)	20

Instrument Performance Check Standard #2

M-200.7-IPC-02-1 $ 70 / **100 mL**
M-200.7-IPC-02-5 $ 135 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 5 comps.

Sb (Antimony)	20
Mo (Molybdenum)	20
Si (Silicon) †	100
Sn (Tin)	20
Ti (Titanium)	20

† 214 µg/mL as SiO_2

Method 200.7 Performance Check, Fortifying Solution & Mercury Standard

Laboratory Performance Check Standard

For use in demonstrating the initial and continuing verification of the calibration curves produced by this method.

LPCS-01-1 $ 220 / **100 mL**
LPCS-01-5 $ 440 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 29 comps.

Al (Aluminum)	20
Sb (Antimony)	20
As (Arsenic)	20
Ba (Barium)	20
Be (Beryllium)	20
B (Boron)	20
Cd (Cadmium)	20
Ca (Calcium)	20
Cr (Chromium)	20
Co (Cobalt)	20
Cu (Copper)	20
Fe (Iron)	20
Pb (Lead)	20
Li (Lithium)	20
Mg (Magnesium)	20
Mn (Manganese)	20
Mo (Molybdenum)	20
Ni (Nickel)	20
P (Phosphorus)	100
K (Potassium)	100
Se (Selenium)	20
Si (Silicon) †	100
Ag (Silver)	5
Na (Sodium)	20
Sr (Strontium)	20
Tl (Thallium)	20
Sn (Tin)	20
V (Vanadium)	20
Zn (Zinc)	20

† 214 µg/mL as SiO_2

Laboratory Fortifying Stock Solution

For use in preparing the laboratory fortified blank and the laboratory fortified sample matrix.

LFSS-01-1 $ 195 / **100 mL**
LFSS-01-5 $ 380 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 25 comps.

Al (Aluminum)	25
Sb (Antimony)	25
As (Arsenic)	25
Ba (Barium)	25
Be (Beryllium)	5
B (Boron)	25
Cd (Cadmium)	10
Cr (Chromium)	25
Co (Cobalt)	10
Cu (Copper)	25
Fe (Iron)	25
Pb (Lead)	25
Li (Lithium)	25
Mn (Manganese)	25
Mo (Molybdenum)	10
Ni (Nickel)	25
P (Phosphorus)	50
Se (Selenium)	25
Si (Silicon) †	25
Ag (Silver)	2.5
Sr (Strontium)	25
Tl (Thallium)	25
Sn (Tin)	10
V (Vanadium)	10
Zn (Zinc)	25

† 53.5 µg/mL as SiO_2

Technical Note

The analytes Ca, K, Mg, and Na are not included in the stock solution because their concentrations vary widely in environmental samples.

Mercury Standard

Mercury is available in a separate solution due to incompatibility with other elements.

TCLP-02-1 $ 34 / **100 mL**
TCLP-02-5 $ 67 / **500 mL**
20 µg/mL in 5% HNO_3

Hg (Mercury)

Method 200.7 Fortifying (Spiking & Instrument Performance Standards)

These Standards have been split for stability and ease of use. Choose the Instrument Fortifying Standard you require for Part 1 & use with Part 2 to complete the analyte list. For Lab Fortified Blank use M-200.7-LFSS-01, for Water Samples use M-200.7-LFSS-01W, and for Solid Samples use M-200.7-LFSS-01S.

Part 1

Instrument Fortifying Standard

M-200.7-LFSS-01-1 $ 200 / **100 mL**
M-200.7-LFSS-01-5 $ 390 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 26 comps.

Al (Aluminum)	20
As (Arsenic)	20
Ba (Barium)	20
Be (Beryllium)	20
B (Boron)	20
Cd (Cadmium)	20
Ca (Calcium)	20
Ce (Cerium)	20
Cr (Chromium)	20
Co (Cobalt)	20
Cu (Copper)	20
Fe (Iron)	20
Pb (Lead)	20
Li (Lithium)	20
Mg (Magnesium)	20
Mn (Manganese)	20
Ni (Nickel)	20
P (Phosphorus)	20
K (Potassium)	500
Se (Selenium)	20
Ag (Silver)	7.5
Na (Sodium)	20
Sr (Strontium)	20
Tl (Thallium)	20
V (Vanadium)	20
Zn (Zinc)	20

Instrument Fortifying Standard for Water

M-200.7-LFSS-01W-1 $ 195 / **100 mL**
M-200.7-LFSS-01W-5 $ 380 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 22 comps.

Al (Aluminum)	20
As (Arsenic)	20
Ba (Barium)	20
Be (Beryllium)	20
B (Boron)	20
Cd (Cadmium)	20
Ce (Cerium)	20
Cr (Chromium)	20
Co (Cobalt)	20
Cu (Copper)	20
Fe (Iron)	20
Pb (Lead)	20
Li (Lithium)	20
Mn (Manganese)	20
Ni (Nickel)	20
P (Phosphorus)	20
K (Potassium)	500
Se (Selenium)	20
Ag (Silver)	7.5
Tl (Thallium)	20
V (Vanadium)	20
Zn (Zinc)	20

Instrument Fortifying Standard for Solids

M-200.7-LFSS-01S-1 $ 200 / **100 mL**
M-200.7-LFSS-01S-5 $ 390 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 24 comps.

As (Arsenic)	20
Ba (Barium)	20
Be (Beryllium)	20
B (Boron)	20
Cd (Cadmium)	20
Ca (Calcium)	20
Ce (Cerium)	20
Cr (Chromium)	20
Co (Cobalt)	20
Cu (Copper)	20
Pb (Lead)	20
Li (Lithium)	20
Mg (Magnesium)	20
Mn (Manganese)	20
Ni (Nickel)	20
P (Phosphorus)	20
K (Potassium)	500
Se (Selenium)	20
Ag (Silver)	7.5
Na (Sodium)	20
Sr (Strontium)	20
Tl (Thallium)	20
V (Vanadium)	20
Zn (Zinc)	20

Part 2

Instrument Fortifying Standard #2

M-200.7-LFSS-02-1 $ 60 / **100 mL**
M-200.7-LFSS-02-5 $ 120 / **500 mL**
20 µg/mL each in 5% HNO_3 tr. HF 5 comps.

Sb (Antimony)	Sn (Tin)
Mo (Molybdenum)	Ti (Titanium)
Si (Silicon) †	

† 42.78 µg/mL as SiO_2

These products require a Hazardous Shipping Fee except products marked with an asterisk *

Method 200.7 Spiking Solutions for Drinking Water

Spiking Standard #1R

M-200.7-SP-01-R * $ 50 / **50 mL**
At stated conc. (µg/mL) in H_2O tr. HF 4 comps.

B (Boron)	400
Mo (Molybdenum)	200
Si (Silicon) †	2000
P (Phosphorus)	400

† 4278 µg/mL SiO_2

Spiking Standard #2R

M-200.7-SP-02-R $ 70 / **50 mL**
M-200.7-SP-02-R-1 $ 135 / **100 mL**
M-200.7-SP-02-R-5 $ 550 / **500 mL**
10,000 µg/mL each in in 2% HNO_3 4 comps.

Ca (Calcium)
Mg (Magnesium)
K (Potassium)
Na (Sodium)

Spiking Standard #3

M-200.7-SP-03 $ 95 / **50 mL**
At stated conc. (µg/mL) in 5% HNO_3 12 comps.

Al (Aluminum)	2000
Ba (Barium)	2000
Be (Beryllium)	50
Cr (Chromium)	200
Co (Cobalt)	500
Cu (Copper)	250
Fe (Iron)	1000
Mn (Manganese)	500
Ni (Nickel)	500
Ag (Silver)	50
V (Vanadium)	500
Zn (Zinc)	500

Method 200.7 Spiking Set

M-200.7-SP-R-SET $ 225 / **5 x 50 mL**

M-200.7-SP-01-R
M-200.7-SP-02-R
M-200.7-SP-03
M-200.7-SP-04-R
M-200.7-SP-05-R

Spiking Standard #4R

M-200.7-SP-04-R $ 20 / **50 mL**
200 µg/mL in dilute HNO_3

Sb (Antimony)

Spiking Standard #5R

M-200.7-SP-05-R $ 55 / **50 mL**
At stated conc. (µg/mL) in 5% HNO_3 5 comps.

As (Arsenic)	200
Cd (Cadmium)	100
Pb (Lead)	200
Se (Selenium)	400
Tl (Thallium)	400

Method 200.7 Interference Check Standards

For use in testing and verifying the inter-element spectral correction process.

SIC Solution #1

Used to evaluate the spectral interference for the analytes: Al, Sb, Se, Sn, V
SICS-01-1 $ 34 / **100 mL**
SICS-01-5 $ 67 / **500 mL**
50 µg/mL in 2% HNO_3 tr. HF

Mo (Molybdenum)

Check Solutions Sets

SIC-1-SET $ 120 / **3 x 100 mL**

SICS-01-1
SICS-02-1
SICS-03-1

SIC-5-SET $ 230 / **3 x 500 mL**

SICS-01-5
SICS-02-5
SICS-03-5

SIC Solution #2

Used to evaluate the spectral interference for the analytes: Sb, Pb, Zn, Mo, As, Be
SICS-02-1 $ 61 / **100 mL**
SICS-02-5 $ 119 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 5 comps.

Cr (Chromium)	20
Co (Cobalt)	10
Cu (Copper)	40
Mn (Manganese)	20
V (Vanadium)	10

SIC Solution #3

Used to evaluate the spectral interference for the analytes: Sb, Zn, As, Ag, Cr, Mn, V
SICS-03-1 $ 52 / **100 mL**
SICS-03-5 $ 102 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 3 comps.

Al (Aluminum)	30
Fe (Iron)	150
Ni (Nickel)	20

Since everyone experiences different interference problems in their analysis, it is often easiest to design standards to match the "real world" samples. Below is a set of single element standards that can be used for making these standards in your lab.

Spectral Interference Check Set

Single Elements

SIC-SING-1-SET $ 240 / **9 x 100 mL**
Each at 1,000 µg/mL in HNO_3

Al (Aluminum)
Cr (Chromium)
Co (Cobalt)
Cu (Copper)
Fe (Iron)
Mn (Manganese)
Mo (Molybdenum)
Ni (Nickel)
V (Vanadium)

Method 6010B (Revision 2, from SW-846) Calibration Standards

Mixed Calibration Standard #1

MCS-01-1 $ 85 / **100 mL**
MCS-01-5 $ 165 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 6 comps.

Be (Beryllium)	50
Cd (Cadmium)	150
Pb (Lead)	500
Mn (Manganese)	100
Se (Selenium)	200
Zn (Zinc)	150

Mixed Calibration Standard #2

MCS-02-1 $ 85 / **100 mL**
MCS-02-5 $ 165 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 5 comps.

Ba (Barium)	100
Co (Cobalt)	100
Cu (Copper)	100
Fe (Iron)	10,000
V (Vanadium)	100

Complete 6010B, Rev. 2, 1996 Calibration Set

MCS-1996-1-SET $ 385 / **7 x 100 mL**

MCS-01-1, MCS-02-1, MCS-03R-1, MCS-04R-1, MCS-05R-1, MCS-06R-1, TCLP-02-1

MCS-1996-5-SET $ 750 / **7 x 500 mL**

MCS-01-5, MCS-02-5, MCS-03R-5, MCS-04R-5, MCS-05R-5, MCS-06R-5, TCLP-02-5

Mixed Calibration Standard #3R

MCS-03R-1 $ 55 / **100 mL**
MCS-03R-5 $ 107 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 tr. HF 2 comps.

As (Arsenic)	500
Mo (Molybdenum)	100

Mixed Calibration Standard #4R

MCS-04R-1 $ 98 / **100 mL**
MCS-04R-5 $ 191 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 8 comps.

Al (Aluminum)	200
Ca (Calcium)	1000
Cr (Chromium)	20
Li (Lithium)	100
Ni (Nickel)	20
K (Potassium)	400
Na (Sodium)	200
Sr (Strontium)	10

Technical Note

Additional Analyte Calibration Standards. The use of this Standard Solution (MCS-06R), plus a Mercury Standard (TCLP-02), completes the analyte list for the 1996 Revision 2.

Mixed Calibration Standard #5R

MCS-05R-1 $ 76 / **100 mL**
MCS-05R-5 $ 148 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 4 comps.

Sb (Antimony)	200
Mg (Magnesium)	1000
Ag (Silver)	50
Tl (Thallium)	200

Mixed Calibration Standard 6R

MCS-06R-1 $ 64 / **100 mL**
MCS-06R-5 $ 123 / **500 mL**
At stated conc. (µg/mL) in 2-5% HNO_3, tr. HF 5 comps.

P (Phosphorus)	200
Sn (Tin)	200
Ti (Titanium)	100
B (Boron)	50
Si (Silicon) †	100

† 214 µg/mL as SiO_2

Mercury Standard

Mercury is available in a separate solution due to its incompatibility with other elements.

TCLP-02-1 $ 34 / **100 mL**
TCLP-02-5 $ 67 / **500 mL**
20 µg/mL in 5% HNO_3

Hg (Mercury)

Method 6010B Spiking Standards

Three convenient solutions that can be used for spiking samples pre- or post- digestion.

Spiking Standard #1

QCS-01-1 $ 182 / **100 mL**
QCS-01-5 $ 354 / **500 mL**
100 µg/mL each in 5% HNO_3 tr. HF 23 comps.

Sb (Antimony)	Mn (Manganese)
As (Arsenic)	Mo (Molybdenum)
Be (Beryllium)	Ni (Nickel)
Cd (Cadmium)	P (Phosphorus)
Ca (Calcium)	Se (Selenium)
Cr (Chromium)	Sr (Strontium)
Co (Cobalt)	Tl (Thallium)
Cu (Copper)	Sn (Tin)
Fe (Iron)	Ti (Titanium)
Pb (Lead)	V (Vanadium)
Li (Lithium)	Zn (Zinc)
Mg (Magnesium)	

Spiking Standard #2

QCS-02-1 $ 89 / **100 mL**
QCS-02-5 $ 174 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 7 comps.

Al (Aluminum)	100
Ba (Barium)	100
B (Boron)	100
K (Potassium)	1000
Si (Silicon) †	500
Ag (Silver)	50
Na (Sodium)	100

† 1070 µg/mL as SiO_2

QC Standard #2R

QCS-02-R1-1 $ 89 / **100 mL**
QCS-02-R1-5 $ 174 / **500 mL**
100 µg/mL each in 5% HNO_3 tr. HF 7 comps.

Al (Aluminum)	Ag (Silver)
Ba (Barium)	Na (Sodium)
B (Boron)	
K (Potassium)	† 214 µg/mL as
Si (Silicon) †	SiO_2

Mercury Standard

Mercury is available in a separate solution due to incompatibility with other elements.

TCLP-02-1 $ 34 / **100 mL**
TCLP-02-5 $ 67 / **500 mL**
20 µg/mL in 5% HNO_3

Hg (Mercury)

These products require a Hazardous Shipping Fee except products marked with an asterisk *

Method 6010B (Revision 2 from SW-846, Dec. 1996) Performance and Interference Check Standards

Laboratory Performance Check Standard

LPCS-01R-1 $ 230 / **100 mL**
LPCS-01R-5 $ 450 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 30 comps.

Al (Aluminum)	20
Sb (Antimony)	20
As (Arsenic)	20
Ba (Barium)	20
Be (Beryllium)	20
B (Boron)	20
Cd (Cadmium)	20
Ca (Calcium)	20
Cr (Chromium)	20
Co (Cobalt)	20
Cu (Copper)	20
Fe (Iron)	20
Pb (Lead)	20
Li (Lithium)	20
Mg (Magnesium)	20
Mn (Manganese)	20
Mo (Molybdenum)	20
Ni (Nickel)	20
P (Phosphorous)	100
K (Potassium)	100
Se (Selenium)	20
Si (Silicon) †	100
Ag (Silver)	5
Na (Sodium)	20
Sr (Strontium)	20
Tl (Thallium)	20
Sn (Tin)	20
Ti (Titanium)	20
V (Vanadium)	20
Zn (Zinc)	20

† 214 µg/mL as SiO_2

Primary Interferents

CLP-PIN-01-1 $ 110 / **100 mL**
CLP-PIN-01-5 $ 215 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 4 comps.

Al (Aluminum)	5000
Ca (Calcium)	5000
Fe (Iron)	2000
Mg (Magnesium)	5000

Alternate Interferents

CLP-PIN-02-1 $ 98 / **100 mL**
CLP-PIN-02-5 $ 225 / **500 mL**
1000 µg/mL each in 5% HNO_3 6 comps.

Cr (Chromium)	Ni (Nickel)
Cu (Copper)	Ti (Titanium)
Mn (Manganese)	V (Vanadium)

Interference Set

Because interference problems are dependent on the types of sample matrices encountered - it is often easier to create your own set of matrix matching interference check solutions. Therefore, we are offering a set of single element solutions to be used for that purpose.

SIC-SING-R-1-SET $300 / **set of 10 x 100 mL**
10 individual single element standards at 1,000 µg/mL in HNO_3

Al (Aluminum)	Mg (Magnesium)
Ca (Calcium)	Mn (Manganese)
Cr (Chromium)	Ni (Nickel)
Cu (Copper)	Ti (Titanium)
Fe (Iron)	V (Vanadium)

Technical Note

If you would like us to formulate an interference check solution to meet your needs, please call our Technical Service Department for a custom quotation.

Set-up Solutions

Nebulizer Adjustment Solution

ICP-69N-1 $ 34 / **100 mL**
1000 µg/mL in HNO_3

Y (Yttrium)

Method 6010 (Revision 0, Sept. 1986) Interference Check Standards

Four standard mixtures are available for interference checks in SW-846, Method 6010 (Rev. 0, Sept. 1986) and Method 200.7.

Interference Check Standard #1

INT-01-1 $ 242 / **100 mL**
INT-01-5 $ 472 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 17 comps.

As (Arsenic)	1000
Ba (Barium)	300
Be (Beryllium)	100
Cd (Cadmium)	300
Cr (Chromium)	300
Co (Cobalt)	300
Cu (Copper)	300
Pb (Lead)	1000
Mn (Manganese)	200
Hg (Mercury)	50
Ni (Nickel)	300
K (Potassium)	20,000
Se (Selenium)	500
Ag (Silver)	300
Tl (Thallium)	1000
V (Vanadium)	300
Zn (Zinc)	300

Interference Check Standard #2

INT-02-1 $ 85 / **100 mL**
INT-02-5 $ 165 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 4 comps.

B (Boron)	500
Mo (Molybdenum)	300
Si (Silicon)	200
Ti (Titanium)	1000

Interference Check Standard #3

INT-03-1 * $ 34 / **100 mL**
INT-03-5 * $ 67 / **500 mL**
500 µg/mL in 2% HNO_3, tr. Tartaric acid

Sb (Antimony)

Interference Check Standard #4

INT-04-1 $ 115 / **100 mL**
INT-04-5 $ 225 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 5 comps.

Al (Aluminum)	1200
Ca (Calcium)	6000
Fe (Iron)	5000
Mg (Magnesium)	3000
Na (Sodium)	1000

Interference Check Standards Sets

INT-1986-1-SET $ 385 / **4 x 100 mL**

INT-01-1	INT-03-1
INT-02-1	INT-04-1

INT-1986-5-SET $ 765 / **4 x 500 mL**

INT-01-5	INT-03-5
INT-02-5	INT-04-5

TCLP Multi-Element Calibration Standards

For use in SW-846, Method 1311 Toxicity Characteristic Leaching Procedure

TCLP Standard #1

TCLP-01-1 $ 98 / **100 mL**
TCLP-01-5 $ 190 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 7 comps.

As (Arsenic)	25
Ba (Barium)	500
Cd (Cadmium)	5
Cr (Chromium)	25
Pb (Lead)	25
Se (Selenium)	5
Ag (Silver)	25

TCLP Standard for ICP

TCLP-ICP-1 $ 68 / **100 mL**
TCLP-ICP-5 $ 132 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 4 comps.

Ba (Barium)	500
Cd (Cadmium)	5
Cr (Chromium)	25
Ag (Silver)	25

TCLP Standard for GFAA

TCLP-GFAA-1 $ 50 / **100 mL**
TCLP-GFAA-5 $ 110 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 3 comps.

As (Arsenic)	25
Pb (Lead)	25
Se (Selenium)	5

TCLP Standard #2

For Mercury Analysis using ICP or Cold Vapor AA
TCLP-02-1 $ 34 / **100 mL**
TCLP-02-5 $ 67 / **500 mL**
20 µg/mL in 5% HNO_3

Hg (Mercury)

AccuStandard leaches its bottles to ensure contaminant-free packaging.

AccuStandard is accredited to ISO/IEC 17025 and certified to ISO 9001

SDWA Standards

For use in SW-846, Method 1310 and U.S. NPDWR 40CFR Part 141. The three Drinking Water Standards are used for monitoring drinking water and/or ground and surface water.

Primary Drinking Water Metals

SDWA-01-1 $ 85 / **100 mL**
SDWA-01-5 $ 165 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 7 comps.

As (Arsenic)	10
Ba (Barium)	100
Cd (Cadmium)	5
Cr (Chromium)	10
Pb (Lead)	10
Se (Selenium)	5
Ag (Silver)	10

Secondary Drinking Water Metals

SDWA-02-1 $ 72 / **100 mL**
SDWA-02-5 $ 139 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 4 comps.

Cu (Copper)	100
Fe (Iron)	30
Mn (Manganese)	5
Zn (Zinc)	500

Mercury Solution

SDWA-03-1 $ 34 / **100 mL**
SDWA-03-5 $ 67 / **500 mL**
10 µg/mL in 5% HNO_3

Hg (Mercury)

Set of Drinking Water Standards

SDWA-1-SET $ 154 / **3 x 100 mL**
SDWA-01-1 SDWA-02-1 SDWA-03-1

SDWA-5-SET $ 298 / **3 x 500 mL**
SDWA-01-5 SDWA-02-5 SDWA-03-5

Standards for Analytes covered in the Safe Drinking Water Act (SDWA)

Primary Metals for Analysis by GFAA

Contains GFAA approved elements
SDWA-05-1 $ 95 / **100 mL**
SDWA-05-5 $ 185 / **500 mL**
10 µg/mL each in 2% HNO_3 9 comps.

Sb (Antimony)	Pb (Lead)
As (Arsenic)	Ni (Nickel)
Cd (Cadmium)	Se (Selenium)
Cr (Chromium)	Tl (Thallium)
Cu (Copper)	

Primary Metals for Analysis by GFAA / ICP / ICP-MS

SDWA-07-1 $ 135 / **100 mL**
SDWA-07-5 $ 264 / **500 mL**
At stated conc. (µg/mL) in in 2% HNO_3 tr. HF 14 comps.

Sb (Antimony)	100
As (Arsenic)	100
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Ca (Calcium)	100
Cr (Chromium)	10
Cu (Copper)	10
Pb (Lead)	10
Ni (Nickel)	10
Se (Selenium)	10
Si (Silicon) †	100
Na (Sodium)	100
Tl (Thallium)	10

† 214 µg/mL as SiO_2

Primary Metals for Analysis by ICP

Contains all approved elements
SDWA-04-1 $ 95 / **100 mL**
SDWA-04-5 $ 185 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 9 comps.

As (Arsenic)	100
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Ca (Calcium)	100
Cr (Chromium)	10
Cu (Copper)	10
Ni (Nickel)	10
Na (Sodium)	100

Secondary Metals for Analysis by GFAA / ICP / ICP-MS

SDWA-08-1 $ 75 / **100 mL**
SDWA-08-5 $ 146 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 5 comps.

Al (Aluminum)	10
Fe (Iron)	100
Mn (Manganese)	10
Ag (Silver)	10
Zn (Zinc)	10

Primary Metals for Analysis by ICP-MS

Contains all approved elements
SDWA-06-MS-1 $ 115 / **100 mL**
SDWA-06-MS-5 $ 225 / **500 mL**
10 µg/mL each in 2% HNO_3 11 comps.

Sb (Antimony)	Cu (Copper)
As (Arsenic)	Pb (Lead)
Ba (Barium)	Ni (Nickel)
Be (Beryllium)	Se (Selenium)
Cd (Cadmium)	Tl (Thallium)
Cr (Chromium)	

Primary & Secondary Metals for Analysis by GFAA/ICP/ICP-MS

Contains all Primary & Secondary Metals
SDWA-09-1 $ 195 / **100 mL**
SDWA-09-5 $ 370 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 19 comps.

Al (Aluminum)	10
Sb (Antimony)	100
As (Arsenic)	100
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Ca (Calcium)	100
Cr (Chromium)	10
Cu (Copper)	10
Fe (Iron)	100
Pb (Lead)	10
Mn (Manganese)	10
Ni (Nickel)	10
Se (Selenium)	10
Si (Silicon) †	100
Ag (Silver)	10
Na (Sodium)	100
Tl (Thallium)	10
Zn (Zinc)	10

† 214 µg/mL as SiO_2

These products require a Hazardous Shipping Fee except products marked with an asterisk *

AccuStandard has received many requests for the following multi-element standards. We now offer our own version of these popular mixes offered by Merck. Products are made to the same specifications as other mixes in our product line and subject to the same rigorous quality control.

AccuStandard equivalent of Merck Multi-Element Standards

ICP Multi-Element Standard Solution I

MES-01-1 $ 176 / **100 mL**
MES-01-5 $ 343 / **500 mL**
At stated conc. (µg/mL) in 1 mol/L HNO_3 19 comps.

Ag (Silver)	50
Al (Aluminum)	100
B (Boron)	15
Ba (Barium)	5
Be (Beryllium)	1
Bi (Bismuth)	200
Cd (Cadmium)	20
Co (Cobalt)	20
Cr (Chromium)	25
Cu (Copper)	20
Fe (Iron)	15
Ga (Gallium)	150
In (Indium)	200
Mn (Manganese)	5
Ni (Nickel)	50
Pb (Lead)	200
Sr (Strontium)	1
Tl (Thallium)	400
Zn (Zinc)	20

ICP Multi-Element Standard Solution II

MES-02-1 $ 109 / **100 mL**
MES-02-5 $ 214 / **500 mL**
At stated conc. (µg/mL) in 1 mol/L HNO_3 3 comps.

Li (Lithium)	250
K (Potassium)	10,000
Na (Sodium)	1000

ICP Multi-Element Standard Solution III

MES-03-1 $ 109 / **100 mL**
MES-03-5 $ 214 / **500 mL**
1000 µg/mL each in 1 mol/L HNO_3 4 comps.

Ba (Barium)	Mg (Magnesium)
Ca (Calcium)	Sr (Strontium)

ICP Multi-Element Standard Solution IV

MES-04-1 $ 227 / **100 mL**
MES-04-5 $ 681 / **500 mL**
1000 µg/mL each in 1 mol/L HNO_3 23 comps.

Ag (Silver)	In (Indium)
Al (Aluminum)	K (Potassium)
B (Boron)	Li (Lithium)
Ba (Barium)	Mg (Magnesium)
Bi (Bismuth)	Mn (Manganese)
Ca (Calcium)	Na (Sodium)
Cd (Cadmium)	Ni (Nickel)
Co (Cobalt)	Pb (Lead)
Cr (Chromium)	Sr (Strontium)
Cu (Copper)	Tl (Thallium)
Fe (Iron)	Zn (Zinc)
Ga (Gallium)	

ICP Multi-Element Standard Solution V

MES-05-1-SET $200 / **2x100 mL**
MES-05-5-SET $390 / **2x500 mL**
At stated conc. (µg/mL) in 5% HCl 26 comps.

MES-05

K (Potassium)	100
Al (Aluminum)	20
As (Arsenic)	20
Na (Sodium)	20
Pb (Lead)	20
Se (Selenium)	20
Ca (Calcium)	20
P (Phosphorus)	20
Te (Tellurium)	20
Ni (Nickel)	5
B (Boron)	2
Ba (Barium)	2
Cd (Cadmium)	2
Cr (Chromium)	2
Cu (Copper)	2
Fe (Iron)	2
Li (Lithium)	2
Ti (Titanium)	2
Zn (Zinc)	2
Be (Beryllium)	1
Mg (Magnesium)	1
Mn (Manganese)	1
Sc (Scandium)	1
Sr (Strontium)	1
Y (Yttrium)	1

MES-05-HG
5% HNO_3
Hg (Mercury) 5
supplied separately for better stability

ICP Multi-Element Standard Solution VI for MS

MES-06-1-SET $ 230 / **100 mL**
MES-06-5-SET $ 450 / **500 mL**
At stated conc. (µg/mL) in 1 mol/L HNO_3 tr. HF 30 comps.

Ag (Silver)	10
Al (Aluminum)	10
As (Arsenic)	100
B (Boron)	100
Ba (Barium)	10
Be (Beryllium)	100
Bi (Bismuth)	10
Ca (Calcium)	1000
Cd (Cadmium)	10
Co (Cobalt)	10
Cr (Chromium)	10
Cu (Copper)	10
Fe (Iron)	100
Ga (Gallium)	10
K (Potassium)	10
Li (Lithium)	10
Mg (Magnesium)	10
Mn (Manganese)	10
Mo (Molybdenum)	10
Na (Sodium)	10
Ni (Nickel)	10
Pb (Lead)	10
Rb (Rubidium)	10
Se (Selenium)	100
Sr (Strontium)	10
Tl (Thallium)	10
U (Uranium)	10
V (Vanadium)	10
Zn (Zinc)	100

MES-06-TE
Te (Tellurium) 10
supplied separately for better stability in 10% HCl

ICP Multi-Element Standard Solution VII

MES-07-1 * $ 188 / **100 mL**
MES-07-5 * $ 367 / **500 mL**
100 µg/mL each in Water tr. HNO_3 9 comps.

NH_4 (Ammonium)	Mg (Magnesium)
Ba (Barium)	Mn (Manganese)
Ca (Calcium)	Na (Sodium)
K (Potassium)	Sr (Strontium)
Li (Lithium)	

ICP Multi-Element Standard Solution VIII

MES-08-1-SET $ 190 / **2x100 mL**
MES-08-5-SET $ 371 / **2x500 mL**
100 µg/mL each in 1 mol/L HNO_3 24 comps.

MES-08

Al (Aluminum)	K (Potassium)
B (Boron)	Li (Lithium)
Ba (Barium)	Mg (Magnesium)
Be (Beryllium)	Mn (Manganese)
Bi (Bismuth)	Na (Sodium)
Ca (Calcium)	Ni (Nickel)
Cd (Cadmium)	Pb (Lead)
Co (Cobalt)	Se (Selenium)
Cr (Chromium)	Sr (Strontium)
Cu (Copper)	Tl (Thallium)
Fe (Iron)	Zn (Zinc)
Ga (Gallium)	

MES-08-TE
10% HCl
Te (Tellurium)
supplied separately for better stability

ICP Multi-Element Standard Solution IX

MES-09-1-SET $ 102 / **2x100 mL**
MES-09-5-SET $ 199 / **2x500 mL**
100 µg/mL each in 1 mol/L HNO_3 8 comps.

MES-09

As (Arsenic)	Ni (Nickel)
Be (Beryllium)	Se (Selenium)
Pb (Lead)	Tl (Thallium)
Cr (Chromium)	

MES-09-HG
Hg (Mercury)
supplied separately for better stability.

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AccuStandard equivalent of Merck Multi-Element Standards

ICP Multi-Element Standard Solution X

MES-10-1 $ 200 / **100 mL**
MES-10-5 $ 390 / **500 mL**
At stated conc. (µg/mL) in 1 mol/L HNO_3 23 comps.

Ca (Calcium)	3500
Mg (Magnesium)	1500
Na (Sodium)	800
K (Potassium)	300
B (Boron)	10
Fe (Iron)	10
Mo (Molybdenum)	10
Sr (Strontium)	10
As (Arsenic)	5
Ba (Barium)	5
Ni (Nickel)	5
V (Vanadium)	5
Zn (Zinc)	5
Mn (Manganese)	3
Co (Cobalt)	2.5
Pb (Lead)	2.5
Be (Beryllium)	2
Cd (Cadmium)	2
Cr (Chromium)	2
Cu (Copper)	2
Bi (Bismuth)	1
Se (Selenium)	1
Tl (Thallium)	1

ICP Multi-Element Standard Solution XI

MES-11-1-SET $ 114 / **2x100 mL**
MES-11-5-SET $ 222 / **2x500 mL**
At stated conc. (µg/mL) in 1 mol/L HNO_3 6 comps.

MES-11

Cd (Cadmium)	10
Cr (Chromium)	900
Cu (Copper)	800
Ni (Nickel)	200
Pb (Lead)	900
Zn (Zinc)	2500

MES-11-HG
Hg (Mercury) 8
supplied separately for better product stability

ICP Multi-Element Standard Solution XII

MES-12-1-SET $ 131 / **2x100 mL**
MES-12-5-SET $ 255 / **2x500 mL**
1000 µg/mL each in 5% HCl tr. HNO_3 7 comps.

MES-12-R1

As (Arsenic)	Si (Silicon)
Mo (Molybdenum)	W (Tungsten)
P (Phosphorus)	V (Vanadium)
S (Sulfur)	

MES-12-ZR
Zr (Zirconium)
supplied separately for better product stability

ICP Multi-Element Standard Solution XIII

MES-13-1-SET $ 135 / **2x100 mL**
MES-13-5-SET $ 264 / **2x500 mL**
At stated conc. (µg/mL) in 5% HNO_3 15 comps.

MES-13

Al (Aluminum)	500
As (Arsenic)	100
Be (Beryllium)	100
Cd (Cadmium)	25
Co (Cobalt)	100
Cr (Chromium)	100
Cu (Copper)	100
Fe (Iron)	100
Mn (Manganese)	100
Ni (Nickel)	100
Pb (Lead)	100
Se (Selenium)	25
V (Vanadium)	250
Zn (Zinc)	100

MES-13-HG
Hg (Mercury) 5
supplied separately for better stability

ICP Multi-Element Standard Solution XIV

MES-14-1 $ 104 / **100 mL**
MES-14-5 $ 202 / **500 mL**
At stated conc. (µg/mL) in 2% HCl tr. HNO_3 11 comps.

P (Phosphorus)	100
S (Sulfur)	100
K (Potassium)	100
As (Arsenic)	20
La (Lanthanum)	20
Li (Lithium)	20
Mo (Molybdenum)	20
Mn (Manganese)	20
Ni (Nickel)	20
Sc (Scandium)	20
Na (Sodium)	20

ICP Multi-Element Standard Solution XV

MES-15-1 $ 76 / **100 mL**
MES-15-5 $ 148 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 8 comps.

Element	**µg/mL**
Ba (Barium)	1
Ca (Calcium)	1
K (Potassium)	50
La (Lanthanum)	10
Li (Lithium)	10
Mn (Manganese)	10
Na (Sodium)	10
Sr (Strontium)	10

ICP Multi-Element Standard Solution XVI

MES-16-1 $ 190 / **100 mL**
MES-16-5 $ 370 / **500 mL**
100 µg/mL each in 5% HNO_3 tr. HF 21 comps.

Sb (Antimony)	Mg (Magnesium)
As (Arsenic)	Mn (Manganese)
Be (Beryllium)	Mo (Molybdenum)
Cd (Cadmium)	Ni (Nickel)
Ca (Calcium)	Se (Selenium)
Cr (Chromium)	Sr (Strontium)
Co (Cobalt)	Tl (Thallium)
Cu (Copper)	Ti (Titanium)
Fe (Iron)	V (Vanadium)
Pb (Lead)	Zn (Zinc)
Li (Lithium)	

ICP Multi-Element Standard Solution XVII

MES-17-1 $ 102 / **100 mL**
MES-17-5 $ 199 / **500 mL**
100 µg/mL each in in 15% HCl tr. HNO_3 7 comps.

Hf (Hafnium)	Ta (Tantalum)
Ir (Iridium)	Ti (Titanium)
Sb (Antimony)	Zr (Zirconium)
Sn (Tin)	

ICP Multi-Element GF AAS Standard Solution XVIII

MES-18-1 $ 135 / **100 mL**
MES-18-5 $ 263 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 16 comps.

Al (Aluminum)	100
As (Arsenic)	100
Pb (Lead)	100
Sb (Antimony)	100
Se (Selenium)	100
Tl (Thallium)	100
Ba (Barium)	50
Co (Cobalt)	50
Cu (Copper)	50
Ni (Nickel)	50
Cr (Chromium)	20
Fe (Iron)	20
Mn (Manganese)	20
Ag (Silver)	10
Be (Beryllium)	10
Cd (Cadmium)	10

ICP Multi-Element Standard Solution XIX for MS

MES-19-1 $ 86 / **100 mL**
MES-19-5 $ 168 / **500 mL**
1 µg/mL each in 1% HNO_3 5 comps.

Be (Beryllium)	Tl (Thallium)
Co (Cobalt)	U (Uranium)
In (Indium)	

ICP Multi-Element Standard Solution XX for MS

MES-20-1 $ 95 / **100 mL**
MES-20-5 $ 185 / **500 mL**
1 µg/mL each in 1% HNO_3 11 comps.

Mg (Magnesium)	Tl (Thallium)
Cu (Copper)	Ce (Cerium)
Cd (Cadmium)	Ge (Germanium)
Pb (Lead)	Tb (Terbium)
Sc (Scandium)	Ba (Barium)
Rh (Rhodium)	

ICP Multi-Element Standard Solution XXI for MS

MES-21-1-SET $ 180 / **2x100 mL**
MES-21-5-SET $ 350 / **2x500 mL**
10 µg/mL each in 5% HNO_3 30 comps.

MES-21	
Ag (Silver)	In (Indium)
Al (Aluminum)	K (Potassium)
As (Arsenic)	Li (Lithium)
Ba (Barium)	Mg (Magnesium)
Be (Beryllium)	Mn (Manganese)
Bi (Bismuth)	Na (Sodium)
Ca (Calcium)	Ni (Nickel)
Cd (Cadmium)	Pb (Lead)
Co (Cobalt)	Rb (Rubidium)
Cr (Chromium)	Se (Selenium)
Cs (Cesium)	Sr (Strontium)
Cu (Copper)	Tl (Thallium)
Fe (Iron)	V (Vanadium)
Ga (Gallium)	U (Uranium)
	Zn (Zinc)

MES-21-HG
Hg (Mercury) 10
supplied separately for better product stability

ICP Multi-Element Standard Solution XXII for MS

MES-22-1 $ 70 / **100 mL**
MES-22-5 $ 137 / **500 mL**
2 µg/mL each in 2% HNO_3 5 comps.

Cd (Cadmium)	Pb (Lead)
Cu (Copper)	Rh (Rhodium)
Mg (Magnesium)	

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AccuStandard is now offering calibration and testing standards for individual instruments. The Alternate Source Line (ASL) formulations match product from:

- Varian
- Agilent
- JY (Jobin Yvon)
- Perkin Elmer (PE)
- Teledyne (Leeman Labs)

All of these products have been carefully formulated to be used for specific instrument setup and verification.

NEW

AccuStandard equivalent of Varian Calibration Solutions

Varian ICP Wavelength Calibration Solution

WAVE-CAL-1	$ 135 / **100 mL**
WAVE-CAL-5	$ 264 / **500 mL**
WAVE-CAL-10X-1	$ 135 / **100 mL**
WAVE-CAL-10X-5	$ 264 / **500 mL**

At stated conc. (µg/mL) in 1% HNO_3 15 comps.

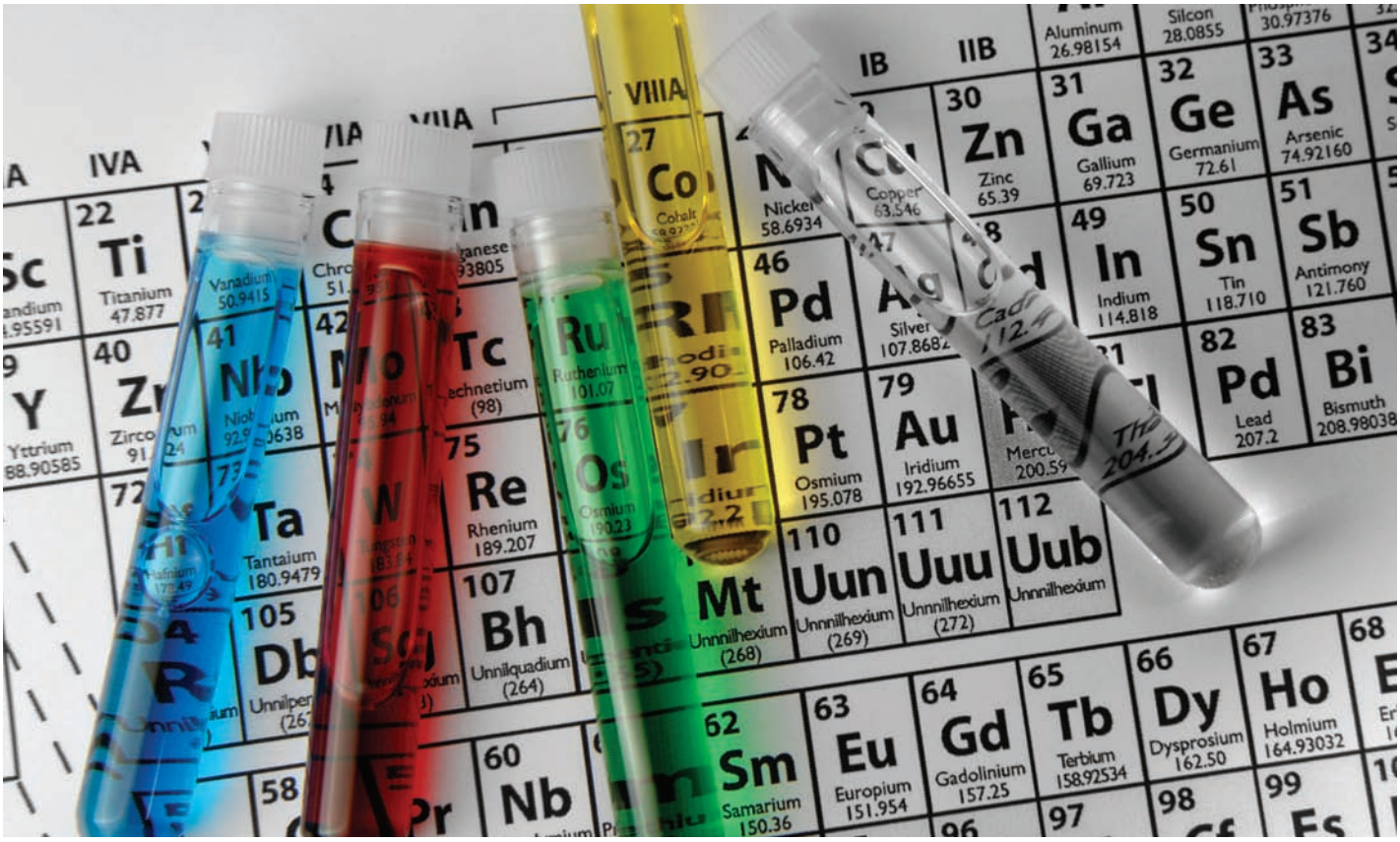
	CAL	CAL-10X
Al (Aluminum)	5	50
As (Arsenic)	5	50
Ba (Barium)	5	50
Cd (Cadmium)	5	50
Co (Cobalt)	5	50
Cr (Chromium)	5	50
Cu (Copper)	5	50
Mn (Manganese)	5	50
Mo (Molybdenum)	5	50
Ni (Nickel)	5	50
Pb (Lead)	5	50
Se (Selenium)	5	50
Sr (Strontium)	5	50
Zn (Zinc)	5	50
K (Potassium)	50	500

Varian ICP OES Calibration Solution

WAVE-CAL2-1	$ 125 / **100 mL**
WAVE-CAL2-5	$ 245 / **500 mL**
WAVE-CAL2-10X-1	$ 125 / **100 mL**
WAVE-CAL2-10X-5	$ 245 / **500 mL**

At stated conc. (µg/mL) in 1% HNO_3 14 comps.

	CAL2	CAL2-10X
Al (Aluminum)	5	50
As (Arsenic)	5	50
Ba (Barium)	5	50
Cd (Cadmium)	5	50
Co (Cobalt)	5	50
Cr (Chromium)	5	50
Cu (Copper)	5	50
Mo (Molybdenum)	5	50
Ni (Nickel)	5	50
Pb (Lead)	5	50
Sr (Strontium)	5	50
P (Phosphorus)	5	50
Zn (Zinc)	5	50
K (Potassium)	50	500



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AccuStandard equivalent of Agilent Solutions

NEW

Environmental Calibration Standard

AG-CAL-ASL-1 $ 308 / **100 mL**
AG-CAL-ASL-5 $ 598 / **500 mL**
At stated conc. (µg/mL) in 10% HNO_3 25 comps.

Ca (Calcium)	1000
Fe (Iron)	1000
K (Potassium)	1000
Mg (Magnesium)	1000
Na (Sodium)	1000
Ag (Silver)	10
Al (Aluminum)	10
As (Arsenic)	10
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Co (Cobalt)	10
Cr (Chromium)	10
Cu (Copper)	10
Mn (Manganese)	10
Mo (Molybdenum)	10
Ni (Nickel)	10
Pb (Lead)	10
Sb (Antimony)	10
Se (Selenium)	10
Tl (Thallium)	10
V (Vanadium)	10
Zn (Zinc)	10
Th (Thorium)	10
U (Uranium)	10

Environmental Initial Calibration Verification

AG-VER1-ASL-1 $ 328 / **100 mL**
AG-VER1-ASL-5 $ 636 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 26 comps.

Ca (Calcium)	1000
Fe (Iron)	1000
K (Potassium)	1000
Mg (Magnesium)	1000
Na (Sodium)	1000
Sr (Strontium)	1000
Ag (Silver)	10
Al (Aluminum)	10
As (Arsenic)	10
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Co (Cobalt)	10
Cr (Chromium)	10
Cu (Copper)	10
Mn (Manganese)	10
Mo (Molybdenum)	10
Ni (Nickel)	10
Pb (Lead)	10
Sb (Antimony)	10
Se (Selenium)	10
Tl (Thallium)	10
V (Vanadium)	10
Zn (Zinc)	10
Th (Thorium)	10
U (Uranium)	10

Interference Check 6020 #1

AG-INTFR-6020-ASL-1 $ 385 / **100 mL**
AG-INTFR-6020-ASL-5 $ 747 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 12 comps.

Cl (Chloride)	20,000
Ca (Calcium)	3000
Fe (Iron)	2500
Na (Sodium)	2500
C (Carbon)	2000
Al (Aluminum)	1000
Mg (Magnesium)	1000
P (Phosphorus)	1000
K (Potassium)	1000
S (Sulfur)	1000
Mo (Molybdenum)	20
Ti (Titanium)	20

Interference Check 6020 #2

AG-INTFR2-6020-ASL-1 $ 143 / **100 mL**
AG-INTFR2-6020-ASL-5 $ 276 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 11 comps.

Cr (Chromium)	20
Co (Cobalt)	20
Cu (Copper)	20
Mn (Manganese)	20
Ni (Nickel)	20
V (Vanadium)	20
As (Arsenic)	10
Cd (Cadmium)	10
Se (Selenium)	10
Zn (Zinc)	10
Ag (Silver)	5

Environmental Spike Mix

AG-SPIKE-ASL-1 $ 293 / **100 mL**
AG-SPIKE-ASL-5 $ 567 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 22 comps.

Ca (Calcium)	1000
Fe (Iron)	1000
K (Potassium)	1000
Mg (Magnesium)	1000
Na (Sodium)	1000
Ag (Silver)	100
Al (Aluminum)	100
As (Arsenic)	100
Ba (Barium)	100
Be (Beryllium)	100
Cd (Cadmium)	100
Co (Cobalt)	100
Cr (Chromium)	100
Mn (Manganese)	100
Mo (Molybdenum)	100
Pb (Lead)	100
Sb (Antimony)	100
Se (Selenium)	100
Tl (Thallium)	100
V (Vanadium)	100
Zn (Zinc)	100
U (Uranium)	100

Environmental Internal Standard

AG-INT-ASL-1 $ 132 / **100 mL**
AG-INT-ASL-5 $ 256 / **500 mL**
10 µg/mL each in 5-10% HNO_3 7 comps.

Bi (Bismuth)	Sc (Scandium)
Ge (Germanium)	Tb (Terbium)
In (Indium)	Y(Yttrium)
Li-6 (Lithium)	

Multi-Element Calibration Std. #1

AG-MECAL1-ASL-1 $ 165 / **100 mL**
AG-MECAL1-ASL-5 $ 320 / **500 mL**
10 µg/mL each in 5% HNO_3 17 comps.

Ce (Cerium)	Pr (Praseodymium)
Dy (Dysprosium)	Sc (Scandium)
Er (Erbium)	Sm (Samarium)
Eu (Europium)	Tb (Terbium)
Gd (Gadolinium)	Th (Thorium)
Ho (Holmium)	Tm (Thulium)
La (Lanthanum)	Y (Yttrium)
Lu (Lutetium)	Yb (Ytterbium)
Nd (Neodymium)	

Multi-Element Calibration Std.#2A

AG-MECAL2-ASL-1 $ 205 / **100 mL**
AG-MECAL2-ASL-5 $ 398 / **500 mL**
10 µg/mL each in 5% HNO_3 25 comps.

Ag (Silver)	K (Potassium)
Al (Aluminum)	Li (Lithium)
As (Arsenic)	Mg (Magnesium)
Ba (Barium)	Mn (Manganese)
Be (Beryllium)	Pb (Lead)
Ca (Calcium)	Rb (Rubidium)
Cd (Cadmium)	Se (Selenium)
Co (Cobalt)	Sr (Strontium)
Cr (Chromium)	Tl (Thallium)
Cs (Cesium)	U (Uranium)
Cu (Copper)	V (Vanadium)
Fe (Iron)	Zn (Zinc)
Ga (Gallium)	

Multi-Element Calibration Std. #3

AG-MECAL3-ASL-1 $ 132 / **100 mL**
AG-MECAL3-ASL-5 $ 256 / **500 mL**
10 µg/mL each in 10% HCl 10 comps.

Au (Gold)	Rh (Rhodium)
Hf (Hafnium)	Ru (Ruthenium)
Ir (Iridium)	Sb (Antimony)
Pd (Palladium)	Sn (Tin)
Pt (Platinum)	Te (Tellurium)

Multi-Element Calibration Std. #4

AG-MECAL4-ASL-1 * $ 142 / **100 mL**
AG-MECAL4-ASL-5 * $ 275 / **500 mL**
10 µg/mL each in Water, tr. HF 12 comps.

B (Boron)	S (Sulfur)
Ge (Germanium)	Si (Silicon)
Mo (Molybdenum)	Ta (Tantalum)
Nb (Niobium)	Ti (Titanium)
P (Phosphorus)	W (Tungsten)
Re (Rhenium)	Zr (Zirconium)

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AccuStandard equivalent of Jobin Yvon (JY)

NEW

Instrument Calibration Standard Heavy Metals

JY-CALHM-ASL-1 $ 106 / **100 mL**
JY-CALHM-ASL-5 $ 206 / **500 mL**
At stated conc. (µg/mL) in 2-5% HNO_3 5 comps.

As (Arsenic)	100
Tl (Thallium)	100
Cd (Cadmium)	50
Se (Selenium)	50
Pb (Lead)	30

Instrument Calibration Standard

JY-CAL-ASL-1 $ 138 / **100 mL**
JY-CAL-ASL-5 $ 397 / **500 mL**
5000 µg/mL each in 2-5% HNO_3 4 comps.

Ca (Calcium)	K (Potassium)
Mg (Magnesium)	Na (Sodium)

Instrument Check Standard

JY-CHK-ASL-1 $ 119 / **100 mL**
JY-CHK-ASL-5 $ 230 / **500 mL**
50 µg/mL each in 2-5% HNO_3 9 comps.

Al (Aluminum)	K (Potassium)
As (Arsenic)	Na (Sodium)
Co (Cobalt)	P (Phosphorus)
Cr (Chromium)	Pb (Lead)
Cu (Copper)	

Instrument Check Standard 1

JY-CHK1-ASL-1 $ 106 / **100 mL**
JY-CHK1-ASL-5 $ 206 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 5 comps.

K (Potassium)	1500
Pb (Lead)	1000
Al (Aluminum)	500
Mg (Magnesium)	500
Cd (Cadmium)	100

Quality Control Standard 7

JY-QC7-ASL-1 $ 106 / **100 mL**
JY-QC7-ASL-5 $ 206 / **500 mL**
At stated conc. (µg/mL) in 2-5% HNO_3 7 comps.

K (Potassium)	1000
Si (Silicon)	500
Al (Aluminum)	100
As (Arsenic)	100
Ba (Barium)	100
Na (Sodium)	100
Ag (Silver)	50

Quality Control Standard 21

JY-QC21-ASL-1 $ 238 / **100 mL**
JY-QC21-ASL-5 $ 461 / **500 mL**
100 µg/mL each in 2-5% HNO_3 tr. HF 21 comps.

As (Arsenic)	Mo (Molybdenum)
Be (Beryllium)	Ni (Nickel)
Ca (Calcium)	Pb (Lead)
Cd (Cadmium)	Sb (Antimony)
Co (Cobalt)	Se (Selenium)
Cr (Chromium)	Sr (Strontium)
Cu (Copper)	Ti (Titanium)
Fe (Iron)	Tl (Thallium)
Li (Lithium)	V (Vanadium)
Mg (Magnesium)	Zn (Zinc)
Mn (Manganese)	

Quality Control Standard 23

JY-QC23-ASL-1 $ 284 / **100 mL**
JY-QC23-ASL-5 $ 550 / **500 mL**
1000 µg/mL each in 2-5% HNO_3 23 comps.

Ag (Silver)	In (Indium)
Al (Aluminum)	K (Potassium)
B (Boron)	Li (Lithium)
Ba (Barium)	Mg (Magnesium)
Bi (Bismuth)	Mn (Manganese)
Cd (Cadmium)	Na (Sodium)
Ca (Calcium)	Ni (Nickel)
Cr (Chromium)	Pb (Lead)
Co (Cobalt)	Sr (Strontium)
Cu (Copper)	Tl (Thallium)
Fe (Iron)	Zn (Zinc)
Ga (Gallium)	

AccuStandard equivalent of Perkin Elmer (PE)

NEW

Alternate Interferents A

PE-ALTINTA-ASL-1 $ 165 / **100 mL**
PE-ALTINTA-ASL-5 $ 320 / **500 mL**
1000 µg/mL each in 5% HNO_3 6 comps.

Cr (Chromium)	Ni (Nickel)
Cu (Copper)	Ti (Titanium)
Mn (Manganese)	V (Vanadium)

Analytes B

PE-ANAB-ASL-1 $ 144 / **100 mL**
PE-ANAB-ASL-5 $ 280 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF, tr. Tartaric acid 14 comps.

Cd (Cadmium)	100
Ni (Nickel)	100
Zn (Zinc)	100
Sb (Antimony)	60
Ba (Barium)	50
Be (Beryllium)	50
Co (Cobalt)	50
Cr (Chromium)	50
Cu (Copper)	50
Mn (Manganese)	50
V (Vanadium)	50
Ag (Silver)	20
As (Arsenic)	10
Tl (Thallium)	10

Alternate Analytes B

PE-ALTB-ASL-1 $ 149 / **100 mL**
PE-ALTB-ASL-5 $ 289 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF, tr. Tartaric acid 12 comps.

Al (Aluminum)	100
As (Arsenic)	100
B (Boron)	100
Mo (Molybdenum)	100
Na (Sodium)	100
Sb (Antimony)	100
Se (Selenium)	100
Tl (Thallium)	100
Ca (Calcium)	10
Fe (Iron)	10
Mg (Magnesium)	10
Si (Silicon)	10

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AccuStandard equivalent of Perkin Elmer (PE)

NEW

Instrument Calibration Std. 1

PE-CAL1-ASL-1 $ 245 / **100 mL**
PE-CAL1-ASL-5 $ 476 / **500 mL**
20 µg/mL each in 2% HNO_3 tr. Tartaric acid 20 comps.

Ag (Silver)	Mo (Molybdenum)
Al (Aluminum)	Ni (Nickel)
As (Arsenic)	Pb (Lead)
Ba (Barium)	Sb (Antimony)
Be (Beryllium)	Se (Selenium)
Cd (Cadmium)	Th (Thorium)
Co (Cobalt)	Tl (Thallium)
Cr (Chromium)	U (Uranium)
Cu (Copper)	V (Vanadium)
Mn (Manganese)	Zn (Zinc)

Instrument Calibration Std. 2

PE-CAL2-ASL-1 $ 222 / **100 mL**
PE-CAL2-ASL-5 $ 431 / **500 mL**
100 µg/mL each in 5% HNO_3 tr. HF, tr. Tartaric acid 26 comps.

Ag (Silver)	Mn (Manganese)
Al (Aluminum)	Mo (Molybdenum)
As (Arsenic)	Na (Sodium)
Ba (Barium)	Ni (Nickel)
Be (Beryllium)	Pb (Lead)
Ca (Calcium)	Sb (Antimony)
Cd (Cadmium)	Se (Selenium)
Co (Cobalt)	Sn (Tin)
Cr (Chromium)	Sr (Strontium)
Cu (Copper)	Ti (Titanium)
Fe (Iron)	Tl (Thallium)
K (Potassium)	V (Vanadium)
Mg (Magnesium)	Zn (Zinc)

Instrument Calibration Std. 3

PE-CAL3-ASL-1 $ 94 / **100 mL**
PE-CAL3-ASL-5 $ 181 / **500 mL**
1000 µg/mL each in 5% HNO_3 5 comps.

Fe (Iron)	Na (Sodium)
K (Potassium)	Mg (Magnesium)
Ca (Calcium)	

Initial Calibration Verification Std.

PE-CRDL1-ASL-1 $ 262 / **100 mL**
PE-CRDL1-ASL-5 $ 508 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. Tartaric acid 21 comps.

Ca (Calcium)	5000
Mg (Magnesium)	5000
K (Potassium)	5000
Na (Sodium)	5000
Ba (Barium)	200
Al (Aluminum)	200
Fe (Iron)	100
Sb (Antimony)	60
Co (Cobalt)	50
V (Vanadium)	50
Ni (Nickel)	40
Cu (Copper)	25
Zn (Zinc)	20
Mn (Manganese)	15
As (Arsenic)	10
Cr (Chromium)	10
Ag (Silver)	10
Tl (Thallium)	10
Cd (Cadmium)	5
Se (Selenium)	5
Pb (Lead)	3

Supplied as a 10X concentration for better stability.

Instrument Calibration Std. 1

PE-CAL4-ASL-1 $ 132 / **100 mL**
PE-CAL4-ASL-5 $ 385 / **500 mL**
5000 µg/mL each in 5% HNO_3 4 comps.

Ca (Calcium)	Mg (Magnesium)
K (Potassium)	Na (Sodium)

Instrument Calibration Std. 2

PE-CAL5-ASL-1 $ 89 / **100 mL**
PE-CAL5-ASL-5 $ 172 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 5 comps.

Ni (Nickel)	400
Zn (Zinc)	200
Mn (Manganese)	150
Ag (Silver)	100
Cr (Chromium)	100

Instrument Calibration Std. 3

PE-CAL6-ASL-1 $ 114 / **100 mL**
PE-CAL6-ASL-5 $ 221 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 6 comps.

Al (Aluminum)	2000
Ba (Barium)	2000
Fe (Iron)	1000
Co (Cobalt)	500
V (Vanadium)	500
Cu (Copper)	250

Instrument Calibration Std. 4

PE-CAL7-ASL-1 $ 79 / **100 mL**
PE-CAL7-ASL-5 $ 152 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 5 comps.

As (Arsenic)	100
Tl (Thallium)	100
Cd (Cadmium)	50
Se (Selenium)	50
Pb (Lead)	30

Detection Limit

PE-CRDL2-ASL-1 $ 157 / **100 mL**
PE-CRDL2-ASL-5 $ 305 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF tr. Tartaric acid 15 comps.

Sb (Antimony)	120
Co (Cobalt)	100
V (Vanadium)	100
Ni (Nickel)	80
Cu (Copper)	50
Zn (Zinc)	40
Mn (Manganese)	30
Ag (Silver)	20
As (Arsenic)	20
Cr (Chromium)	20
Tl (Thallium)	20
Be (Beryllium)	10
Cd (Cadmium)	10
Se (Selenium)	10
P (Phosphorus)	6

Instrument Check Standard 1

PE-CHK1-ASL-1 $ 196 / **100 mL**
PE-CHK1-ASL-5 $ 379 / **500 mL**
10 µg/mL each in 2% HNO_3 tr. HF, tr. Tartaric acid 17 comps.

Ag (Silver)	Mn (Manganese)
Al (Aluminum)	Ni (Nickel)
As (Arsenic)	Pb (Lead)
Ba (Barium)	Sb (Antimony)
Be (Beryllium)	Se (Selenium)
Cd (Cadmium)	Tl (Thallium)
Co (Cobalt)	V (Vanadium)
Cr (Chromium)	Zn (Zinc)
Cu (Copper)	

Instrument Check Standard 3

PE-CHK3-ASL-1 $ 114 / **100 mL**
PE-CHK3-ASL-5 $ 222 / **500 mL**
200 µg/mL each in 2% HNO_3 5 comps.

Ca (Calcium)	Mg (Magnesium)
Fe (Iron)	Na (Sodium)
K (Potassium)	

Instrument Check Standard 4

PE-CHK4-ASL-1 $ 84 / **100 mL**
PE-CHK4-ASL-5 $ 162 / **500 mL**
10 µg/mL each in 2% HNO_3 3 comps.

Mo (Molybdenum)	U (Uranium)
Th (Thorium)	

Instrument Check Standard 5

PE-CHK5-ASL-1 $ 94 / **100 mL**
PE-CHK5-ASL-5 $ 181 / **500 mL**
10 µg/mL each in 2% HNO_3 tr. HF 4 comps.

Mo (Molybdenum)	Sr (Strontium)
Sn (Tin)	Tl (Thallium)

Detection Limit Standard for use with the ELAN 5000

PE-CRDL3-ASL-1 $ 85 / **100 mL**
PE-CRDL3-ASL-5 $ 165 / **500 mL**
1 µg/mL each in 1% HNO_3 5 comps.

Be (Beryllium)	Tl (Thallium)
Co (Cobalt)	U (Uranium)
In (Indium)	

Supplied as a 100X concentration for better stability.

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AccuStandard equivalent of Perkin Elmer (PE)

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Interference Check Standard 5

PE-ICS5-ASL-1 $ 182 / **100 mL**
PE-ICS5-ASL-5 $ 353 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 5 comps.

Ca (Calcium)	6000
Fe (Iron)	5000
Mg (Magnesium)	3000
Al (Aluminum)	1200
Na (Sodium)	1000

Interference Check Standard 18

PE-ICS18-ASL-1-SET $ 275 / **2 x 100 mL**
PE-ICS18-ASL-5-SET $ 534 / **2 x 500 mL**

PE-ICS18-ASL
At stated conc. (µg/mL) in 5% HNO_3 16 comps.

K (Potassium)	20000
As (Arsenic)	1000
Pb (Lead)	1000
Tl (Thallium)	1000
Se (Selenium)	500
Ag (Silver)	300
Ba (Barium)	300
Cd (Cadmium)	300
Co (Cobalt)	300
Cr (Chromium)	300
Cu (Copper)	300
Ni (Nickel)	300
V (Vanadium)	300
Zn (Zinc)	300
Mn (Manganese)	200
Be (Beryllium)	100

PE-ICS18-HG-ASL
100 µg/mL in 5% HNO_3

Hg (Mercury)

Supplied separately for better product stability.

Internal Standard Mix

PE-INT-ASL-1 $ 127 / **100 mL**
PE-INT-ASL-5 $ 246 / **500 mL**
10 µg/mL each in 5-10% HNO_3 7 comps.

Li6 (Lithium)	In (Indium)
Sc (Scandium)	Tb (Terbium)
Ge (Germanium)	Bi (Bismuth)
Y(Yttrium)	

Interferents A

PE-INTA-ASL-1 $ 199 / **100 mL**
PE-INTA-ASL-5 $ 385 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 4 comps.

Al (Aluminum)	5000
Ca (Calcium)	5000
Mg (Magnesium)	5000
Fe (Iron)	2000

Interferents Check Solution 1

PE-INTFR1-ASL-1 $ 324 / **100 mL**
PE-INTFR1-ASL-5 $ 630 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 12 comps.

Cl (Chloride)	10000
C (Calcium)	2000
Al (Aluminum)	100
Ca (Calcium)	100
Fe (Iron)	100
K (Potassium)	100
Mg (Magnesium)	100
Na (Sodium)	100
P (Phosphorus)	100
S (Sulfur)	100
Mo (Molybdenum)	20
Ti (Titanium)	20

Interference Check Solution 2

PE-INTFR2-ASL-1 $ 104 / **100 mL**
PE-INTFR2-ASL-5 $ 202 / **500 mL**
10 µg/mL each in 2% HNO_3 9 comps.

Ag (Silver)	Cu (Copper)
As (Arsenic)	Mn (Manganese)
Cd (Cadmium)	Ni (Nickel)
Co (Cobalt)	Zn (Zinc)
Cr (Chromium)	

Interference Check Standard A

PE-INTFRA-ASL-1 $ 389 / **100 mL**
PE-INTFRA-ASL-5 $ 749 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 12 comps.

Cl (Chloride)	21215
Ca (Calcium)	3000
Na (Sodium)	2500
Fe (Iron)	2500
C (Carbon)	2000
Al (Aluminum)	1000
K (Potassium)	1000
Mg (Magnesium)	1000
P (Phosphorus)	1000
S (Sulfur)	1000
Mo (Molybdenum)	20
Ti (Titanium)	20

Interference Check Standard B

PE-INTFRB-ASL-1 $ 145 / **100 mL**
PE-INTFRB-ASL-5 $ 281 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 11 comps.

Co (Cobalt)	20
Cr (Chromium)	20
Cu (Copper)	20
Mn (Manganese)	20
Ni (Nickel)	20
V (Vanadium)	20
As (Arsenic)	10
Cd (Cadmium)	10
Se (Selenium)	10
Zn (Zinc)	10
Ag (Silver)	5

Interference Check Standard C

PE-INTFRC-ASL-1-SET $ 216 / **2 x 100 mL**
PE-INTFRC-ASL-5-SET $ 418 / **2 x 500 mL**
2 µg/mL each in 2% HNO_3 tr. HF tr. Tartaric acid 16 comps.

Sb (Antimony)	Pb (Lead)
As (Arsenic)	Mn (Manganese)
Ba (Barium)	Ni (Nickel)
Be (Beryllium)	Se (Selenium)
Cd (Cadmium)	Ag (Silver)
Cr (Chromium)	Tl (Thallium)
Co (Cobalt)	V (Vanadium)
Cu (Copper)	Zn (Zinc)

PE-INTFRC-HG-ASL
2 µg/mL in 5% HNO_3

Hg (Mercury)

Supplied separately for better product stability.

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AccuStandard equivalent of Perkin Elmer (PE)

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Mixed Calibration Standard

PE-MCS-ASL-1 $ 152 / **100 mL**
PE-MCS-ASL-5 $ 295 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 10 comps.

As (Arsenic)	50
K (Potassium)	50
La (Lanthanum)	10
Li (Lithium)	10
Mn (Manganese)	10
Ni (Nickel)	10
Sr (Strontium)	10
Zn (Zinc)	10
Ba (Barium)	1
Mg (Magnesium)	1

Mixed Calibration Standard 1

PE-MCS1-ASL-1 $ 104 / **100 mL**
PE-MCS1-ASL-5 $ 202 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 6 comps.

Pb (Lead)	500
Se (Selenium)	200
Cd (Cadmium)	150
Zn (Zinc)	150
Mn (Manganese)	100
Be (Beryllium)	50

Mixed Calibration Standard 2

PE-MCS2-ASL-1 $ 94 / **100 mL**
PE-MCS2-ASL-5 $ 181 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 5 comps.

Fe (Iron)	10000
Ba (Barium)	100
Co (Cobalt)	100
Cu (Copper)	100
V (Vanadium)	100

Mixed Calibration Standard 3

PE-MCS3-ASL-1 $ 78 / **100 mL**
PE-MCS3-ASL-5 $ 151 / **500 mL**
at stated conc. (µg/mL) in 2% HNO_3 tr. HF
3 comps.

As (Arsenic)	500
Mo (Molybdenum)	100
Si (Silicon)	100

Mixed Calibration Standard 4

PE-MCS4-ASL-1 $ 106 / **100 mL**
PE-MCS4-ASL-5 $ 205 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 6 comps.

Ca (Calcium)	1000
K (Potassium)	400
Al (Aluminum)	200
Na (Sodium)	200
Cr (Chromium)	20
Ni (Nickel)	20

Mixed Calibration Standard 5

PE-MCS5-ASL-1 $ 89 / **100 mL**
PE-MCS5-ASL-5 $ 173 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3, tr. HF tr. Tartaric acid 5 comps.

Mg (Magnesium)	1000
Sb (Antimony)	200
Tl (Thallium)	200
B (Boron)	100
Ag (Silver)	50

Multi-Element Calibration Standard 1

PE-MECAL1-ASL-1 $ 93 / **100 mL**
PE-MECAL1-ASL-5 $ 180 / **500 mL**
10 µg/mL each in 2% HNO_3 9 comps.

Be (Beryllium)	Mg (Magnesium)
Bi (Bismuth)	Ni (Nickel)
Ce (Cerium)	Pb (Lead)
Co (Cobalt)	U (Uranium)
In (Indium)	

Multi-Element Calibration Standard 2

PE-MECAL2-ASL-1 $ 142 / **100 mL**
PE-MECAL2-ASL-5 $ 275 / **500 mL**
10 µg/mL each in 5% HNO_3 17 comps.

Ce (Cerium)	Pr (Praseodymium)
Dy (Dysprosium)	Sm (Samarium)
Er (Erbium)	Sc (Scandium)
Eu (Europium)	Tb (Terbium)
Gd (Gadolinium)	Th (Thorium)
Ho (Holmium)	Tm (Thulium)
La (Lanthanum)	Yb (Ytterbium)
Lu (Lutetium)	Y (Yttrium)
Nd (Neodymium)	

Multi-Element Calibration Standard 3

PE-MECAL3-ASL-1-SET $ 225 / **2 x 100 mL**
PE-MECAL3-ASL-5-SET $ 436 / **2 x 500 mL**

PE-MECAL3-ASL
10 µg/mL each in 5% HNO_3 29 comps.

Ag (Silver)	K (Potassium)
Al (Aluminum)	Li (Lithium)
As (Arsenic)	Mg (Magnesium)
Ba (Barium)	Mn (Manganese)
Be (Beryllium)	Na (Sodium)
Bi (Bismuth)	Ni (Nickel)
Ca (Calcium)	Pb (Lead)
Cd (Cadmium)	Rb (Rubidium)
Co (Cobalt)	Se (Selenium)
Cr (Chromium)	Sr (Strontium)
Cs (Cesium)	Tl (Thallium)
Cu (Copper)	U (Uranium)
Fe (Iron)	V (Vanadium)
Ga (Gallium)	Zn (Zinc)
In (Indium)	

PE-MECAL3-HG-ASL
10 µg/mL in 5% HNO_3

Hg (Mercury)

Supplied separately for better product stability.

Multi-Element Calibration Standard 4

PE-MECAL4-ASL-1 $ 90 / **100 mL**
PE-MECAL4-ASL-5 $ 174 / **500 mL**
10 µg/mL each in 10% HCl 10 comps.

Au (Gold)	Rh (Rhodium)
Hf (Hafnium)	Ru (Ruthenium)
Ir (Iridium)	Sb (Antimony)
Pd (Palladium)	Sn (Tin)
Pt (Platinum)	Te (Tellurium)

Multi-Element Calibration Standard 5

PE-MECAL5-ASL-1 * $ 112 / **100 mL**
PE-MECAL5-ASL-5 * $ 217 / **500 mL**
10 µg/mL each in Water, tr. HF 12 comps.

B (Boron)	S (Sulfur)
Ge (Germanium)	Si (Silicon)
Mo (Molybdenum)	Ta (Tantalum)
Nb (Niobium)	Ti (Titanium)
P (Phosphorus)	W (Tungsten)
Re (Rhenium)	Zr (Zirconium)

Multi-Element Internal Standard

PE-MEINT-ASL-1 $ 115 / **100 mL**
PE-MEINT-ASL-5 $ 222 / **500 mL**
10 µg/mL each in 2% HNO_3 7 comps.

Bi (Bismuth)	Sc (Scandium)
Ho (Holmium)	Tb (Terbium)
In (Indium)	Y(Yttrium)
Li6 (Lithium)	

Memory Test 1

PE-MEM1-ASL-1 $ 262 / **100 mL**
PE-MEM1-ASL-5 $ 508 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 21 comps.

Al (Aluminum)	1000
Ca (Calcium)	1000
Fe (Iron)	1000
K (Potassium)	1000
Mg (Magnesium)	1000
Na (Sodium)	1000
Ag (Silver)	20
As (Arsenic)	20
Ba (Barium)	20
Be (Beryllium)	20
Cd (Cadmium)	20
Co (Cobalt)	20
Cr (Chromium)	20
Cu (Copper)	20
Mn (Manganese)	20
Ni (Nickel)	20
Pb (Lead)	20
Se (Selenium)	20
Tl (Thallium)	20
V (Vanadium)	20
Zn (Zinc)	20

Memory Test 2

PE-MEM2-ASL-1 * $ 248 / **100 mL**
PE-MEM2-ASL-5 * $ 481 / **500 mL**
At stated conc. (µg/mL) in Water, tr. HF 6 comps.

Cl (Chloride)	7200
C (Carbon)	2000
P (Phosphorus)	1000
Mo (Molybdenum)	20
Sb (Antimony)	20
Tl (Thallium)	20

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AccuStandard equivalent of Perkin Elmer (PE)

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QC Standard 7 Elements

PE-QC7-ASL-1 $ 89 / **100 mL**
PE-QC7-ASL-5 $ 174 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. HF 7 comps.

K (Potassium)	1000
Si (Silicon)	500
Al (Aluminum)	100
B (Boron)	100
Ba (Barium)	100
Na (Sodium)	100
Ag (Silver)	50

QC Standard 21 Elements

PE-QC21-ASL-1 $ 195 / **100 mL**
PE-QC21-ASL-5 $ 377 / **500 mL**
100 µg/mL each in 5% HNO_3, tr. HF, tr. Tartaric acid 21 comps.

As (Arsenic)	Mo (Molybdenum)
Be (Beryllium)	Ni (Nickel)
Ca (Calcium)	Pb (Lead)
Cd (Cadmium)	Sb (Antimony)
Co (Cobalt)	Se (Selenium)
Cr (Chromium)	Sr (Strontium)
Cu (Copper)	Ti (Titanium)
Fe (Iron)	Tl (Thallium)
Li (Lithium)	V (Vanadium)
Mg (Magnesium)	Zn (Zinc)
Mn (Manganese)	

Primary Drinking Water Metals

PE-SDWA1-ASL-1-SET $ 104 / **2 x 100 mL**
PE-SDWA1-ASL-5-SET $ 202 / **2 x 500 mL**

PE-SDWA1-ASL
At stated conc. (µg/mL) in 2% HNO_3 7 comps.

Ba (Barium)	100
Ag (Silver)	10
As (Arsenic)	10
Cr (Chromium)	10
Pb (Lead)	10
Cd (Cadmium)	5
Se (Selenium)	5

PE-SDWA1-HG-ASL
10 µg/mL in 2% HNO_3

Hg (Mercury)

Supplied separately for better product stability.

Secondary Drinking Water Metals

PE-SDWA2-ASL-1 $ 82 / **100 mL**
PE-SDWA2-ASL-5 $ 159 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 4 comps.

Zn (Zinc)	500
Cu (Copper)	100
Fe (Iron)	30
Mn (Manganese)	5

ELAN 5000 Plasma Setup Solution

PE-SETUP-ASL-1 $ 105 / **100 mL**
PE-SETUP-ASL-5 $ 204 / **500 mL**
1 µg/mL each in 1% HNO_3 11 comps.

Ba (Barium)	Mg (Magnesium)
Cd (Cadmium)	Rh (Rhodium)
Ce (Cerium)	Sc (Scandium)
Cu (Copper)	Tb (Terbium)
Ge (Germanium)	Tl (Thallium)
Pb (Lead)	

Supplied as a 100X concentration for better stability.

ELAN 9000/6X00 Dual Detector Calibration Solution

PE-SETUP1-ASL-1 $ 85 / **100 mL**
PE-SETUP1-ASL-5 $ 165 / **500 mL**
2 µg/mL each in 1% HNO_3 5 comps.

Cd (Cadmium)	Mg (Magnesium)
Cu (Copper)	Rh (Rhodium)
Pb (Lead)	

Supplied as a 10X concentration for better stability.

ELAN 6000/5000 Plasma Setup Solution

PE-SETUP2-ASL-1 $ 95 / **100 mL**
PE-SETUP2-ASL-5 $ 185 / **500 mL**
1 µg/mL each in 2% HNO_3 11 comps.

Ba (Barium)	Mg (Magnesium)
Cd (Cadmium)	Rh (Rhodium)
Ce (Cerium)	Sc (Scandium)
Cu (Copper)	Tb (Terbium)
Ge (Germanium)	Tl (Thallium)
Pb (Lead)	

Supplied as a 100X concentration for better stability.

Spike Sample Analysis

PE-SPIKE-ASL-1 $ 214 / **100 mL**
PE-SPIKE-ASL-5 $ 414 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3, tr. HF, tr. Tartaric acid 18 comps.

Al (Aluminum)	200
As (Arsenic)	200
Ba (Barium)	200
Se (Selenium)	200
Tl (Thallium)	200
Fe (Iron)	100
Co (Cobalt)	50
Mn (Manganese)	50
Ni (Nickel)	50
Pb (Lead)	50
Sb (Antimony)	50
V (Vanadium)	50
Zn (Zinc)	50
Cu (Copper)	25
Cr (Chromium)	20
Ag (Silver)	5
Be (Beryllium)	5
Cd (Cadmium)	5

Spike Sample Standard I (Water)

PE-SPIKE1-ASL-1 $ 175 / **100 mL**
PE-SPIKE1-ASL-5 $ 339 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3, tr. HF, tr. Tartaric acid 17 comps.

Fe (Iron)	500
Ba (Barium)	250
Zn (Zinc)	250
Co (Cobalt)	100
Cr (Chromium)	100
Cu (Copper)	100
Mn (Manganese)	100
Ni (Nickel)	100
Sb (Antimony)	100
V (Vanadium)	100
As (Arsenic)	50
Pb (Lead)	50
Ag (Silver)	25
Be (Beryllium)	25
Cd (Cadmium)	25
Se (Selenium)	25
Tl (Thallium)	25

Spike Sample Standard II (Soil)

PE-SPIKE2-ASL-1 $ 140 / **100 mL**
PE-SPIKE2-ASL-5 $ 271 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3, tr. HF, tr. Tartaric acid 15 comps.

Ba (Barium)	250
Cr (Chromium)	250
Cu (Copper)	250
Zn (Zinc)	250
V (Vanadium)	150
Ni (Nickel)	125
Co (Cobalt)	100
Pb (Lead)	100
Sb (Antimony)	100
As (Arsenic)	50
Cd (Cadmium)	50
Ag (Silver)	25
Be (Beryllium)	25
Se (Selenium)	25
Tl (Thallium)	25

Spike Sample Standard III (for ILM 05.2)

PE-SPIKE3-ASL-1 $ 167 / **100 mL**
PE-SPIKE3-ASL-5 $ 324 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3, tr. HF, tr. Tartaric acid 17 comps.

Al (Aluminum)	200
Ba (Barium)	200
Co (Cobalt)	50
Mn (Manganese)	50
Ni (Nickel)	50
V (Vanadium)	50
Zn (Zinc)	50
Cu (Copper)	25
Cr (Chromium)	20
Sb (Antimony)	10
Be (Beryllium)	5
Cd (Cadmium)	5
Ag (Silver)	5
Tl (Thallium)	5
As (Arsenic)	4
Pb (Lead)	2
Se (Selenium)	1

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ELAN 9000/6100 Setup/Stab/Masscal Solution

PE-STAB-ASL-1 $ 95 / **100 mL**
PE-STAB-ASL-5 $ 185 / **500 mL**
1 µg/mL each in 1% HNO_3 9 comps.

Ba (Barium)	Pb (Lead)
Cd (Cadmium)	Mg (Magnesium)
Ce (Cerium)	Rh (Rhodium)
Cu (Copper)	U (Uranium)
In (Indium)	

Supplied as a 100X concentration for better stability.

Tuning Solution I

PE-TUNSOL-ASL-1 $ 145 / **100 mL**
PE-TUNSOL-ASL-5 $ 281 / **500 mL**
10 µg/mL each in 2% HNO_3, tr. HCl 12 comps.

Ba (Barium)	Mg (Magnesium)
Be (Beryllium)	Pb (Lead)
Ce (Cerium)	Rh (Rhodium)
Co (Cobalt)	Tl (Thallium)
In (Indium)	U (Uranium)
Li (Lithium)	Y(Yttrium)

Low UV Standard

PE-UV-ASL-1 $ 77 / **100 mL**
PE-UV-ASL-5 $ 149 / **500 mL**
10 µg/mL each in 2% HNO_3 3 comps.

Al (Aluminum)	S (Sulfur)
P (Phosphorus)	

VIS Wavecal Solution

PE-VISWAVE-ASL-1 $ 76 / **100 mL**
PE-VISWAVE-ASL-5 $ 148 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 8 comps.

K (Potassium)	50
La (Lanthanum)	10
Li (Lithium)	10
Mn (Manganese)	10
Na (Sodium)	10
Sr (Strontium)	10
Ba (Barium)	1
Ca (Calcium)	1

UV Wavecal Solution

PE-UVWAVE-ASL-1 $ 102 / **100 mL**
PE-UVWAVE-ASL-5 $ 202 / **500 mL**
At stated conc. (µg/mL) in 5% HCl 11 comps.

K (Potassium)	100
P (Phosphorus)	100
S (Sulfur)	100
As (Arsenic)	20
La (Lanthanum)	20
Li (Lithium)	20
Mn (Manganese)	20
Mo (Molybdenum)	20
Na (Sodium)	20
Ni (Nickel)	20
Sc (Scandium)	20

Initial Calibration Verification Standard 1

PE-VER1-ASL-1 $ 272 / **100 mL**
PE-VER1-ASL-5 $ 528 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 tr. Tartaric acid 26 comps.

Fe (Iron)	1000
K (Potassium)	1000
Ca (Calcium)	1000
Na (Sodium)	1000
Mg (Magnesium)	1000
Sr (Strontium)	1000
Ag (Silver)	10
Al (Aluminum)	10
As (Arsenic)	10
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Co (Cobalt)	10
Cr (Chromium)	10
Cu (Copper)	10
Mn (Manganese)	10
Mo (Molybdenum)	10
Ni (Nickel)	10
Pb (Lead)	10
Sb (Antimony)	10
Se (Selenium)	10
Tl (Thallium)	10
V (Vanadium)	10
Zn (Zinc)	10
Th (Thorium)	10
U (Uranium)	10

Initial Calibration Verification Standard 2

PE-VER2-ASL-1 $ 73 / **100 mL**
PE-VER2-ASL-5 $ 142 / **500 mL**
10 µg/mL each in 2% HNO_3 tr. HF 2 comps.

Sn (Tin)	Tl (Thallium)

Trace Metals I

PE-WPTM1-ASL-1-SET $ 137 / **2 x 100 mL**
PE-WPTM1-ASL-5-SET $ 266 / **2 x 500 mL**

PE-WPTM1-ASL
At stated conc. (µg/mL) in 5% HNO_3 14 comps.

Al (Aluminum)	500
V (Vanadium)	250
As (Arsenic)	100
Be (Beryllium)	100
Co (Cobalt)	100
Cr (Chromium)	100
Cu (Copper)	100
Fe (Iron)	100
Mn (Manganese)	100
Ni (Nickel)	100
Pb (Lead)	100
Zn (Zinc)	100
Cd (Cadmium)	25
Se (Selenium)	25

PE-WPTM1-HG-ASL
10 µg/mL in 5% HNO_3

Hg (Mercury)	Supplied separately for better product stability.

Trace Metals II

PE-WPTM2-ASL-1 $ 68 / **100 mL**
PE-WPTM2-ASL-5 $ 131 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 3 comps.

Sb (Antimony)	20
Tl (Thallium)	20
Ag (Silver)	10

Trace Metals III

PE-WPTM3-ASL-1 $ 104 / **100 mL**
PE-WPTM3-ASL-5 $ 202 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 6 comps.

Ba (Barium)	500
Ca (Calcium)	500
Mo (Molybdenum)	500
Na (Sodium)	500
K (Potassium)	100
Mg (Magnesium)	100

Alternate Metals 1

PE-WPAM1-ASL-1 $ 129 / **100 mL**
PE-WPAM1-ASL-5 $ 250 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 11 comps.

Al (Aluminum)	20
Fe (Iron)	20
V (Vanadium)	20
Co (Cobalt)	10
Cu (Copper)	10
Mn (Manganese)	10
Ni (Nickel)	10
Zn (Zinc)	10
Be (Beryllium)	5
Sb (Antimony)	5
Tl (Thallium)	5

Alternate Metals 3

PE-WPAM3-ASL-1 $ 79 / **100 mL**
PE-WPAM3-ASL-5 $ 152 / **500 mL**
At stated conc. (µg/mL) in 2% HNO_3 4 comps.

Ca (Calcium)	500
Na (Sodium)	500
K (Potassium)	100
Mg (Magnesium)	100

AccuStandard is not affiliated with the companies and brands on this page, and the brands and company names appear for the purpose of cross reference with the corresponding AccuStandard product which is being offered.

AccuStandard equivalent of Teledyne

NEW

Check Mate 1

TELE-CHK1-ASL-1-SET $ 205 / **2 x 100 mL**
TELE-CHK1-ASL-5-SET $ 398 / **2 x 500 mL**

TELE-CHK1-AG-ASL
At stated conc. (µg/mL) in 5% HCl, 1% HNO_3 24 comps.

Ca (Calcium)	100
K (Potassium)	100
Mg (Magnesium)	100
Na (Sodium)	100
Al (Aluminum)	10
As (Arsenic)	10
B (Boron)	10
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Co (Cobalt)	10
Cr (Chromium)	10
Cu (Copper)	10
Fe (Iron)	10
Mn (Manganese)	10
Mo (Molybdenum)	10
Ni (Nickel)	10
Pb (Lead)	10
Sb (Antimony)	10
Se (Selenium)	10
Si (Silicon)	10
Tl (Thallium)	10
V (Vanadium)	10
Zn (Zinc)	10

TELE-CHK1-AG-ASL
1000 µg/mL in 2% HNO_3

Ag (Silver)

Supplied separately for better product stability.

Check Mate 2

TELE-CHK2-ASL-1-SET $ 177 / **2 x 100 mL**
TELE-CHK2-ASL-5-SET $ 342 / **2 x 500 mL**

TELE-CHK2-ASL
At stated conc. (µg/mL) in 5% HCl, 1% HNO_3 17 comps.

Ca (Calcium)	100
K (Potassium)	100
Mg (Magnesium)	100
Na (Sodium)	100
Al (Aluminum)	10
Ba (Barium)	10
Be (Beryllium)	10
Cd (Cadmium)	10
Co (Cobalt)	10
Cr (Chromium)	10
Cu (Copper)	10
Fe (Iron)	10
Mn (Manganese)	10
Ni (Nickel)	10
Sb (Antimony)	10
V (Vanadium)	10
Zn (Zinc)	10

TELE-CHK2-AG-ASL
1000 µg/mL in 2% HNO_3

Ag (Silver)

Supplied separately for better product stability.

Check Mate 3

TELE-CHK3-ASL-1-SET $ 140 / **2 x 100 mL**
TELE-CHK3-ASL-5-SET $ 271 / **2 x 500 mL**

TELE-CHK3-ASL
At stated conc. (µg/mL) in 5% HCl, 1% HNO_3 17 comps.

Ca (Calcium)	10
K (Potassium)	10
Mg (Magnesium)	10
Na (Sodium)	10
Al (Aluminum)	1
Ba (Barium)	1
Be (Beryllium)	1
Cd (Cadmium)	1
Co (Cobalt)	1
Cr (Chromium)	1
Cu (Copper)	1
Fe (Iron)	1
Mn (Manganese)	1
Ni (Nickel)	1
Sb (Antimony)	1
V (Vanadium)	1
Zn (Zinc)	1

TELE-CHK3-AG-ASL
1000 µg/mL in 2% HNO_3

Ag (Silver)

Supplied separately for better product stability.

Check Mate 4

TELE-CHK4-ASL-1 $ 242 / **100 mL**
TELE-CHK4-ASL-5 $ 469 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 22 comps.

Ca (Calcium)	5000
K (Potassium)	5000
Mg (Magnesium)	5000
Na (Sodium)	5000
Ba (Barium)	200
Fe (Iron)	100
Al (Aluminum)	60
Sb (Antimony)	60
Co (Cobalt)	50
V (Vanadium)	50
Ni (Nickel)	40
Cu (Copper)	25
Zn (Zinc)	20
Mn (Manganese)	15
Ag (Silver)	10
As (Arsenic)	10
Cr (Chromium)	10
Tl (Thallium)	10
Be (Beryllium)	5
Cd (Cadmium)	5
Pb (Lead)	5
Se (Selenium)	5

Check Mate 5

TELE-CHK5-ASL-1 $ 179 / **100 mL**
TELE-CHK5-ASL-5 $ 346 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 16 comps.

Ca (Calcium)	2000
K (Potassium)	2000
Mg (Magnesium)	2000
Na (Sodium)	2000
Al (Aluminum)	1000
Ba (Barium)	1000
Fe (Iron)	1000
Co (Cobalt)	500
Ni (Nickel)	500
V (Vanadium)	500
Cr (Chromium)	200
Cu (Copper)	200
Ag (Silver)	100
Be (Beryllium)	100
Mn (Manganese)	100
Zn (Zinc)	100

Check Mate 6

TELE-CHK6-ASL-1 $ 91 / **100 mL**
TELE-CHK6-ASL-5 $ 176 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 5 comps.

As (Arsenic)	500
Pb (Lead)	500
Se (Selenium)	500
Tl (Thallium)	500
Cd (Cadmium)	100

Check Mate 7

TELE-CHK7-ASL-1 $ 140 / **100 mL**
TELE-CHK7-ASL-5 $ 272 / **500 mL**
At stated conc. (µg/mL) in 5% HCl, 1% HNO_3 17 comps.

Ca (Calcium)	50
K (Potassium)	50
Mg (Magnesium)	50
Na (Sodium)	50
Al (Aluminum)	5
Ba (Barium)	5
Be (Beryllium)	5
Cd (Cadmium)	5
Co (Cobalt)	5
Cr (Chromium)	5
Cu (Copper)	5
Fe (Iron)	5
Mn (Manganese)	5
Ni (Nickel)	5
Sb (Antimony)	5
V (Vanadium)	5
Zn (Zinc)	5

Check Mate 8

TELE-CHK8-ASL-1 $ 225 / **100 mL**
TELE-CHK8-ASL-5 $ 436 / **500 mL**
At stated conc. (µg/mL) in 5% HNO_3 22 comps.

Ca (Calcium)	5000
K (Potassium)	5000
Na (Sodium)	5000
Mg (Magnesium)	5000
Al (Aluminum)	2000
Ba (Barium)	2000
Fe (Iron)	1000
Sb (Antimony)	600
Co (Cobalt)	500
V (Vanadium)	500
Ni (Nickel)	400
Cu (Copper)	250
Zn (Zinc)	200
Mn (Manganese)	150
Ag (Silver)	100
As (Arsenic)	100
Cr (Chromium)	100
Tl (Thallium)	100
Be (Beryllium)	50
Cd (Cadmium)	50
Pb (Lead)	50
Se (Selenium)	50

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EU Formulation

Scope: For the determination of 32 elements by ICP (Inductively Coupled Plasma)

DIN EN ISO 11885 - 32 Element ICP Standard Set

DINENISO-11885-1-SET $ 245 / **2 x 100 mL**
DINENISO-11885-5-SET $480 / **2 x 500 mL**

Part 1

DINENISO-11885A-1 **100 mL**
DINENISO-11885A-5 **500 mL**
At stated conc. (µg/mL) in 2-5% HNO_3 tr. HF
24 comps.

Ag (Silver)	20
Al (Aluminum)	40
As (Arsenic)	80
Ba (Barium)	2
Be (Beryllium)	2
Bi (Bismuth)	40
Ca (Calcium)	2
Cd (Cadmium)	10
Co (Cobalt)	10
Cr (Chromium)	10
Cu (Copper)	10
Fe (Iron)	20
K (Potassium)	50
Li (Lithium)	2
Mg (Magnesium)	1
Mn (Manganese)	2
Na (Sodium)	20
Ni (Nickel)	50
Pb (Lead)	50
Sb (Antimony)	50
Se (Selenium)	50
Sr (Strontium)	0.5
V (Vanadium)	10
Zn (Zinc)	5

Part 2

DINENISO-11885B-1 **100 mL**
DINENISO-11885B-5 **500 mL**
At stated conc. (µg/mL) in 2-5% HNO_3 tr. HF
8 comps.

B (Boron)	5
Mo (Molybdenum)	30
P (Phosphorus)	50
S (Sulfur)	50
Si (Silicon)	20
Sn (Tin)	50
Ti (Titanium)	5
Zr (Zirconium)	10

Gun Powder Residue

This is used in forensic applications for analyzing wipes for the presence of gun powder residue.

ICP-PWDRES-5 $ 125 / **500 mL**
3 components in 5% HNO_3

Element	µg/mL
Pb (Lead)	5
Ba (Barium)	5
Sb (Antimony)	0.2

ASTM D5184 Aluminum and Silicon in Fuel Oils by Ashing, Fusion, ICP-AES Spectrometry & AA Spectrometry

Tartaric Acid / Hydrochloric Acid Solution

D-5184-91-TA-5 $ 20 / **1 x 500 mL**

Tartaric acid @ 0.5% w/v in 4% HCl

Silicon Standard Solution

D-5184-91-SI-1 $ 34 / **1 x 100 mL**
D-5184-91-SI-5 $ 67 / **1 x 500 mL**

Silicon @ 1000 µg/mL in trace NaOH

Aluminum Standard Solution

D-5184-91-AL-1 $ 34 / **1 x 100 mL**
D-5184-91-AL-5 $ 67 / **1 x 500 mL**

Aluminum @ 1000 µg/mL in 5 % HCl

Technical Note

Contact our Technical Service Department for **Ready-to-Aspirate** working level calibration curves designed for your laboratories' specific calibration ranges.

ASTM D5600 Trace Metals in Petroleum Coke by ICP-AES

Multi-Element Calibration Standard

D-5600-01-1 $ 225 / **1 x 100 mL**
500 µg/mL each in 2-5% HNO_3 tr. HF 12 comps.

Aluminum	Magnesium	Sodium
Barium	Manganese	Titanium
Calcium	Nickel	Vanadium
Iron	Silicon	Zinc

Hydrochloric Acid Diluent

D-5600-BLH-5 $ 50 / **1 x 500 mL**
D-5600-BLH-L-VAP $ 65 / **L (2 x 500 mL)**

20% HCl in ASTM Type II water

Lithium Borate Diluent

D-5600-LIB-1 $ 125 / **1 x 100 mL**
D-5600-LIB-5 $ 180 / **1 x 500 mL**

2.0% Lithium Borate in 10% HCl

These products require a Hazardous Shipping Fee except products marked with an asterisk *

ICP/MS

Multi-Element Standards

■ Ultra Pure Matrix ■ Special Packaging ■ Traceability to National Reference Materials

AccuStandard's ICP/MS Standards are formulated to meet the needs of this very special instrument. As matrix effect is of utmost concern each standard is formulated in specially purified 18 megohm de-ionized water. After both wet chemical and instrumental analysis, the standards are packaged in acid leached FLPE containers to provide required protection and, of course, all standards are traceable to the National Institute of Standards and Technology (NIST) weights and Reference Materials.

Calibration Standards

These five standards encompass the entire range of elements all at 10 ppm.

Calibration Standard 1

ICP-MS-CAL1-1 $ 110 / **100 mL**

10 µg/mL each in 5% HNO_3 17 comps.

Element	Most Abundant Isotope
Ce (Cerium)	140
Dy (Dysprosium)	164
Er (Erbium)	166
Eu (Europium)	153
Gd (Gadolinium)	158
Ho (Holmium)	165
La (Lanthanum)	139
Lu (Lutetium)	175
Nd (Neodymium)	143
Pr (Praseodymium)	141
Sm (Samarium)	152
Sc (Scandium)	45
Tb (Terbium)	159
Th (Thorium)	232
Tm (Thulium)	169
Yb (Ytterbium)	174
Y (Yttrium)	89

Calibration Standard 4

ICP-MS-CAL4-1 * $ 95 / **100 mL**

10 µg/mL each in H_2O trace HF 12 comps.

Element	Most Abundant Isotope
B (Boron)	11
Ge (Germanium)	74
Mo (Molybdenum)	98
Nb (Niobium)	93
P (Phosphorous)	31
Re (Rhenium)	187
Si (Silicon)	28
S (Sulphur)	32
Ta (Tantalum)	181
Ti (Titanium)	48
W (Tungsten)	184
Zr (Zirconium)	90

Calibration Standard 2

ICP-MS-CAL2-1 $ 180 / **100 mL**

10 µg/mL each in 5% HNO_3 29 comps.

Element	Most Abundant Isotope
Al (Aluminum)	27
As (Arsenic)	75
Ba (Barium)	138
Be (Beryllium)	9
Bi (Bismuth)	209
Cd (Cadmium)	114
Ca (Calcium)	40
Cs (Cesium)	133
Cr (Chromium)	52
Co (Cobalt)	59
Cu (Copper)	63
Ga (Gallium)	69
In (Indium)	115
Fe (Iron)	56
Pb (Lead)	208
Li (Lithium)	7
Mg (Magnesium)	24
Mn (Manganese)	55
Ni (Nickel)	58
K (Potassium)	39
Rb (Rubidium)	85
Se (Selenium)	80
Ag (Silver)	107
Na (Sodium)	23
Sr (Strontium)	88
Tl (Thallium)	205
U (Uranium)	238
V (Vanadium)	51
Zn (Zinc)	64

Calibration Standard Set

ICP-MS-CAL-1-SET $ 390 / **5 x 100 mL**

ICP-MS-CAL1-1
ICP-MS-CAL2-1
ICP-MS-CAL3-1
ICP-MS-CAL4-1
ICP-MS-CAL5-1

Calibration Standard 3

ICP-MS-CAL3-1 $ 80 / **100 mL**

10 µg/mL each in 10% HCl 10 comps.

Element	Most Abundant Isotope
Sb (Antimony)	121
Au (Gold)	197
Hf (Hafnium)	180
Ir (Iridium)	193
Pd (Palladium)	106
Pt (Platinum)	195
Rh (Rhodium)	103
Ru (Ruthenium)	102
Te (Tellurium)	130
Sn (Tin)	120

Calibration Standard 5

ICP-MS-CAL5-1 $ 30 / **100 mL**

10 µg/mL in 5% HNO_3

Element	Most Abundant Isotope
Hg *(Mercury)*	202

Matrix Blanks

Nitric Acid Blank

ICP-MS-BLN-1 $ 30 / **100 mL**
ICP-MS-BLN-5 $ 45 / **500 mL**

5% HNO_3 in ASTM Type I Water

Hydrochloric Acid Blank

ICP-MS-BLH-1 $ 30 / **100 mL**
ICP-MS-BLH-5 $ 45 / **500 mL**

5% HCl in ASTM Type I Water

These blanks are prepared from the same water source and acids as your standards and therefore provide a consistent matrix. They are excellent as a blank, preparing a standard curve, or as a diluent for standards and samples.

Water Blank

ICP-MS-BLW-1 * $ 30 / **100 mL**
ICP-MS-BLW-5 * $ 40 / **500 mL**

ASTM Type I Water

These products require a Hazardous Shipping Fee except products marked with an asterisk *

Tuning Solutions

We offer two tuning solutions, both range from 7-238 mass units. Choose the one which best suits your needs.

ICP-MS-TUNSOL1-1 $ 100 / **100 mL**
100 µg/mL each in 2% HNO_3 8 comps.

Element	Most Abundant Isotope
Ba (Barium)	138
Be (Beryllium)	9
Cu (Copper)	63
In (Indium)	115
Li (Lithium)	7
Mg (Magnesium)	24
Tl (Thallium)	205
U (Uranium)	238

ICP-MS-TUNSOL2-1 $ 165 / **100 mL**
100 µg/mL each in 2% HNO_3 13 comps.

Element	Most Abundant Isotope
Ba (Barium)	138
Be (Beryllium)	9
Bi (Bismuth)	209
Ce (Cerium)	140
Cu (Copper)	63
Ho (Holmium)	165
In (Indium)	115
Pb (Lead)	208
Li (Lithium)	7
Mg (Magnesium)	24
Tl (Thallium)	205
U (Uranium)	238
Y (Yttrium)	89

Interference Check Standards

Solution A

ICP-MS-INTA-1 $ 310 / **100 mL**
At stated conc. (µg/mL) in 1% HNO_3 12 comps.

Element	µg/mL	Most Abundant Isotope
Al (Aluminum)	1000	27
C (Carbon)	2000	12
Ca (Calcium)	3000	40
Cl (Chloride)	18000	35
Fe (Iron)	2500	56
Mg (Magnesium)	1000	24
Mo (Molybdenum)	20	98
P (Phosphorous)	1000	31
K (Potassium)	1000	39
Na (Sodium)	2500	23
S (Sulphur)	1000	32
Ti (Titanium)	20	48

Solution B

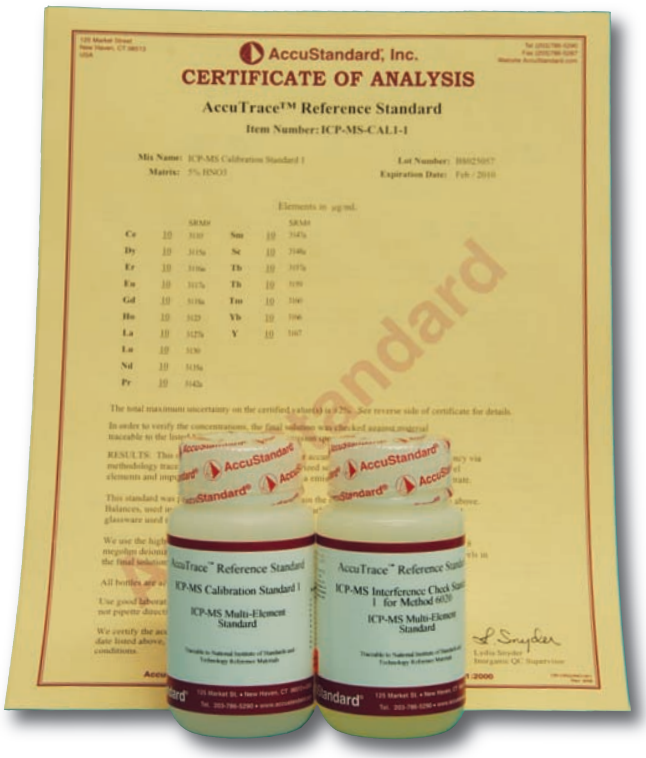
ICP-MS-INTB-1 $ 95 / **100 mL**
At stated conc. (µg/mL) in 2% HNO_3 11 comps.

Element	µg/mL	Most Abundant Isotope
As *(Arsenic)*	10	75
Cd *(Cadmium)*	10	114
C *(Carbon)*	20	12
Cr *(Chromium)*	20	52
Cu *(Copper)*	20	63
Mn *(Manganese)*	20	55
Ni *(Nickel)*	20	58
Se *(Selenium)*	10	80
Ag *(Silver)*	20	107
V *(Vanadium)*	20	51
Zn *(Zinc)*	10	64

Interference Check Standard Set

ICP-MS-INT-1-SET $ 350 / **2 x 100 mL**

ICP-MS-INTA-1 ICP-MS-INTB-1



Memory Check Solution

Memory Check Solution Sets

ICP-MS-MEMCHKA-R1-SET
$ 215 / **2 x 100 mL**
ICP-MS-MEMCHKA1-R1
ICP-MS-MEMCHKA2-R1

ICP-MS-MEMCHK-R1-SET
$ 250 / **3 x 100 mL**
ICP-MS-MEMCHKA1-R1
ICP-MS-MEMCHKA2-R1
ICP-MS-MEMCHKB-R1

Solution A

ICP-MS-MEMCHKA1-R1 **100 mL**
At stated conc. (µg/mL) in 2% HNO_3 24 comps.

Element	µg/mL	Most Abundant Isotope
Al (Aluminum)	1000	27
Sb (Antimony)	20	121
As (Arsenic)	20	75
Ba (Barium)	20	138
Be (Beryllium)	20	9
Cd (Cadmium)	20	114
Ca (Calcium)	1000	40
C (Carbon)	2000	12
Cr (Chromium)	20	52
Co (Cobalt)	20	59
Cu (Copper)	20	63
Fe (Iron)	1000	56
Pb (Lead)	20	208
Mg (Magnesium)	1000	24
Mo (Molybdenum)	20	98
K (Potassium)	1000	39
Ti (Titanium)	20	48
Mn (Manganese)	20	55
Ni (Nickel)	20	58
Se (Selenium)	20	80
Na (Sodium)	1000	23
Tl (Thallium)	20	205
V (Vanadium)	20	51
Zn (Zinc)	20	64

ICP-MS-MEMCHKA2-R1 **100 mL**
20 µg/mL In 2% HNO_3

Element	Most Abundant Isotope
Ag (Silver)	107

Solution B

ICP-MS-MEMCHKB-R1 * $ 60 / **100 mL**
At stated conc. (µg/mL) in H_2O 3 comps.

Element	µg/mL	Most Abundant Isotope
Cl (Chloride)	7200	35
P (Phosphorous)	1000	31
S (Sulphur)	1000	32

Technical Note

These memory check solutions are not designed to be used as standards. The solutions should be mixed together right before aspiration. Precipitate will form over time - this is normal and will not affect the performance of the solution. The mixture is used only to determine the memory or "carry-over" that occurs after running a "concentrated" solution.

Spiking Standards

Spiking Standard for Water

ICP-MS-SPIKE-W-1 $ 130 / **100 mL**

At stated conc. (µg/mL) in 5% HNO_3 17 comps.

Element	µg/mL	Most Abundant Isotope
Sb (Antimony)	100	121
As (Arsenic)	50	75
Ba (Barium)	250	138
Be (Beryllium)	25	9
Cd (Cadmium)	25	114
Cr (Chromium)	100	52
Co (Cobalt)	100	59
Cu (Copper)	100	63
Fe (Iron)	500	56
Pb (Lead)	50	208
Mn (Manganese)	100	55
Ni (Nickel)	100	58
Se (Selenium)	25	80
Ag (Silver)	25	107
Tl (Thallium)	25	205
V (Vanadium)	100	51
Zn (Zinc)	250	64

Spiking Standard for Soil

ICP-MS-SPIKE-S-1 $ 100 / **100 mL**

At stated conc. (µg/mL) in 5% HNO_3 15 comps.

Element	µg/mL	Most Abundant Isotope
Sb (Antimony)	100	121
As (Arsenic)	50	75
Ba (Barium)	250	138
Be (Beryllium)	25	9
Cd (Cadmium)	50	114
Cr (Chromium)	250	52
Co (Cobalt)	100	59
Cu (Copper)	250	63
Pb (Lead)	100	208
Ni (Nickel)	125	58
Se (Selenium)	25	80
Ag (Silver)	25	107
Tl (Thallium)	25	205
V (Vanadium)	150	51
Zn (Zinc)	250	90

Spiking Standard Set

ICP-MS-SPIKE-1-SET $ 165 / **2 x 100 mL**

ICP-MS-SPIKE-W-1 ICP-MS-SPIKE-S-1

Quality Control

Sample 1

ICP-MS-QC1-1 $ 63 / **100 mL**

10 µg/mL each in 2% HNO_3 9 comps.

Element	Most Abundant Isotope
Be (Beryllium)	9
Bi (Bismuth)	209
Ce (Cerium)	140
Co (Cobalt)	59
In (Indium)	115
Pb (Lead)	208
Mg (Magnesium)	24
Ni (Nickel)	58
U (Uranium)	238

Sample 2

ICP-MS-QC2-1 $ 170 / **100 mL**

10 µg/mL each in 5% HNO_3 25 comps

Element	Most Abundant Isotope
Al (Aluminum)	27
Sb (Antimony)	121
As (Arsenic)	75
Ba (Barium)	138
Be (Beryllium)	9
Cd (Cadmium)	114
Ca (Calcium)	40
Cr (Chromium)	52
Co (Cobalt)	59
Cu (Copper)	63
Fe (Iron)	56
Pb (Lead)	208
Mg (Magnesium)	24
Mn (Manganese)	55
Mo (Molybdenum)	98
Ni (Nickel)	56
K (Potassium)	39
Se (Selenium)	80
Ag (Silver)	107
Na (Sodium)	23
Tl (Thallium)	205
Th (Thorium)	232
U (Uranium)	238
V (Vanadium)	51
Zn (Zinc)	64

Sample 3

ICP-MS-QC3-1 $ 250 / **100 mL**

10 µg/mL each in 5% HNO_3 tr. HF 21 comps.

Element	Most Abundant Isotope
Sb (Antimony)	121
As (Arsenic)	75
Be (Beryllium)	9
Cd (Cadmium)	114
Ca (Calcium)	40
Cr (Chromium)	52
Co (Cobalt)	59
Cu (Copper)	63
Fe (Iron)	56
Pb (Lead)	208
Li (Lithium)	7
Mg (Magnesium)	24
Mn (Manganese)	55
Mo (Molybdenum)	98
Ni (Nickel)	58
Se (Selenium)	80
Sr (Strontium)	88
Tl (Thallium)	205
Ti (Titanium)	48
V (Vanadium)	51
Zn (Zinc)	64

Internal Standards

Single Internal Standards

For convenience we offer two concentrations - You decide which is most convenient.

Element	Matrix	Unit	10 µg/mL	Price	100 µg/mL	Price
Bismuth	5% HNO	100 mL	ICP-MS-IS-BI-1	$ 30	ICP-MS-IS-BI-1-10X	$ 35
Indium	5% HNO_3	100 mL	ICP-MS-IS-IN-1	30	ICP-MS-IS-IN-1-10X	35
Rhodium	10% HCl	100 mL	ICP-MS-IS-RH-1	95	ICP-MS-IS-RH-1-10X	100
Scandium	5% HNO_3	100 mL	ICP-MS-IS-SC-1	55	ICP-MS-IS-SC-1-10X	60
Terbium	5% HNO_3	100 mL	ICP-MS-IS-TB-1	30	ICP-MS-IS-TB-1-10X	35
Yttrium	5% HNO_3	100 mL	ICP-MS-IS-Y-1	30	ICP-MS-IS-Y-1-10X	35

These products require a Hazardous Shipping Fee except products marked with an asterisk *

Internal Standard Mix

These internal standards have been chosen because they all have nearly 100% abundance of a single isotope and they are not commonly found in routine samples.

ICP-MS-IS-MIX1-1 $ 70 / **100 mL**

10 µg/mL each in 2% HNO_3 7 comps.

Element	Most Abundant Isotope
Bi (Bismuth)	209
Ho (Holmium)	165
In (Indium)	115
6-Li (Lithium-6)	6
Sc (Scandium)	45
Tb (Terbium)	159
Y (Yttrium)	89

Method 200.8 Determination of Trace Elements in Water and Waste by ICP/MS

Calibration Standards

Calibration Standard #1 (1991 Version)

ICP-MS-200.8-CAL1-1 $ 120 / **100 mL**
10 µg/mL each in 5% HNO_3 tr. HF 18 comps.

Element	Most Abundant Isotope
Al (Aluminum)	27
Sb (Antimony)	121
As (Arsenic)	75
Be (Beryllium)	9
Cd (Cadmium)	114
Cr (Chromium)	52
Co (Cobalt)	59
Cu (Copper)	63
Pb (Lead)	208
Mn (Manganese)	55
Mo (Molybdenum)	98
Ni (Nickel)	58
Se (Selenium)	80
Tl (Thallium)	205
Th (Thorium)	232
U (Uranium)	238
V (Vanadium)	51
Zn (Zinc)	64

Calibration Standard #2

ICP-MS-200.8-CAL2-1 $ 75 / **100 mL**
10 µg/mL each in 2% HNO_3 tr. HF 2 comps.

Element	Most Abundant Isotope
Ba (Barium)	138
Ag (Silver)	67

Calibration Standard #1R (1994 Version)

ICP-MS-200.8-CAL1R-1 $ 120 / **100 mL**
At stated conc. (µg/mL) in 2% HNO_3 tr. HF 18 comps.

Element	µg/mL	Most Abundant Isotope
Al (Aluminum)	10	27
Sb (Antimony)	10	121
As (Arsenic)	10	75
Be (Beryllium)	10	9
Cd (Cadmium)	10	114
Cr (Chromium)	10	52
Co (Cobalt)	10	59
Cu (Copper)	10	63
Pb (Lead)	10	208
Mn (Manganese)	10	55
Mo (Molybdenum)	10	98
Ni (Nickel)	10	58
Se (Selenium)	50	80
Tl (Thallium)	10	205
Th (Thorium)	10	232
U (Uranium)	10	238
V (Vanadium)	10	51
Zn (Zinc)	10	64

Calibration Standard #3

ICP-MS-200.8-CAL3-1 $ 30 / **100 mL**
1 component in 5% HNO_3

Element	µg/mL	Most Abundant Isotope
Hg *(Mercury)*	5	202

Internal Standards

Internal Standard #1

ICP-MS-200.8-IS-1 $ 135 / **100 mL**
100 µg/mL each in 2% HNO_3 5 comps.

Element	Most Abundant Isotope
Sc (Scandium)	45
Y (Yttrium)	89
In (Indium)	115
Tb (Terbium)	159
Bi (Bismuth)	209

Internal Standard #2

ICP-MS-200.8-IS2-1 $ 75 / **100 mL**
100 µg/mL in 2% HNO_3

Element	Most Abundant Isotope
Au (Gold)	197

Tuning Standard

ICP-MS-200.8-TUN-1 $ 70 / **100 mL**
10 µg/mL each in 2% HNO_3 5 comps.

Element	Most Abundant Isotope
Be (Beryllium)	75
Mg (Magnesium)	24
Co (Cobalt)	59
In (Indium)	115
Pb (Lead)	208

Method 6020 Standards for Inductively Coupled Mass Spectrometry

Calibration Standard

NEW

ICP-MS-6020-CAL-R-1 $ 175 / **100 mL**
10 µg/mL each in 2% HNO_3 22 comps.

Element	Most Abundant Isotope
Al (Aluminum)	27
Sb (Antimony)	121
As (Arsenic)	75
Ba (Barium)	138
Be (Beryllium)	9
Cd (Cadmium)	114
Ca (Calcium)	40
Cr (Chromium)	52
Co (Cobalt)	59
Cu (Copper)	63
Fe (Iron)	56
Pb (Lead)	208
Mg (Magnesium)	24
Mn (Manganese)	55
Ni (Nickel)	58
K (Potassium)	39
Se (Selenium)	80
Ag (Silver)	107
Na (Sodium)	23
Tl (Thallium)	205
V (Vanadium)	51
Zn (Zinc)	64

Calibration Standard

ICP-MS-6020-CAL-1 $ 125 / **100 mL**
10 µg/mL each in 2% HNO_3 15 comps.

Element	Most Abundant Isotope
Al (Aluminum)	27
Sb (Antimony)	121
As (Arsenic)	75
Ba (Barium)	138
Be (Beryllium)	9
Cd (Cadmium)	114
Cr (Chromium)	52
Co (Cobalt)	59
Cu (Copper)	63
Pb (Lead)	208
Mn (Manganese)	55
Ni (Nickel)	58
Ag (Silver)	107
Tl (Thallium)	205
Zn (Zinc)	64

Interference Check Standard #1

ICP-MS-6020-INT1-1 $ 310 / **100 mL**
At stated conc. (µg/mL) in 2% HNO_3 12 comps.

Element	µg/mL	Most Abundant Isotope
Al (Aluminum)	1000	27
Cl (Chloride)	10000	35
Ca (Calcium)	1000	40
C (Carbon)	2000	12
Fe (Iron)	1000	56
Mg (Magnesium)	1000	24
Mo (Molybdenum)	20	98
P (Phosphorous)	1000	31
K (Potassium)	1000	39
Na (Sodium)	1000	23
S (Sulfur)	1000	32
Ti (Titanium)	20	48

Interference Check Standard #2

ICP-MS-6020-INT2-1 $ 75 / **100 mL**
2 µg/mL each in 5% HNO_3 tr. HF 9 comps.

Element	Most Abundant Isotope
As (Arsenic)	75
Cd (Cadmium)	114
Cr (Chromium)	52
Co (Cobalt)	59
Cu (Copper)	63
Mn (Manganese)	55
Ni (Nickel)	58
Ag (Silver)	107
Zn (Zinc)	64

Internal Standard

ICP-MS-6020-IS-1 $ 70 / **100 mL**
10 µg/mL each in 2% HNO_3 7 comps.

Element	Most Abundant Isotope
Bi (Bismuth)	209
Ho (Holmium)	165
In (Indium)	115
Li (Lithium-6)	6
Sc (Scandium)	45
Tb (Terbium)	159
Y (Yttrium)	89

Tuning Standard

ICP-MS-6020-TUN-1 $ 75 / **100 mL**
10 µg/mL each in 2% HNO_3 4 comps.

Element	Most Abundant Isotope
Co (Cobalt)	59
In (Indium)	115
Li (Lithium)	7
Tl (Thallium)	205

Organometallic Standards

AA, ICP, DCP & XRF Analysis

These Standards were formulated for the analysis of metals in oils and other organic matrices. These Standards and curves provide a convenient way to analyze for metals (wear metals, additives and contaminants) in lubricating oils, gasolines, residual oils, crude oils, turbine fuels and environmental samples. All standards undergo rigorous quality assurance checks. Major constituents in the final Standard are typically analyzed by both plasma emission and rotrode techniques. Organometallic Standards listed on this page may contain sulfur which can be introduced by possible sulfonate starting materials used to formulate the actual organometallic standard. We developed a Premium Organometallic line for chemists preferring to have organometallic standards with <1 ppm sulfur or phosphorous (see Table of Contents).

- Single & Multi Element Standards
- Prepared Calibration Curves
- Formulated from Ultra High Purity Organometallic starting materials & matrices
- Certificate of Analysis

Single Element Wear Metals

Organometallic ICP/XRF

Element	1000 µg/g in 75 cSt base oil Cat. No. (50 g)	Price	5000 µg/g in 75 cSt base oil Cat. No. (50 g)	Price
Al (Aluminum)	WM-75CST-01	$ 38	WM-75CST-01-5X	$ 48
Sb (Antimony)	WM-75CST-02	38	WM-75CST-02-5X	48
As (Arsenic)	WM-75CST-03	44	----------	----
Ba (Barium)	WM-75CST-04	38	WM-75CST-04-5X	48
Be (Beryllium) ***NEW***	WM-75CST-05	41	----------	----
Bi (Bismuth)	WM-75CST-06	38	WM-75CST-06-5X	48
B (Boron)	WM-75CST-07	38	WM-75CST-07-5X	48
Cd (Cadmium)	WM-75CST-08	38	WM-75CST-08-5X	48
Ca (Calcium)	WM-75CST-09	38	WM-75CST-09-5X	48
Cr (Chromium)	WM-75CST-13	38	WM-75CST-13-5X	48
Co (Cobalt) ***NEW***	WM-75CST-14	38	WM-75CST-14-5X	48
Cu (Copper)	WM-75CST-15	38	WM-75CST-15-5X	48
Fe (Iron)	WM-75CST-27	38	WM-75CST-27-5X	48
La (Lanthanum) ***NEW***	WM-75CST-28	44	----------	----
Pb (Lead)	WM-75CST-29	38	WM-75CST-29-5X	48
Li (Lithium)	WM-75CST-30	38	WM-75CST-30-5X	48
Mg (Magnesium)	WM-75CST-32	38	WM-75CST-32-5X	48
Mn (Manganese)	WM-75CST-33	38	WM-75CST-33-5X	48
Hg (Mercury)	WM-75CST-34	44	----------	----
Mo (Molybdenum)	WM-75CST-35	38	WM-75CST-35-5X	48
Ni (Nickel)	WM-75CST-37	38	WM-75CST-37-5X	48
P (Phosphorous)	WM-75CST-41	38	WM-75CST-41-5X	48
K (Potassium)	WM-75CST-43	38	WM-75CST-43-5X	48
Sc (Scandium)	WM-75CST-50	65	----------	----
Se (Selenium) ***NEW***	WM-75CST-51	44	WM-75CST-51-5X	55
Si (Silicon)	WM-75CST-52	38	WM-75CST-52-5X	48
Ag (Silver)	WM-75CST-53	38	WM-75CST-53-5X	48
Na (Sodium)	WM-75CST-54	38	WM-75CST-54-5X	48
Sr (Strontium)	WM-75CST-55	38	----------	----
S (Sulfur) ***NEW***	WM-75CST-56	38	WM-75CST-56-5X	48
Tl (Thallium)	WM-75CST-60	44	----------	----
Sn (Tin)	WM-75CST-63	38	WM-75CST-63-5X	48
Ti (Titanium)	WM-75CST-64	38	WM-75CST-64-5X	48
V (Vanadium)	WM-75CST-67	38	WM-75CST-67-5X	48
Y (Yttrium) ***NEW***	WM-75CST-69	44	WM-75CST-69-5X	106
Zn (Zinc)	WM-75CST-70	38	WM-75CST-70-5X	48
Zn (Zirconium)	WM-75CST-71	38	WM-75CST-71-5X	48

Matrix Oil and Stabilizer

75 cSt Oil

MOSOL-75 $ 15 / **400 g**

Stabilizer

WM-STAB $ 95 / **1 x 50 g**

Technical Note

Used to improve the stability or Organometallic Standards when diluting into solvents such as Kerosene.

Metals Additives

Metals Additives Standard

MA-900-100G $ 114 / **100 g**
MA-900-200G $ 165 / **200 g**
900 µg/g each in Hydrocarbon oil
MA-1000-100G $ 149 / **100 g**
MA-1000-200G $ 251 / **200 g**
1000 µg/g each in Hydrocarbon oil
MA-3000-100G $ 295 / **100 g**
MA-3000-200G $ 471 / **200 g**
3000 µg/g each in Hydrocarbon oil
MA-5000-100G $ 424 / **100 g**
MA-5000-200G $ 685 / **200 g**
5000 µg/g each in Hydrocarbon oil 5 comps.

Ba (Barium)
Ca (Calcium)
Mg (Magnesium)
P (Phosphorous)
Zn (Zinc)

TRACEABLE AccuTrace Reference Standards CERTIFIED

See our BioFuel Standards in the Petrochemical Section of this Catalog for Wear Metals in BioFuels.

These products do not require Hazardous Shipping Fee at this time.

12 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 g	WM-12-1X-100G	$ 90
	200 g	WM-12-1X-200G	95
30 µg/g	100 g	WM-12-3X-100G	90
	200 g	WM-12-3X-200G	95
50 µg/g	100 g	WM-12-5X-100G	95
	200 g	WM-12-5X-200G	100
100 µg/g	100 g	WM-12-10X-100G	100
	200 g	WM-12-10X-200G	150
300 µg/g	100 g	WM-12-30X-100G	120
	200 g	WM-12-30X-200G	215
500 µg/g	100 g	WM-12-50X-100G	180
	200 g	WM-12-50X-200G	310
900 µg/g	100 g	WM-12-90X-100G	250
	200 g	WM-12-90X-200G	445
	100 gram Set	WM-12-100G-SET set of above 7 x 100 g	$ 825
	200 gram Set	WM-12-200G-SET set of above 7 x 200 g	$ 1250

Each Wear Metal Standard contains 12 elements listed below in hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Na (Sodium)
Ni (Nickel)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)

21 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 g	WM-21-1X-100G	$ 95
	200 g	WM-21-1X-200G	100
30 µg/g	100 g	WM-21-3X-100G	95
	200 g	WM-21-3X-200G	100
50 µg/g	100 g	WM-21-5X-100G	100
	200 g	WM-21-5X-200G	105
100 µg/g	100 g	WM-21-10X-100G	105
	200 g	WM-21-10X-200G	160
300 µg/g	100 g	WM-21-30X-100G	170
	200 g	WM-21-30X-200G	310
500 µg/g	100 g	WM-21-50X-100G	245
	200 g	WM-21-50X-200G	445
900 µg/g	100 g	WM-21-90X-100G	380
	200 g	WM-21-90X-200G	675
	100 gram Set	WM-21-100G-SET set of above 7 x 100 g	$ 1050
	200 gram Set	WM-21-200G-SET set of above 7 x 200 g	$ 1700

Each Wear Metal Standard contains 21 elements listed below in hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
B (Boron)
Ba (Barium)
Ca (Calcium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Mn (Manganese)
Mo (Molybdenum)
Na (Sodium)
Ni (Nickel)
P (Phosphorus)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)
V (Vanadium)
Zn (Zinc)

22 Wear Metal Multi-Element

NEW

Conc.	Unit	Cat. No.	Price
10 µg/g	100 g	WM-22-1X-100G	$ 115
	200 g	WM-22-1X-200G	120
30 µg/g	100 g	WM-22-3X-100G	115
	200 g	WM-22-3X-200G	120
50 µg/g	100 g	WM-22-5X-100G	120
	200 g	WM-22-5X-200G	125
100 µg/g	100 g	WM-22-10X-100G	125
	200 g	WM-22-10X-200G	145
300 µg/g	100 g	WM-22-30X-100G	190
	200 g	WM-22-30X-200G	340
500 µg/g	100 g	WM-22-50X-100G	275
	200 g	WM-22-50X-200G	485
900 µg/g	100 g	WM-22-90X-100G	420
	200 g	WM-22-90X-200G	725
	100 gram Set	WM-22-100G-SET set of above 7 x 100 g	$ 1225
	200 gram Set	WM-22-200G-SET set of above 7 x 200 g	$ 1850

Each Wear Metal Standard contains 22 elements listed below in hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
B (Boron)
Ba (Barium)
Ca (Calcium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
K (Potassium)
Mg (Magnesium)
Mn (Manganese)
Mo (Molybdenum)
Na (Sodium)
Ni (Nickel)
P (Phosphorus)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)
V (Vanadium)
Zn (Zinc)

23 Wear Metal Multi-Element

NEW

Conc.	Unit	Cat. No.	Price
10 µg/g	100 g	WM-23-1X-100G	$ 135
	200 g	WM-23-1X-200G	140
30 µg/g	100 g	WM-23-3X-100G	135
	200 g	WM-23-3X-200G	140
50 µg/g	100 g	WM-23-5X-100G	140
	200 g	WM-23-5X-200G	145
100 µg/g	100 g	WM-23-10X-100G	145
	200 g	WM-23-10X-200G	165
300 µg/g	100 g	WM-23-30X-100G	210
	200 g	WM-23-30X-200G	395
500 µg/g	100 g	WM-23-50X-100G	305
	200 g	WM-23-50X-200G	525
900 µg/g	100 g	WM-23-90X-100G	495
	200 g	WM-23-90X-200G	765
	100 gram Set	WM-23-100G-SET set of above 7 x 100 g	$ 1400
	200 gram Set	WM-23-200G-SET set of above 7 x 200 g	$ 2025

Each Wear Metal Standard contains 23 elements listed below in hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
B (Boron)
Ba (Barium)
Ca (Calcium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
K (Potassium)
Mg (Magnesium)
Mn (Manganese)
Mo (Molybdenum)
Na (Sodium)
Ni (Nickel)
P (Phosphorus)
Pb (Lead)
Sb (Antimomy)
Si (Silicon)
Sn (Tin)
Ti (Titanium)
V (Vanadium)
Zn (Zinc)

These products do not require Hazardous Shipping fee at this time.

Organometallic Standards

Premium Sulfur-Free

- Highly Concentrated Liquid Organometallic Standards
- Stabilized
- Sulfur/Phosphorous free (< 1 ppm)
- Ready for Use

Organometallic Single Element Stock Standards

Sulfur free Element	@ 1000 µg/g Cat. No.	Price 50 mL	@ 5000 µg/g Cat. No.	Price 50 mL
Al (Aluminum)	WM-NMS-01	$ 55	WM-NMS-01-5X	$ 72
Sb (Antimony)	WM-NMS-02	55	WM-NMS-02-5X	72
As (Arsenic) ***NEW***	WM-NMS-03	55	WM-NMS-03-5X	72
Ba (Barium)	WM-NMS-04	55	WM-NMS-04-5X	72
Be (Beryllium) ***NEW***	WM-NMS-05	69	WM-NMS-05-5X	118
Cd (Cadmium)	WM-NMS-08	55	WM-NMS-08-5X	72
Ca (Calcium)	WM-NMS-09	55	WM-NMS-09-5X	72
Ce (Cerium) ***NEW***	WM-NMS-11	55	WM-NMS-11-5X	72
Cr (Chromium)	WM-NMS-13	44	WM-NMS-13-5X	58
Co (Cobalt)	WM-NMS-14	44	WM-NMS-14-5X	58
Cu (Copper)	WM-NMS-15	44	WM-NMS-15-5X	58
Ga (Gallium) ***NEW***	WM-NMS-20	72	WM-NMS-20-5X	142
Au (Gold) ***NEW***	WM-NMS-22	111	----------	----
Fe (Iron)	WM-NMS-27	55	WM-NMS-27-5X	72
Pb (Lead)	WM-NMS-29	55	WM-NMS-29-5X	72
Li (Lithium) ***NEW***	WM-NMS-30	72	WM-NMS-30-5X	124
Mg (Magnesium)	WM-NMS-32	55	WM-NMS-32-5X	72
Mn (Manganese)	WM-NMS-33	55	WM-NMS-33-5X	72
Hg (Mercury) ***NEW***	WM-NMS-34	62	WM-NMS-34-5X	110
Mo (Molybdenum)	WM-NMS-35	62	WM-NMS-35-5X	110
Ni (Nickel)	WM-NMS-37	55	WM-NMS-37-5X	72
P (Phosphorous)	WM-NMS-41	55	WM-NMS-41-5X	72
K (Potassium)	WM-NMS-43	55	WM-NMS-43-5X	72
Se (Selenium)	WM-NMS-51	55	WM-NMS-51-5X	72
Si (Silicon)	WM-NMS-52	72	WM-NMS-52-5X	124
Ag (Silver) ***NEW***	WM-NMS-53	72	WM-NMS-53-5X	124
Na (Sodium)	WM-NMS-54	55	WM-NMS-54-5X	72
Sr (Strontium)	WM-NMS-55	55	WM-NMS-55-5X	72
Tl (Thallium)	WM-NMS-60	55	WM-NMS-60-5X	72
Sn (Tin) ***NEW***	WM-NMS-63	55	WM-NMS-63-5X	72
Ti (Titanium)	WM-NMS-64	55	WM-NMS-64-5X	72
V (Vanadium)	WM-NMS-67	55	WM-NMS-67-5X	72
Y (Yttrium)	WM-NMS-69	60	WM-NMS-69-5X	105
Zn (Zinc)	WM-NMS-70	55	WM-NMS-70-5X	72
Zr (Zirconium)	WM-NMS-71	55	WM-NMS-71-5X	72

Stabilization Solutions

The solutions were specifically designed for chelating & solubilizing our line of Sulfur-Free Organometallic Standards. Contact Tech Service for additional information.

Premium Sulfur-Free

Sulfur below detection limits

Stabilizer Solution A

ASTM-P-0122-0.5 $ 80 / **50 mL**
ASTM-P-0122-1 $ 120 / **100 mL**

Stabilizer Solution B

ASTM-P-0123-0.5 $ 80 / **50 mL**
ASTM-P-0123-1 $ 120 / **100 mL**

Stabilizer Solution C

ASTM-P-0124-0.5 $ 80 / **50 mL**
ASTM-P-0124-1 $ 120 / **100 mL**

Stabilizer Solution D

ASTM-P-0125-0.5 $ 80 / **50 mL**
ASTM-P-0125-1 $ 120 / **100 mL**

Contains No Metallic Sulfonates

These highly concentrated stabilized solutions can be used for customer specific formulations of additive elements in lubricating oils, iron, nickel and vanadium in residual oil, and wear metals in oils. These organometallic solutions can also be used to prepare single element or multi-element standards for plasma emission (ICP or DCP), rotating disk (rotrode), or atomic absorption spectroscopy (AA). The starting materials are PURE REAGENTS and have been certified against NIST SRM's whenever available. **THEY DO NOT CONTAIN PHOSPHORUS OR SULFUR.**

Organometallic Single Element Concentrates

Element	Conc. (Wt. %)	Cat. No.	Price / 25 grams	Cat. No.	Price / 50 grams
Al (Aluminum)	3	WM-NMS-01-30X-25G	$ 178	WM-NMS-01-30X-50G	$ 261
Sb (Antimony) ***NEW***	2	WM-NMS-02-20X-25G	122	WM-NMS-02-20X-50G	183
Ba (Barium)	12.5	WM-NMS-04-125X-25G	540	WM-NMS-04-125X-50G	780
Cd (Cadmium)	10	WM-NMS-08-100X-25G	510	WM-NMS-08-100X-50G	710
Ca (Calcium)	5	WM-NMS-09-50X-25G	272	WM-NMS-09-50X-50G	422
Ce (Cerium) ***NEW***	5	WM-NMS-11-50X-25G	272	WM-NMS-11-50X-50G	422
Cr (Chromium)	3.5	WM-NMS-13-35X-25G	194	WM-NMS-13-35X-50G	299
Co (Cobalt)	7.5	WM-NMS-14-75X-25G	422	WM-NMS-14-75X-50G	577
Cu (Copper)	6	WM-NMS-15-60X-25G	344	WM-NMS-15-60X-50G	516
Fe (Iron)	4	WM-NMS-27-40X-25G	239	WM-NMS-27-40X-50G	361
Pb (Lead)	20	WM-NMS-29-200X-25G	900	WM-NMS-29-200X-50G	1260
Li (Lithium) ***NEW***	1.5	WM-NMS-30-15X-25G	155	WM-NMS-30-15X-50G	239
Mg (Magnesium422)	3	WM-NMS-32-30X-25G	180	WM-NMS-32-30X-50G	278
Mn (Manganese)	6	WM-NMS-33-60X-25G	333	WM-NMS-33-60X-50G	505
Mo (Molybdenum)	5	WM-NMS-35-50X-25G	272	WM-NMS-35-50X-50G	422
Ni (Nickel)	5	WM-NMS-37-50X-25G	272	WM-NMS-37-50X-50G	422
P (Phosphorus)	5	WM-NMS-41-50X-25G	272	WM-NMS-41-50X-50G	422
K (Potassium) ***NEW***	7.5	WM-NMS-43-75X-25G	422	WM-NMS-43-75X-50G	577
Pr (Praseodymium)	3	WM-NMS-44-30X-25G	175	WM-NMS-44-30X-50G	240
Se (Selenium)	3.5	WM-NMS-51-35X-25G	200	WM-NMS-51-35X-50G	270
Si (Silicon) ***NEW***	7.5	WM-NMS-52-75X-25G	383	WM-NMS-52-75X-50G	528
Na (Sodium) ***NEW***	2.5	WM-NMS-54-25X-25G	180	WM-NMS-54-25X-50G	278
Sr (Strontium)	10	WM-NMS-55-100X-25G	510	WM-NMS-55-100X-50G	710
Tl (Thallium)	5	WM-NMS-60-50X-25G	272	WM-NMS-60-50X-50G	422
Sn (Tin) ***NEW***	7.5	WM-NMS-63-75X-25G	422	WM-NMS-63-75X-50G	577
Ti (Titanium)	5	WM-NMS-64-50X-25G	272	WM-NMS-64-50X-50G	422
V (Vanadium)	4	WM-NMS-67-40X-25G	239	WM-NMS-67-40X-50G	361
Y (Yttrium) ***NEW***	2.5	WM-NMS-69-25X-25G	180	WM-NMS-69-25X-50G	278
Zn (Zinc)	6	WM-NMS-70-60X-25G	306	WM-NMS-70-60X-50G	461
Zr (Zirconium)	5	WM-NMS-71-50X-25G	272	WM-NMS-71-50X-50G	422

Technical Note

These standards are **sulfur free** (below detection limits) **organometallic standards** for X-ray Fluorescence (XRF), plasma emission (ICP or DCP), rotating disk (rotrode), or atomic absorption (AA). They are stabilized for blending together with other Analytes to prepare multi-element standards.

Organometallic Standards

Premium Sulfur-Free

Contains No Metallic Sulfonates

Premium Sulfur-Free

Sulfur below detection limits

11 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 mL	WM-11-NMS-1X-1	$ 130
30 µg/g	100 mL	WM-11-NMS-3X-1	130
50 µg/g	100 mL	WM-11-NMS-5X-1	130
100 µg/g	100 mL	WM-11-NMS-10X-1	140
300 µg/g	100 mL	WM-11-NMS-30X-1	165
500 µg/g	100 mL	WM-11-NMS-50X-1	245
900 µg/g	100 mL	WM-11-NMS-90X-1	325
	100 mL Set	**WM-11-NMS-1-SET** set of above 7 x 100 mL	**$ 1100**

Each Wear Metal Standard contains 11 elements listed below in hydrocarbon oil at the stated concentration.

Al (Aluminum)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Na (Sodium)
Ni (Nickel)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)

12 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 mL	WM-12-NMS-1X-1	$ 135
30 µg/g	100 mL	WM-12-NMS-3X-1	135
50 µg/g	100 mL	WM-12-NMS-5X-1	135
100 µg/g	100 mL	WM-12-NMS-10X-1	145
300 µg/g	100 mL	WM-12-NMS-30X-1	170
500 µg/g	100 mL	WM-12-NMS-50X-1	250
900 µg/g	100 mL	WM-12-NMS-90X-1	375
	100 mL Set	**WM-12-NMS-1-SET** set of above 7 x 100 mL	**$ 1175**

Each Wear Metal Standard contains 12 elements listed below in hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Na (Sodium)
Ni (Nickel)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)

20 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 mL	WM-20-NMS-1X-1	$ 150
30 µg/g	100 mL	WM-20-NMS-3X-1	150
50 µg/g	100 mL	WM-20-NMS-5X-1	150
100 µg/g	100 mL	WM-20-NMS-10X-1	170
300 µg/g	100 mL	WM-20-NMS-30X-1	230
500 µg/g	100 mL	WM-20-NMS-50X-1	350
900 µg/g	100 mL	WM-20-NMS-90X-1	500
	100 mL Set	**WM-20-NMS-1-SET** set of above 7 x 100 mL	**$ 1450**

Each Wear Metal Standard contains 20 elements listed below in hydrocarbon oil at the stated concentration.

Al (Aluminum)
B (Boron)
Ba (Barium)
Ca (Calcium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Mn (Manganese)
Mo (Molybdenum)
Na (Sodium)
Ni (Nickel)
P (Phosphorus)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)
V (Vanadium)
Zn (Zinc)

21 Wear Metal Multi-Element

Conc.	Unit	Cat. No.	Price
10 µg/g	100 mL	WM-21-NMS-1X-1	$ 160
30 µg/g	100 mL	WM-21-NMS-3X-1	160
50 µg/g	100 mL	WM-21-NMS-5X-1	160
100 µg/g	100 mL	WM-21-NMS-10X-1	180
300 µg/g	100 mL	WM-21-NMS-30X-1	240
500 µg/g	100 mL	WM-21-NMS-50X-1	350
900 µg/g	100 mL	WM-21-NMS-50X-1	550
	100 mL Set	**WM-21-NMS-1-SET** set of above 7 x 100 mL	**$ 1550**

Each Wear Metal Standard contains 21 elements listed below in hydrocarbon oil at the stated concentration.

Ag (Silver)
Al (Aluminum)
B (Boron)
Ba (Barium)
Ca (Calcium)
Cd (Cadmium)
Cr (Chromium)
Cu (Copper)
Fe (Iron)
Mg (Magnesium)
Mn (Manganese)
Mo (Molybdenum)
Na (Sodium)
Ni (Nickel)
P (Phosphorus)
Pb (Lead)
Si (Silicon)
Sn (Tin)
Ti (Titanium)
V (Vanadium)
Zn (Zinc)

Recommended Internal Standard

Organometallic (Internal Standard) Sulfur free

	Conc.	Cat. No.	Price / 50 mL
Cobalt	1000 µg/g	WM-NMS-14	$ 44
	5000 µg/g	WM-NMS-14-5X	$ 58

These products do not require Hazardous Shipping fee at this time.

Sulfur and Metals in Oil

Sulfur and Metals in Mineral Oil

ASTM-P-0100-SET $ 1650 / **12 x 100 mL**

Cat. No.	Sulfur (Wt. %)	Nickel (µg/g)	Vanadium (µg/g)	100 mL Price
ASTM-P-0100-01	0.00	0	0	$ 200
ASTM-P-0100-02	0.50	10	500	200
ASTM-P-0100-03	1.00	100	25	200
ASTM-P-0100-04	1.50	80	250	200
ASTM-P-0100-05	2.00	40	100	200
ASTM-P-0100-06	2.50	5	400	200
ASTM-P-0100-07	3.00	60	300	200
ASTM-P-0100-08	3.50	0	200	200
ASTM-P-0100-09	4.00	100	0	200
ASTM-P-0100-10	4.50	50	250	200
ASTM-P-0100-11	5.00	20	500	200
ASTM-P-0100-12	5.50	100	50	200

Sulfur and Metals in Residual Fuel Oil

ASTM-P-0101-SET $ 1800 / **12 x 100 mL**

Cat. No.	Sulfur (Wt. %)	Nickel (µg/g)	Vanadium (µg/g)	100 mL Price
ASTM-P-0101-01	0.00	0	0	$ 200
ASTM-P-0101-02	0.50	10	500	200
ASTM-P-0101-03	1.00	100	25	200
ASTM-P-0101-04	1.50	80	250	200
ASTM-P-0101-05	2.00	40	100	200
ASTM-P-0101-06	2.50	5	400	200
ASTM-P-0101-07	3.00	60	300	200
ASTM-P-0101-08	3.50	0	200	200
ASTM-P-0101-09	4.00	100	0	200
ASTM-P-0101-10	4.50	50	250	200
ASTM-P-0101-11	5.00	20	500	200
ASTM-P-0101-12	5.50	100	50	200

Test Method A - ICP with an Organic Solvent Specimen Solution

Sulfur and Metals in Mineral Oil

Designed for ASTM D5708

ASTM-P-0102-SET $ 1850 / **12 x 100 mL**

Cat. No.	Sulfur (Wt. %)	Iron (µg/g)	Nickel (µg/g)	Vanadium (µg/g)	100 mL Price
ASTM-P-0102-01	0.00	0	0	0	$ 225
ASTM-P-0102-02	0.50	300	10	500	225
ASTM-P-0102-03	1.00	500	100	25	225
ASTM-P-0102-04	-----	100	80	250	225
ASTM-P-0102-05	2.00	200	40	100	225
ASTM-P-0102-06	2.50	400	5	400	225
ASTM-P-0102-07	3.00	0	60	300	225
ASTM-P-0102-08	3.50	500	0	200	225
ASTM-P-0102-09	-----	100	100	0	225
ASTM-P-0102-10	4.50	300	50	250	225
ASTM-P-0102-11	5.00	200	20	500	225
ASTM-P-0102-12	5.50	50	100	50	225

Sulfur and Metals in Residual Fuel Oil

Designed for ASTM D5708

ASTM-P-0103-SET $ 2100 / **12 x 100 mL**

Cat. No.	Sulfur (Wt. %)	Iron (µg/g)	Nickel (µg/g)	Vanadium (µg/g)	100 mL Price
ASTM-P-0103-01	0.00	0	0	0	$ 225
ASTM-P-0103-02	0.50	300	10	500	225
ASTM-P-0103-03	1.00	500	100	25	225
ASTM-P-0103-04	-----	100	80	250	225
ASTM-P-0103-05	2.00	200	40	100	225
ASTM-P-0103-06	2.50	400	5	400	225
ASTM-P-0103-07	3.00	0	60	300	225
ASTM-P-0103-08	3.50	500	0	200	225
ASTM-P-0103-09	-----	100	100	0	225
ASTM-P-0103-10	4.50	300	50	250	225
ASTM-P-0103-11	5.00	200	20	500	225
ASTM-P-0103-12	5.50	50	100	50	225

After Acid Decomposition of Sample

Stock Multi-Element in Mineral Oil

D-5708-A-10X $ 150 / **100 mL**
100 µg/g in 20 cSt mineral oil 3 comps.

Iron, Vanadium, Nickel

Nitric Acid Blank

CLP-BLN-5 Δ $ 30 / **500 mL**
CLP-BLN-L-VAP Δ $ 45 / **1 L** (2 x 500 mL)

5% HNO_3 in ASTM Type I Water

Working Level Multi-Element Aqueous Standard

D-5708-B-5 Δ $ 105 / **500 mL**
10 µg/mL each in 2-5% HNO_3 3 comps.

Iron, Vanadium, Nickel

Stock Multi-Element Aqueous Standard

D-5708-B-10X-1 Δ $ 60 / **100 mL**
D-5708-B-10X-5 Δ $ 115 / **500 mL**
100 µg/mL each in 2-5% HNO_3 3 comps.

Iron, Vanadium, Nickel

Stock Multi-Element Aqueous Standard

D-5863-95A-10X-1 Δ $ 75 / **1 x 100 mL**
2-5% HNO_3 3 comps.

Iron	100	Vanadium	200
Nickel	200		

Stock Multi-Element Standard in Mineral Oil

D-5863-95B-10X $ 160 / **1 x 100 g**
At stated conc. (µg/g) in 20 cst Mineral Oil
3 comps.

Sodium	50	Vanadium	150
Nickel	200		

ISO/CD 14597 Vanadium and Nickel Standards with Manganese (Internal Standard)

Vanadium Standards - Low Range for ISO/CD 14597 with 0.05% Manganese Internal Standard in Xylene-Mineral Oil

ASTM-P-0104-SET $ 1050 / **9 x 100 mL**

Cat. No.	Vanadium Conc. (Wt.%)	Price 100 mL
ASTM-P-0104-01	0.0005	$ 150
ASTM-P-0104-02	0.0025	150
ASTM-P-0104-03	0.0050	150
ASTM-P-0104-04	0.0075	150
ASTM-P-0104-05	0.0100	150
ASTM-P-0104-06	0.0125	150
ASTM-P-0104-07	0.0150	150
ASTM-P-0104-08	0.0175	150
ASTM-P-0104-09	0.0200	150

Vanadium Standards - High Range for ISO/CD 14597 with 0.05% Manganese Internal Standard in Xylene-Mineral Oil

ASTM-P-0105-SET $ 780 / **7 x 100 mL**

Cat. No.	Vanadium Conc. (Wt.%)	Price 100 mL
ASTM-P-0105-01	0.0000	$ 135
ASTM-P-0105-02	0.0300	135
ASTM-P-0105-03	0.0400	135
ASTM-P-0105-04	0.0500	135
ASTM-P-0105-05	0.0600	135
ASTM-P-0105-06	0.0800	135
ASTM-P-0105-07	0.1000	135

Internal Standard

ASTM-P-0107-5 $ 235 / **500 mL**

Manganese @ 0.05 Wt. % in Xylene-Mineral Oil

Nickel Standards for ISO/CD 14597 with 0.05% Manganese Internal Standard in Xylene-Mineral Oil

ASTM-P-0106-SET $ 780 / **7 x 100 mL**

Cat. No.	Nickel Conc. (Wt.%)	Price 100 mL
ASTM-P-0106-01	0.0000	$ 135
ASTM-P-0106-02	0.0005	135
ASTM-P-0106-03	0.0010	135
ASTM-P-0106-04	0.0025	135
ASTM-P-0106-05	0.0050	135
ASTM-P-0106-06	0.0075	135
ASTM-P-0106-07	0.0100	135

Δ Requires a Hazardous Shipping Fee

Lubricating Oil Standards

ASTM-P-0108-SET $ 1900 / 17 x 100 mL

Designed for ASTM D6481

Cat. No. Nominal Value	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0108-01	0.600	0.005	0.175	0.060
ASTM-P-0108-02	0.500	0.200	0.050	0.080
ASTM-P-0108-03	0.400	0.150	0.300	0.180
ASTM-P-0108-04	0.260	0.250	0.150	0.120
ASTM-P-0108-05	0.005	0.005	0.450	0.070
ASTM-P-0108-06	0.400	0.025	0.350	0.100
ASTM-P-0108-07	0.300	0.060	0.250	0.120
ASTM-P-0108-08	0.200	0.100	0.450	0.100
ASTM-P-0108-09	0.060	0.080	0.300	0.130
ASTM-P-0108-10	0.060	0.050	0.200	0.050
ASTM-P-0108-11	0.050	0.120	0.100	0.075
ASTM-P-0108-12	0.025	0.150	0.200	0.130
ASTM-P-0108-13	0.005	0.200	0.400	0.150
ASTM-P-0108-14	0.170	0.250	0.550	0.110
ASTM-P-0108-15	0.100	0.100	0.200	0.200
ASTM-P-0108-16	0.010	0.010	0.600	0.250
ASTM-P-0108-17	0.000	0.000	0.000	0.000

ASTM-P-0109-SET $ 1600 / 17 x 100 mL

Cat. No. Nominal Value	Ca (Wt.%)	Cl (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0109-01	0.600	0.100	0.005	0.175	0.060
ASTM-P-0109-02	0.500	0.000	0.200	0.050	0.080
ASTM-P-0109-03	0.400	0.010	0.150	0.300	0.180
ASTM-P-0109-04	0.260	0.500	0.250	0.150	0.120
ASTM-P-0109-05	0.005	1.000	0.005	0.450	0.070
ASTM-P-0109-06	0.400	0.400	0.025	0.350	0.100
ASTM-P-0109-07	0.300	0.100	0.060	0.250	0.120
ASTM-P-0109-08	0.200	0.010	0.100	0.450	0.100
ASTM-P-0109-09	0.060	0.050	0.080	0.300	0.130
ASTM-P-0109-10	0.060	0.200	0.050	0.200	0.050
ASTM-P-0109-11	0.050	0.500	0.120	0.100	0.075
ASTM-P-0109-12	0.025	0.800	0.150	0.200	0.130
ASTM-P-0109-13	0.005	1.000	0.200	0.400	0.150
ASTM-P-0109-14	0.170	0.600	0.250	0.550	0.110
ASTM-P-0109-15	0.100	0.200	0.100	0.200	0.200
ASTM-P-0109-16	0.010	0.400	0.010	0.600	0.250
ASTM-P-0109-17	0.000	0.000	0.000	0.000	0.000

ASTM-P-0110-SET $ 2300 / 17 x 100 mL

Designed for ASTM D4927

Cat. No. Nominal Value	Ba (Wt.%)	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0110-01	0.100	0.600	0.005	0.175	0.060
ASTM-P-0110-02	0.175	0.500	0.200	0.050	0.080
ASTM-P-0110-03	0.000	0.400	0.150	0.300	0.180
ASTM-P-0110-04	0.025	0.260	0.250	0.150	0.120
ASTM-P-0110-05	0.150	0.005	0.005	0.450	0.070
ASTM-P-0110-06	0.000	0.400	0.025	0.350	0.100
ASTM-P-0110-07	0.200	0.300	0.060	0.250	0.120
ASTM-P-0110-08	0.000	0.200	0.100	0.450	0.100
ASTM-P-0110-09	0.100	0.060	0.080	0.300	0.130
ASTM-P-0110-10	0.050	0.060	0.050	0.200	0.050
ASTM-P-0110-11	0.075	0.050	0.120	0.100	0.075
ASTM-P-0110-12	0.010	0.025	0.150	0.200	0.130
ASTM-P-0110-13	0.005	0.005	0.200	0.400	0.150
ASTM-P-0110-14	0.000	0.170	0.250	0.550	0.110
ASTM-P-0110-15	0.000	0.100	0.100	0.200	0.200
ASTM-P-0110-16	0.005	0.010	0.010	0.600	0.250
ASTM-P-0110-17	0.000	0.000	0.000	0.000	0.000

ASTM-P-0111-SET $ 2800 / 17 x 100 mL

Designed for ASTM D4927

Cat. No. Nominal Value	Ba (Wt.%)	Ca (Wt.%)	Cl (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0111-01	0.100	0.600	0.100	0.005	0.175	0.060
ASTM-P-0111-02	0.175	0.500	0.000	0.200	0.050	0.080
ASTM-P-0111-03	0.000	0.400	0.010	0.150	0.300	0.180
ASTM-P-0111-04	0.025	0.260	0.500	0.250	0.150	0.120
ASTM-P-0111-05	0.150	0.005	1.000	0.005	0.450	0.070
ASTM-P-0111-06	0.000	0.400	0.400	0.025	0.350	0.100
ASTM-P-0111-07	0.200	0.300	0.100	0.060	0.250	0.120
ASTM-P-0111-08	0.000	0.200	0.010	0.100	0.450	0.100
ASTM-P-0111-09	0.100	0.060	0.050	0.080	0.300	0.130
ASTM-P-0111-10	0.050	0.060	0.200	0.050	0.200	0.050
ASTM-P-0111-11	0.075	0.050	0.500	0.120	0.100	0.075
ASTM-P-0111-12	0.010	0.025	0.800	0.150	0.200	0.130
ASTM-P-0111-13	0.005	0.005	1.000	0.200	0.400	0.150
ASTM-P-0111-14	0.000	0.170	0.600	0.250	0.550	0.110
ASTM-P-0111-15	0.000	0.100	0.200	0.100	0.200	0.200
ASTM-P-0111-16	0.005	0.010	0.400	0.010	0.600	0.250
ASTM-P-0111-17	0.000	0.000	0.000	0.000	0.000	0.000

ASTM-P-0112-SET $ 2300 / 17 x 100 mL

Cat. No. Nominal Value	Ca (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0112-01	0.600	0.100	0.005	0.175	0.060
ASTM-P-0112-02	0.500	0.150	0.200	0.050	0.080
ASTM-P-0112-03	0.400	0.350	0.150	0.300	0.180
ASTM-P-0112-04	0.260	0.225	0.250	0.150	0.120
ASTM-P-0112-05	0.005	0.450	0.005	0.450	0.070
ASTM-P-0112-06	0.400	0.500	0.025	0.350	0.100
ASTM-P-0112-07	0.300	0.325	0.060	0.250	0.120
ASTM-P-0112-08	0.200	0.250	0.100	0.450	0.100
ASTM-P-0112-09	0.060	0.100	0.080	0.300	0.130
ASTM-P-0112-10	0.060	0.400	0.050	0.200	0.050
ASTM-P-0112-11	0.050	0.300	0.120	0.100	0.075
ASTM-P-0112-12	0.025	0.200	0.150	0.200	0.130
ASTM-P-0112-13	0.005	0.375	0.200	0.400	0.150
ASTM-P-0112-14	0.170	0.175	0.250	0.550	0.110
ASTM-P-0112-15	0.100	0.425	0.100	0.200	0.200
ASTM-P-0112-16	0.010	0.275	0.010	0.600	0.250
ASTM-P-0112-17	0.000	0.000	0.000	0.000	0.000

ASTM-P-0113-SET $ 2850 / 17 x 100 mL

Designed for ASTM D4628 & D4927

Cat. No. Nominal Value	Ba (Wt.%)	Ca (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0113-01	0.025	0.600	0.100	0.005	0.175	0.060
ASTM-P-0113-02	0.000	0.500	0.150	0.200	0.050	0.080
ASTM-P-0113-03	0.100	0.400	0.350	0.150	0.300	0.180
ASTM-P-0113-04	0.175	0.260	0.225	0.250	0.150	0.120
ASTM-P-0113-05	0.150	0.005	0.450	0.005	0.450	0.070
ASTM-P-0113-06	0.000	0.400	0.500	0.025	0.350	0.100
ASTM-P-0113-07	0.100	0.300	0.325	0.060	0.250	0.120
ASTM-P-0113-08	0.200	0.200	0.250	0.100	0.450	0.100
ASTM-P-0113-09	0.050	0.060	0.100	0.080	0.300	0.130
ASTM-P-0113-10	0.075	0.060	0.400	0.050	0.200	0.050
ASTM-P-0113-11	0.010	0.050	0.300	0.120	0.100	0.075
ASTM-P-0113-12	0.000	0.025	0.200	0.150	0.200	0.130
ASTM-P-0113-13	0.175	0.005	0.375	0.200	0.400	0.150
ASTM-P-0113-14	0.005	0.170	0.175	0.250	0.550	0.110
ASTM-P-0113-15	0.000	0.100	0.425	0.100	0.200	0.200
ASTM-P-0113-16	0.005	0.010	0.275	0.010	0.600	0.250
ASTM-P-0113-17	0.000	0.000	0.000	0.000	0.000	0.000

These products do not require Hazardous Shipping Fees at this time.

Lubricating Oil Standards (Continued)

ASTM-P-0114-SET $ 1900 / 17 x 100 mL

EDXRF ASTM Method — Designed for ASTM D6481

Cat. No. Nominal Value	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0114-01	0.005	0.005	0.050	0.050
ASTM-P-0114-02	0.600	0.000	0.000	0.000
ASTM-P-0114-03	0.000	0.300	0.000	0.000
ASTM-P-0114-04	1.000	0.000	1.000	0.000
ASTM-P-0114-05	0.000	0.000	0.000	0.300
ASTM-P-0114-06	0.005	0.250	0.800	0.300
ASTM-P-0114-07	0.500	0.150	0.500	0.150
ASTM-P-0114-08	0.010	0.200	0.100	0.250
ASTM-P-0114-09	0.050	0.010	0.400	0.075
ASTM-P-0114-10	0.100	0.150	0.200	0.200
ASTM-P-0114-11	0.200	0.200	0.800	0.100
ASTM-P-0114-12	0.400	0.005	0.800	0.300
ASTM-P-0114-13	0.600	0.100	0.500	0.050
ASTM-P-0114-14	0.800	0.010	0.050	0.100
ASTM-P-0114-15	1.000	0.300	1.000	0.150
ASTM-P-0114-16	0.400	0.050	0.600	0.250
ASTM-P-0114-17	0.000	0.000	0.000	0.000

ASTM-P-0115-SET $ 2300 / 17 x 100 mL

Cat. No. Nominal Value	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)	Mg (Wt.%)
ASTM-P-0115-01	0.005	0.005	0.050	0.050	0.100
ASTM-P-0115-02	0.600	0.000	0.000	0.000	0.150
ASTM-P-0115-03	0.000	0.300	0.000	0.000	0.350
ASTM-P-0115-04	1.000	0.000	1.000	0.000	0.225
ASTM-P-0115-05	0.000	0.000	0.000	0.300	0.450
ASTM-P-0115-06	0.005	0.250	0.800	0.300	0.500
ASTM-P-0115-07	0.500	0.150	0.500	0.150	0.325
ASTM-P-0115-08	0.010	0.200	0.100	0.250	0.250
ASTM-P-0115-09	0.050	0.010	0.400	0.075	0.050
ASTM-P-0115-10	0.100	0.150	0.200	0.200	0.400
ASTM-P-0115-11	0.200	0.200	0.800	0.100	0.300
ASTM-P-0115-12	0.400	0.005	0.800	0.300	0.200
ASTM-P-0115-13	0.600	0.100	0.500	0.050	0.375
ASTM-P-0115-14	0.800	0.010	0.050	0.100	0.175
ASTM-P-0115-15	1.000	0.300	1.000	0.150	0.425
ASTM-P-0115-16	0.400	0.050	0.600	0.250	0.275
ASTM-P-0115-17	0.000	0.000	0.000	0.000	0.000

ASTM-P-0116-SET $ 2450 / 11 x 100 mL

Additives — Designed for ASTM D6481

Cat. No. Nominal Value	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0116-01	0.500	1.000	0.500	0.500
ASTM-P-0116-02	3.000	1.000	3.000	2.000
ASTM-P-0116-03	2.000	1.250	1.000	1.500
ASTM-P-0116-04	5.000	1.500	0.500	1.200
ASTM-P-0116-05	4.000	0.500	1.500	0.750
ASTM-P-0116-06	2.500	0.750	4.000	1.000
ASTM-P-0116-07	4.000	0.500	2.000	1.250
ASTM-P-0116-08	0.500	2.000	5.000	1.000
ASTM-P-0116-09	1.000	0.750	2.000	1.500
ASTM-P-0116-10	2.500	1.200	3.000	0.500
ASTM-P-0116-11	0.000	0.000	0.000	0.000

ASTM-P-0117-SET $ 2100 / 10 x 100 mL

WLXRF ASTM Method — Designed for ASTM D6443

Cat. No. Nominal Value	Ca (Wt.%)	Cl (Wt.%)	Cu (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0117-01	0.020	0.030	0.010	0.200	0.250	1.000	0.020
ASTM-P-0117-02	0.020	0.020	0.050	0.200	0.020	0.020	0.250
ASTM-P-0117-03	0.020	0.200	0.010	0.040	0.250	0.150	0.250
ASTM-P-0117-04	0.020	0.200	0.050	0.040	0.020	1.000	0.020
ASTM-P-0117-05	0.400	0.020	0.010	0.040	0.020	1.000	0.250
ASTM-P-0117-06	0.400	0.020	0.050	0.040	0.250	0.020	0.020
ASTM-P-0117-07	0.400	0.200	0.010	0.200	0.020	0.020	0.050
ASTM-P-0117-08	0.400	0.200	0.050	0.200	0.250	1.000	0.250
ASTM-P-0117-09	0.200	0.100	0.025	0.080	0.150	0.500	0.100
ASTM-P-0117-10	0.000	0.000	0.000	0.000	0.000	0.000	0.000

ASTM-P-0118-SET $ 2400 / 10 x 100 mL

WLXRF ASTM Method — Designed for ASTM D4628, D4927, D4951, D6443

Cat. No. Nominal Value	Ba (Wt.%)	Ca (Wt.%)	Cl (Wt.%)	Cu (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0118-01	0.020	0.020	0.030	0.010	0.200	0.250	1.000	0.020
ASTM-P-0118-02	0.250	0.020	0.020	0.050	0.200	0.020	0.020	0.250
ASTM-P-0118-03	0.020	0.020	0.200	0.010	0.040	0.250	0.150	0.250
ASTM-P-0118-04	0.250	0.020	0.200	0.050	0.040	0.020	1.000	0.020
ASTM-P-0118-05	0.020	0.400	0.020	0.010	0.040	0.020	1.000	0.250
ASTM-P-0118-06	0.250	0.400	0.020	0.050	0.040	0.250	0.020	0.020
ASTM-P-0118-07	0.020	0.400	0.200	0.010	0.200	0.020	0.020	0.050
ASTM-P-0118-08	0.250	0.400	0.200	0.050	0.200	0.250	1.000	0.250
ASTM-P-0118-09	0.130	0.200	0.100	0.025	0.080	0.150	0.500	0.100
ASTM-P-0118-10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Lubricating Oil Standards (Continued)

ASTM-P-0119-SET — $ 2900 / **22 x 100 mL**

Designed for ASTM D4628, D4927, D4951, D6443

Cat. No. Nominal Value	Ca (Wt.%)	Cl (Wt.%)	Cu (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0119-01	0.300	0.080	0.030	0.060	0.060	0.275	0.060
ASTM-P-0119-02	0.250	0.100	0.000	0.010	0.150	0.000	0.150
ASTM-P-0119-03	0.500	0.000	0.035	0.160	0.150	0.000	0.020
ASTM-P-0119-04	0.350	0.010	0.000	0.120	0.080	0.200	0.000
ASTM-P-0119-05	0.110	0.000	0.015	0.100	0.100	0.300	0.050
ASTM-P-0119-06	0.200	0.100	0.000	0.200	0.050	0.250	0.150
ASTM-P-0119-07	0.000	0.050	0.025	0.000	0.000	0.450	0.020
ASTM-P-0119-08	0.150	0.030	0.000	0.100	0.030	0.400	0.040
ASTM-P-0119-09	0.250	0.150	0.010	0.160	0.000	0.350	0.080
ASTM-P-0119-10	0.110	0.150	0.040	0.005	0.030	0.750	0.150
ASTM-P-0119-11	0.260	0.050	0.000	0.000	0.000	0.750	0.000
ASTM-P-0119-12	0.200	0.000	0.005	0.140	0.080	0.500	0.080
ASTM-P-0119-13	0.000	0.000	0.005	0.020	0.020	0.200	0.020
ASTM-P-0119-14	0.070	0.150	0.020	0.080	0.140	0.650	0.150
ASTM-P-0119-15	0.050	0.000	0.000	0.000	0.150	0.000	0.000
ASTM-P-0119-16	0.400	0.000	0.001	0.080	0.000	0.500	0.020
ASTM-P-0119-17	0.180	0.020	0.020	0.000	0.020	0.600	0.060
ASTM-P-0119-18	0.400	0.010	0.001	0.010	0.020	0.000	0.000
ASTM-P-0119-19	0.010	0.020	0.040	0.010	0.020	0.200	0.100
ASTM-P-0119-20	0.050	0.005	0.050	0.000	0.008	0.000	0.120
ASTM-P-0119-21	0.200	0.050	0.020	0.080	0.050	0.275	0.050
ASTM-P-0119-22	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Standards of Interest

Concentration for the sets on pages 409-411 are targets. Actual production lots may vary.

These products do not require Hazardous Shipping charges at this time.

ASTM-P-0120-SET — $ 3100 / **23 x 100 mL**

Cat. No. Nominal Value	Ba (Wt.%)	Ca (Wt.%)	Cl (Wt.%)	Cu (Wt.%)	Mg (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
ASTM-P-0120-01	0.100	0.300	0.080	0.030	0.060	0.060	0.275	0.060
ASTM-P-0120-02	0.175	0.250	0.100	0.000	0.010	0.150	0.000	0.150
ASTM-P-0120-03	0.040	0.500	0.000	0.035	0.160	0.150	0.000	0.020
ASTM-P-0120-04	0.020	0.350	0.010	0.000	0.120	0.080	0.200	0.000
ASTM-P-0120-05	0.150	0.110	0.000	0.015	0.100	0.100	0.300	0.050
ASTM-P-0120-06	0.000	0.200	0.100	0.000	0.200	0.050	0.250	0.150
ASTM-P-0120-07	0.200	0.000	0.050	0.025	0.000	0.000	0.450	0.020
ASTM-P-0120-08	0.000	0.150	0.030	0.000	0.100	0.030	0.400	0.040
ASTM-P-0120-09	0.000	0.250	0.150	0.010	0.160	0.000	0.350	0.080
ASTM-P-0120-10	0.000	0.110	0.150	0.040	0.005	0.030	0.750	0.150
ASTM-P-0120-11	0.100	0.260	0.050	0.000	0.000	0.000	0.750	0.000
ASTM-P-0120-12	0.050	0.200	0.000	0.005	0.140	0.080	0.500	0.080
ASTM-P-0120-13	0.000	0.000	0.000	0.005	0.020	0.020	0.200	0.020
ASTM-P-0120-14	0.080	0.070	0.150	0.020	0.080	0.140	0.650	0.150
ASTM-P-0120-15	0.010	0.050	0.000	0.000	0.000	0.150	0.000	0.000
ASTM-P-0120-16	0.000	0.400	0.000	0.001	0.080	0.000	0.500	0.020
ASTM-P-0120-17	0.000	0.180	0.020	0.020	0.000	0.020	0.600	0.060
ASTM-P-0120-18	0.000	0.400	0.010	0.001	0.010	0.020	0.000	0.000
ASTM-P-0120-19	0.150	0.010	0.020	0.040	0.010	0.020	0.200	0.100
ASTM-P-0120-20	0.005	0.050	0.005	0.050	0.000	0.008	0.000	0.120
ASTM-P-0120-21	0.100	0.200	0.050	0.020	0.080	0.050	0.275	0.050
ASTM-P-0120-22	0.120	0.200	0.000	0.000	0.000	0.000	0.750	0.000
ASTM-P-0120-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Metal Working Fluids

ASTM-P-0121-SET — $ 1300 / **13 x 100 mL**

Cat. No. Nominal Value	Cl (Wt.%)	P (Wt.%)	S (Wt.%)
ASTM-P-0121-01	0.000	0.000	0.000
ASTM-P-0121-02	0.750	0.025	0.500
ASTM-P-0121-03	0.050	0.100	3.000
ASTM-P-0121-04	1.000	0.500	2.500
ASTM-P-0121-05	0.100	0.005	2.000
ASTM-P-0121-06	1.500	0.200	1.000
ASTM-P-0121-07	2.000	0.005	3.000
ASTM-P-0121-08	1.000	0.050	0.100
ASTM-P-0121-09	0.500	0.400	0.000
ASTM-P-0121-10	2.000	0.200	1.500
ASTM-P-0121-11	0.000	0.500	1.500
ASTM-P-0121-12	1.250	0.010	0.050
ASTM-P-0121-13	0.050	0.300	0.050

Stabilization Solutions

The solutions were specifically designed for chelating & solubilizing our line of Sulfur-Free Organometallic Standards. Contact Tech Service for additional information.

Stabilizer Solution A

ASTM-P-0122-0.5 — $ 80 / **50 mL**
ASTM-P-0122-1 — $ 120 / **100 mL**

Stabilizer Solution B

ASTM-P-0123-0.5 — $ 80 / **50 mL**
ASTM-P-0123-1 — $ 120 / **100 mL**

Stabilizer Solution C

ASTM-P-0124-0.5 — $ 80 / **50 mL**
ASTM-P-0124-1 — $ 120 / **100 mL**

Stabilizer Solution D

ASTM-P-0125-0.5 — $ 80 / **50 mL**
ASTM-P-0125-1 — $ 120 / **100 mL**

ASTM D3230 Determination of Salts in Crude Oil

Mixed Salt Solution

D-3230-89-1 Δ $ 75 / **100 mL**
D-3230-89-5 Δ $ 150 / **500 mL**
At stated conc. in Alcohol Solution (1-butanol : MeOH) (ratio 63:37) tr. H_2O 3 comps.

Calcium chloride	10 µg/mL	Sodium chloride	70 µg/mL
Magnesium chloride	20 µg/mL		

ASTM D3237 Lead in Gasoline by AA Spectroscopy

Lead Standard Calibration Curve

D-3237-CAL-SET Δ $ 210 / **4 x 100 mL**
Set includes the following Catalog Numbers:

D3237 Meets EPA Guidelines for RFG Analysis

Description	Cat. No.	Price / 100 mL
Blank 1% Aliquot 336/MIBK	D-3237-01	$ 20
0.02 g Pb / gal (5.3 mg Pb/ L) in 1% Aliquat 336 / MIBK	D-3237-02	$ 80
0.05 g Pb / gal (13.2 mg Pb/ L) in 1% Aliquat 336 / MIBK	D-3237-03	$ 80
0.10 g Pb / gal (26.4 mg Pb/ L) in 1% Aliquat 336 / MIBK	D-3237-04	$ 80

ASTM D3605 Trace Metals in Gas Turbine Fuels by AA & Flame Emission & Spectroscopy

Trace Metals Standard

D-3605-91-1 $ 150 / **1 x 100 mL**
At stated conc. in 1,2,3,4-Tetrahydronaphthalene 4 comps.

Na (Sodium)	(250 µg/mL)	Ca (Calcium)	(250 µg/mL)
Pb (Lead)	(250 µg/mL)	V (Vanadium)	(250 µg/mL)

Standards of Interest

See Table of Contents for a complete listing of Wear Metal Standards.

ASTM D3831 Manganese in Gasoline by AA Spectroscopy

Manganese Stock Solution

D-3831 Δ $ 65 / **1 x 100 mL**

Manganese @ 1.0 g Mn / gal (264.2 mg Mn / L) in Methyl isobutyl ketone

Δ Requires a Hazardous Shipping Fee

Over 40,000 Standards, just a click away

(Over 10,000 Listed and over 30,000 formulated custom standards)

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Solid Waste Analysis

Solid Matrix Standards

AccuStandard offers a broad range of trace element standards in Solid Matrices to meet the requirements for "real world" solid waste reference materials. All Standards are furnished with a Certificate of Analysis, with the mean values, standard deviations, confidence intervals and performance intervals. A list of additional elements/analytes, instructions and other pertinent information is also included. Values listed on the Certificate are generally the result of round robin analyses consisting of testing conducted by an average of 20 independent laboratories.

- **Ideal for both AA and ICP Analysis**
- **Certified by EPA Methods and Protocols**
- **NATURAL Matrix, Not spiked or fortified**
- **US EPA SW-846, 3rd Edition Method 3050**
- **Method 1311**
- **Lead Abatement Program Material**

Metals in Sludges

Metal Concentration (in mg/Kg)	Paint Sludge CRM006-050	Plating Sludge #1 CRM009-100	Plating Sludge #2 CRM010-100	Plating Sludge #3 (POTW) CRM011-100	Raw Sewage CRM018-050
Metal	$ 135 / **50 g**	$ 120 / **120 g**	$ 135 / **100 g**	$ 135 / **100 g**	$ 155 / **50 g**
Al (Aluminum)	73	(890)	692	(20)	22,436
Sb (Antimony)	----	(9)	----	(10)	ND
As (Arsenic)	----	(20)	----	(20)	6.63
Ba (Barium)	9,970	(50)	175	(5)	1,103
Be (Beryllium)	----	----	----	----	0.30
B (Boron)	(53)	(150)	102	(18,000)	(25.8)
Cd (Cadmium)	32	(1)	----	(4)	5.57
Ca (Calcium)	111	(1,100)	563	(180)	49,068
Cr (Chromium)	11	50	79	59,225	40.1
Co (Cobalt)	----	(7)	----	(10)	3.22
Cu (Copper)	(6)	121,415	63,169	108	840
Fe (Iron)	64	(3,800)	2,699	(4,700)	9,903
Pb (Lead)	753	(14,230)	119,344	269	126
Mg (Magnesium)	47	(150)	(80)	(50)	4,302
Mn (Manganese)	(1)	(40)	17	(30)	200
Hg (Mercury)	----	(1)	(2)	(10)	4.78
Mo (Molybdenum)	----	(20)	(32)	----	10.5
Ni (Nickel)	(2)	343	194	41,975	20.4
P (Phosphorus)	----	----	----	----	----
K (Potassium)	8,710	(640)	----	(49,000)	2,657
Se (Selenium)	(3)	----	----	(4)	8.38
Si (Silicon)	----	----	----	----	(609)
Ag (Silver)	----	9	56	(1)	72.1
Na (Sodium)	91	(18,000)	1,576	(23,000)	1,002
Sr (Strontium)	(90)	(30)	----	(1)	420
Tl (Thallium)	(40)	(30)	----	(20)	ND
Sn (Tin)	(100)	(38,000)	----	(120)	----
Ti (Titanium)	(2)	(70)	----	(2)	----
V (Vanadium)	----	(1)	----	(20)	39.2
Zn (Zinc)	737,431	(40)	183	----	1,121

All values expressed in mg/Kg, parts per million (ppm) unless otherwise noted.

TCLP Metals - Method 1311

Metal Conc. in mg/L	Soil from Superfund Site CRM202-225	Soil from Superfund Site CRM204-225	Ash from Incinerator CRM205-225	Soil from Superfund Site CRM206-225	Soil from Superfund Site CRM207-225	TCLP Metals in Soil CRM208-225
Metal	$ 155 / **225 g**	$ 150 / **225 g**	$ 150 / **225 g**	$ 155 / **225 g**	$ 155 / **225 g**	$ 155 / **225 g**
As (Arsenic)	1.44	0.82	89.5	13.9	9.51	3.93
Ba (Barium)	5.85	(0.04)	0.44	0.38	0.40	32.8
Cd (Cadmium)	19.6	14.4	144	8.3	7.45	46.7
Cr (Chromium)	11.1	4.46	12.7	0.13	1.36	0.87
Pb (Lead)	48.5	10.7	155	2.16	2.76	2.14
Hg (Mercury)	5.58	(< 0.0025)	ND	0.65	0.02	0.62
Se (Selenium)	1.38	Trace	ND	20.5	20.8	ND
Ag (Silver)	5.01	(< 0.1)	ND	1.04	0.99	ND

NOTES:
1. **These values are as extracted into Fluid #1.**
2. **All values expressed in mg/L, parts per million (ppm) unless otherwise noted.**
3. **Values in parenthesis are not certified and are given for information only.**
4. **ND is not detected.**

Solid Matrix Standards continued on next page

These products do not require Hazardous Shipping Fee at this time.

Metals in Soil

Metals Conc. (in mg/Kg) Metal	Sewage Sludge Amended Soil CRM005-050 $ 150 / 50g	Soil/ Sediment #4 CRM008-050 $ 150 / 50g	Dry Soil #2 Certified pH 2.96 CRM020-050 ** $ 150 / 50g	Dry Soil #3 CRM021-100 $ 150 / 100g	Dry soil #5 plus Cyanide CRM022-030 $ 155 / 30g	Metals in Soil CRM028-050 $ 150 / 50g
Al (Aluminum)	15,333	23,906	2,755	2,725	10,060	7,562
Sb (Antimony)	----	(3)	8.38	4,955	(<0.2)	----
As (Arsenic)	7	14	400	25	5	3.83
Ba (Barium)	853	54	24.8	586	109	73.2
Be (Beryllium)	1	1	----	----	0.5	0.38
B (Boron)	----	(27)	----	----	(16)	ND
Cd (Cadmium)	14	(1)	15.4	1	3	0.50
Ca (Calcium)	119,477	2,935	25,584	5,426	27,242	5,883
Cr (Chromium)	41	48	13.6	11	19	19.0
Co (Cobalt)	6	11	4.51	(3)	6	4.30
Cu (Copper)	465	36	729	4,792	12	8.51
Fe (Iron)	12,650	33,042	191,706	6,481	13,555	10,000
Pb (Lead)	89	95	5,111	(144,742)	415	10.4
Mg (Magnesium)	6,706	6,742	2,687	(2,367)	9,524	2,995
Mn (Manganese)	172	261	945	174	318	209
Hg (Mercury)	3	1	1.12	5	(0.02)	----
Mo (Molybdenum)	14	(2)	----	----	(<1)	----
Ni (Nickel)	26	26	16.9	13	16	13.4
P (Phosphorus)	(10,071)	----	----	----	----	----
K (Potassium)	6,229	3,948	(857)	1,006	3,170	2,045
Se (Selenium)	20	(1)	6.57	----	(0.3)	ND
Si (Silicon)	----	(471)	----	----	(80)	----
Ag (Silver)	36	(1)	38.5	7	(<0.5)	----
Na (Sodium)	2,488	8,706	(79.2)	380	268	3.31
Sr (Strontium)	----	42	(24.7)		(54)	ND
Tl (Thallium)	(2)	(<1)	5.91	(<1)	(<0.2)	----
Sn (Tin)	----	----	----	(304)	----	----
Ti (Titanium)	----	----	----	----	----	----
V (Vanadium)	109	44	6.47	(8.7)	23	19.2
Zn (Zinc)	625	134	3,011	546	46	75.0
pH	----	----	2.96	----	----	----
CN	----	----	----	----	26.6	----

Continued (in mg/Kg) Metal	Sediment, + CN CRM015-050 $ 150 / 50g	Sediment CRM016-050 $ 150 / 50g	Soil CRM023-050 $ 150 / 50g	Soil CRM025-050 $ 150 / 50g	Soil CRM026-050 $ 150 / 50g	Soil CRM027-050 $ 150 / 50g	Soil CRM024-050 $ 150 / 50g
Al (Aluminum)	9,200	8,920	8,472	7,637	17,730	9,149	8,681
Sb (Antimony)	(ND)	(ND)	----	(<3.2)	(<3.2)	----	(1.17)
As (Arsenic)	6.6	6.48	380	339	5.64	12.5	3.42
Ba (Barium)	83.0	79.3	75.5	1,839	214	167	79.6
Be (Beryllium)	0.47	0.49	0.4	0.33	18.0	----	0.43
B (Boron)	(8.6)	(13.0)	(11.2)	(17.2)	(25.4)	2.74	7.22
Cd (Cadmium)	(ND)	0.47	0.9	369	11.7	11.9	2.15
Ca (Calcium)	23,463	22,646	5,425	28,320	6,221	5,963	5,534
Cr (Chromium)	14.3	14.5	31.1	441	27.2	27.0	25.4
Co (Cobalt)	6.04	5.96	8.9	4.07	6.77	4.77	----
Cu (Copper)	16.1	15.5	4.7	7.76	18.8	9.79	8.70
Fe (Iron)	17,070	16,831	10,678	9,439	21,906	11,299	10,196
Pb (Lead)	15.04	14.1	213	1,447	25.6	51.7	15.7
Mg (Magnesium)	13,611	13,246	3,064	4,376	2,837	2,786	2,945
Mn (Manganese)	183.4	180.0	206	173	633	258	199
Hg (Mercury)	0.10	0.11	77.8	99.8	2.42	3.85	0.71
Mo (Molybdenum)	1.16	(0.97)	----	----	----	----	0.58
Ni (Nickel)	17.5	16.7	11.0	12.2	14.4	10.7	15.0
P (Phosphorus)	----	----		----	----	----	----
K (Potassium)	2,074	1,958	2,231	1,992	3,600	2,115	2,102
Se (Selenium)	(1.0)	(1.0)	116	518	(1.86)	13.8	(0.54)
Si (Silicon)	(491)	(347)	(352)	(171)	(166)	387	(404)
Ag (Silver)	(ND)	(0.7)	132	(0.57)	5.90	----	13.3
Na (Sodium)	400	292.0	295	313	199	241	287
Sr (Strontium)	(62)	(61)	(32)	(408)	38.4	42.7	35.4
Tl (Thallium)	(ND)	(4.6)	111	(<4.8)	(<4.8)	----	(13.6)
Sn (Tin)	----	----	----	----	----	----	----
Ti (Titanium)	----	----	----	----	----	----	----
V (Vanadium)	22.1	22.5	21.7	19.3	32.0	21.8	20.8
Zn (Zinc)	69.9	69.7	93.8	51.8	140	51.5	37.3
pH	----	----	----	----	----	----	----
CN	6.04	----	----	----	----	----	----

Metals in Ashes

Metals Conc. (in mg/Kg) Metal	Ash #1 CRM001-100 $ 135 / 100 g	Ash #2 CRM012-100 $ 135 / 100 g	Ash #3 CRM019-050 $ 135 / 100 g	Ash #4 CRM205-225 $ 150 / 100 g
Al (Aluminum)	----	2,160	(2, 759)	----
Sb (Antimony)	----	----	(223)	----
As (Arsenic)	----	----	78	90
Ba (Barium)	428	19	342	0.4
Be (Beryllium)	----	----	(2)	----
B (Boron)	----	----	(336)	----
Cd (Cadmium)	----	362	432	147
Ca (Calcium)	----	2,111	(51,949)	----
Cr (Chromium)	30	161,520	55	13
Co (Cobalt)	----	(22)	(26)	----
Cu (Copper)	40	3,015	279	----
Fe (Iron)	(16,300)	28,664	(12,693)	----
Pb (Lead)	----	120	4,414	155
Mg (Magnesium)	----	1,506	6,307	----
Mn (Manganese)	(300)	202	(480)	----
Hg (Mercury)	----	----	(2)	ND
Mo (Molybdenum)	----	----	(26)	----
Ni (Nickel)	20	13,279	22	----
P (Phosphorus)	----	----	----	----
K (Potassium)	----	73,324	(49,344)	----
Se (Selenium)	----	----	2	ND
Ag (Silver)	----	55	6	ND
Na (Sodium)	----	29,200	(50,522)	----
Sr (Strontium)	(1,016)	(10)	(173)	----
Tl (Thallium)	----	----	(42)	----
Sn (Tin)	----	(2,055)	(410)	----
Ti (Titanium)	(465)	(20)	(2,870)	----
V (Vanadium)	----	(52)	29	----
Zn (Zinc)	----	635	22,217	----

NOTES:
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** Values certified by analysis from 260 independent laboratories

Lead Reference Materials

- Natural matrix, not spiked or fortified
- Samples tested & suitable for lead abatement program

Paint Sludge

CRM006-050	$ 135 / 50 g
Certified lead value	753 mg/kg

Paint Waste

CRM013-050	$ 135 / 50 g
Certified lead value	643 mg/kg

Dust

CRM014-050	$ 135 / 50 g
Certified lead value	1,914 mg/kg

Metals in Particulates & Water Treatment Media

Metals Conc. in mg/Kg (in mg/Kg) Metal	Activated Charcoal Filter CRM002-100 $ 135 / 100 g	Diatomaceous Earth Filter CRM004-100 $ 135 / 100 g	Paint Chips CRM013-050 $ 135 / 50 g	Baghouse Dust CRM014-050 $ 135 / 50 g
Al (Aluminum)	(1,800)	(29,000)	(1,200)	(6,000)
Sb (Antimony)	(2)	(5)	(20)	(20)
As (Arsenic)	(30)	----	(1)	(2)
Ba (Barium)	(80)	1,595	(1,200)	(1,930)
Be (Beryllium)	----	----	----	----
B (Boron)	(80)	(1,160)	12	(50)
Cd (Cadmium)	(1)	2	38	510
Ca (Calcium)	(980)	(28,000)	(1,500)	(3,900)
Cr (Chromium)	36,339	21	618	2,228
Co (Cobalt)	(10)	(140)	(10)	(10)
Cu (Copper)	96,935	(20)	(30)	(110)
Fe (Iron)	(1,150)		(1,400)	(5,860)
Pb (Lead)	(5)	11,871	643	1,914
Mg (Magnesium)	(190)	(17,000)	(430)	(1,100)
Mn (Manganese)	(8)	(90)	(120)	(110)
Hg (Mercury)	(5)	(3)	----	(2)
Mo (Molybdenum)	----	(4)	(1)	(30)
Ni (Nickel)	(30)	(140)	(10)	(10)
P (Phosphorus)	----	----	----	----
K (Potassium)	(490)	----	(170)	(340)
Se (Selenium)	(4)	(2,000)	----	(1)
Ag (Silver)	18	(1)	----	(10)
Na (Sodium)	(480)	(4,200)	(310)	(780)
Sr (Strontium)	(110)	(80)	(950)	(1,900)
Tl (Thallium)	(20)	(30)	(4)	(10)
Sn (Tin)	(120)	(580)	(80)	(140)
Ti (Titanium)	(210)	(100)	(70)	(130)
V (Vanadium)	(40)	(28)	(1)	(2)
Zn (Zinc)	----	(8,500)	(2,370)	(3,150)

NOTES:
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Periodic Table

1 IA	2 IIA			5 VB	6 VIB	7 VIIB	8 VIII	9 VIII
1.00794 1 **H** 1s bp: -259.3˚C d: 0.088 g/l **Hydrogen**								
6.941 3 **Li** [He] 2s mp: 180.5˚C d: 0.53 g/cc **Lithium**	9.012182 4 **Be** [He] $2s^2$ mp: 1287˚C d: 1.848 g/cc **Beryllium**							
22.989768 11 **Na** [Ne] 3s mp: 97.72˚C d: 0.968 g/cc **Sodium**	24.3050 12 **Mg** [Ne] $3s^2$ mp: 650˚C d: 1.738 g/cc **Magnesium**							
39.0983 19 **K** [Ar] 4s mp: 63.3˚C d: 0.856 g/cc **Potassium**	40.078 20 **Ca** [Ar] $4s^2$ mp: 842˚C d: 1.54 g/cc **Calcium**	44.955910 21 **Sc** [Ar] 3d $4s^2$ mp: 1541˚C d: 2.989 g/cc **Scandium**	47.88 22 **Ti** [Ar] $3d^2$ $4s^2$ mp: 1668˚C d: 4.506 g/cc **Titanium**	50.9415 23 **V** [Ar] $3d^3$ $4s^2$ mp: 1910˚C d: 6.11 g/cc **Vanadium**	51.9961 24 **Cr** [Ar] $3d^5$ 4s mp: 1907˚C d: 7.19 g/cc **Chromium**	54.93805 25 **Mn** [Ar] $3d^5$ $4s^2$ mp: 1246˚C d: 7.3 g/cc **Manganese**	55.847 26 **Fe** [Ar] $3d^6$ $4s^2$ mp: 1538˚C d: 7.87 g/cc **Iron**	58.93320 27 **Co** [Ar] $3d^7$ $4s^2$ mp: 1495˚C d: 8.92 g/cc **Cobalt**
85.4678 37 **Rb** [Kr] 5s mp: 39˚C d: 1.532 g/cc **Rubidium**	87.62 38 **Sr** [Kr] $5s^2$ mp: 777˚C d: 2.64 g/cc **Strontium**	88.90585 39 **Y** [Kr] 4d $5s^2$ mp: 1522˚C d: 4.47 g/cc **Yttrium**	91.224 40 **Zr** [Kr] $4d^2$ $5s^2$ mp: 1855˚C d: 6.52 g/cc **Zirconium**	92.9064 41 **Nb** [Kr] $4d^4$ 5s mp: 2477˚C d: 8.57 g/cc **Niobium**	95.94 42 **Mo** [Kr] $4d^5$ 5s mp: 2623˚C d: 10.22 g/cc **Molybdenum**	98 43 **Tc** [Kr] $4d^5$ $5s^2$ mp: 2157˚C d: 11.0 g/cc **Technetium**	101.07 44 **Ru** [Kr] $4d^7$ 5s mp: 2334˚C d: 12.1 g/cc **Ruthenium**	102.9055 45 **Rh** [Kr] $4d^8$ 5s mp: 1964˚C d: 12.41 g/cc **Rhodium**
132.9054 55 **Cs** [Xe] 6s mp: 28.4˚C d: 1.93 g/cc **Cesium**	137.327 56 **Ba** [Xe] $6s^2$ mp: 727˚C d: 3.62 g/cc **Barium**	57-71 **La-Lu**	178.49 72 **Hf** [Xe] $4f^{14}$ $5d^2$ $6s^2$ mp: 2227˚C d: 13.31 g/cc **Hafnium**	180.9479 73 **Ta** [Xe] $4f^{14}$ $5d^3$ $6s^2$ mp: 2996˚C d: 16.4 g/cc **Tantalum**	183.84 74 **W** [Xe] $4f^{14}$ $5d^4$ $6s^2$ mp: 3410˚C d: 19.3 g/cc **Tungsten**	186.207 75 **Re** [Xe] $4f^{14}$ $5d^5$ $6s^2$ mp: 3180˚C d: 20.8 g/cc **Rhenium**	190.23 76 **Os** [Xe] $4f^{14}$ $5d^6$ $6s^2$ mp: 3045˚C d: 22.61 g/cc **Osmium**	192.22 77 **Ir** [Xe] $4f^{14}$ $5d^7$ $6s^2$ mp: 2410˚C d: 22.5 g/cc **Iridium**
223.0197 87 **Fr** [Rn] 7s mp: 27˚C d: 2.29 g/cc **Francium**	226.0254 88 **Ra** [Rn] $7s^2$ mp: 700˚C d: 2.29 g/cc **Radium**	89-103 **Ac-Lr**	261.1087 104 **Rf** [Rn] $5f^{14}$ $6d^2$ $7s^2$ mp: none d: none **Rutherfordium**	262.1138 105 **Db** [Rn] $5f^{14}$ $6d^3$ $7s^2$ mp: none d: none **Dubnium**	263.1182 106 **Sg** [Rn] $5f^{14}$ $6d^4$ $7s^2$ mp: none d: none **Seaborgium**	262.1229 107 **Bh** [Rn] $5f^{14}$ $6d^5$ $7s^2$ mp: none d: none **Bohrium**	265 108 **Hs** [Rn] $5f^{14}$ $6d^6$ $7s^2$ mp/bp: none d: none **Hassium**	266 109 **Mt** [Rn] $5f^{14}$ $6d^7$ $7s^2$ mp/bp: none d: none **Meitnerium**

138.9055 57 **La** [Xe] 5d $6s^2$ mp: 920˚C d: 6.17 g/cc **Lanthanum**	140.115 58 **Ce** [Xe] $4f^2$ $6s^2$ mp: 798˚C d: 6.77 g/cc **Cerium**	140.90765 59 **Pr** [Xe] $4f^3$ $6s^2$ mp: 935˚C d: 6.77 g/cc **Praseodymium**	144.24 60 **Nd** [Xe] $4f^4$ $6s^2$ mp: 1021˚C d: 7.00 g/cc **Neodymium**	146.9151 61 **Pm** [Xe] $4f^5$ $6s^2$ mp: 1080˚C d: 7.22 g/cc **Promethium**	150.36 62 **Sm** [Xe] $4f^6$ $6s^2$ mp: 1072˚C d: 7.54 g/cc **Samarium**	151.965 63 **Eu** [Xe] $4f^7$ $6s^2$ mp: 822˚C d: 5.25 g/cc **Europium**
227.0278 89 **Ac** [Rn] 6d $7s^2$ mp: 1050˚C d: 10.07 g/cc **Actinium**	232.0381 90 **Th** [Rn] $6d^2$ $7s^2$ mp: 1750˚C d: 11.72 g/cc **Thorium**	231.0359 91 **Pa** [Rn] $5f^2$ 6d $7s^2$ mp: 1560˚C d: 15.37 g/cc **Protactinium**	238.0289 92 **U** [Rn] $5f^3$ 6d $7s^2$ mp: 1132.3˚C d: 19.07 g/cc **Uranium**	237.0482 93 **Np** [Rn] $5f^4$ 6d $7s^2$ mp: 637˚C d: 20.45 g/cc **Neptunium**	244.0642 94 **Pu** [Rn] $5f^6$ $7s^2$ mp: 641˚C d: 19.86 g/cc **Plutonium**	243.0614 95 **Am** [Rn] $5f^7$ $7s^2$ mp: 1173˚C d: 13.67 g/cc **Americium**

207.2 82
Pb
[Xe] $4f^{14}$ $5d^{10}$ $6s^2$ $6p^2$
mp: 327.5˚C
d: 11.34 g/cc
Lead

ATOMIC WEIGHT
ATOMIC NUMBER
SYMBOL
ELECTRON CONFIGURATION
BOILING OR MELTING POINT IN ˚C
DENSITY
ELEMENT NAME

PHYSICAL STATE

SOLID
LIQUID
GAS
NATURAL RADIOACTIVE
ARTIFICIAL RADIOACTIVE

Oxidation States listed on following page

# of Elements

10 VIII	11 IB	12 IIB	13 IIIA	14 IVA	15 VA	16 VIA	17 VIIA	18 VIIIA
								4.002602 2 **He** $1s^2$ bp: -268.9˚C d: 0.179 g/l Helium
			10.811 5 **B** [He] $2s^2 2p$ mp: 2075˚C d: 2.34 g/cc Boron	12.011 6 **C** [He] $2s^2 2p^2$ mp: 3650˚C d: 2.26 g/cc Carbon	14.00674 7 **N** [He] $2s^2 2p^3$ bp: -195.8˚C d: 1.25 g/l Nitrogen	15.9994 8 **O** [He] $2s^2 2p^4$ bp: -183.0˚C d: 1.404 g/l Oxygen	18.9984032 9 **F** [He] $2s^2 2p^5$ bp: -188.1˚C d: 1.696 g/l Fluorine	20.1797 10 **Ne** [He] $2s^2 2p^6$ bp: -246.1˚C d: 0.8999 g/l Neon
			26.981539 13 **Al** [Ne] $3s^2 3p$ mp: 660.4˚C d: 2.70 g/cc Aluminum	28.0855 14 **Si** [Ne] $3s^2 3p^2$ mp: 1414˚C d: 2.33 g/cc Silicon	30.973762 15 **P** [Ne] $3s^2 3p^3$ mp: 44.2˚C d: 1.82 g/cc Phosphorus	32.066 16 **S** [Ne] $3s^2 3p^4$ mp: 115.21˚C d: 2.07 g/cc Sulfur	35.4527 17 **Cl** [Ne] $3s^2 3p^5$ bp: -34.0˚C d: 2.95 g/l Chlorine	39.948 18 **Ar** [Ne] $3s^2 3p^6$ bp: -185.9˚C d: 1.784 g/l Argon
58.6934 28 **Ni** [Ar] $3d^8 4s^2$ mp: 1455˚C d: 8.908 g/cc Nickel	63.546 29 **Cu** [Ar] $3d^{10} 4s$ mp: 1083.0˚C d: 8.84 g/cc Copper	65.38 30 **Zn** [Ar] $3d^{10} 4s^2$ mp: 419.5˚C d: 7.14 g/cc Zinc	69.723 31 **Ga** [Ar] $3d^{10} 4s^2 4p$ mp: 29.8˚C d: 5.91 g/cc Gallium	72.61 32 **Ge** [Ar] $3d^{10} 4s^2 4p^2$ mp: 937.2˚C d: 5.32 g/cc Germanium	74.92159 33 **As** [Ar] $3d^{10} 4s^2 4p^3$ 818˚C subl. d: 5.778 g/cc Arsenic	78.96 34 **Se** [Ar] $3d^{10} 4s^2 4p^4$ mp: 217˚C d: 4.28 g/cc Selenium	79.904 35 **Br** [Ar] $3d^{10} 4s^2 4p^5$ bp: 59.47˚C d: 3.10 g/cc Bromine	83.80 36 **Kr** [Ar] $3d^{10} 4s^2 4p^6$ bp: -157.36˚C d: 3.677 g/cL Krypton
106.42 46 **Pd** [Kr] $4d^{10}$ mp: 1554.9˚C d: 12.02 g/cc Palladium	107.868 47 **Ag** [Kr] $4d^{10} 5s$ mp: 961.8˚C d: 10.5 g/cc Silver	112.411 48 **Cd** [Kr] $4d^{10} 5s^2$ mp: 321.1˚C d: 8.69 g/cc Cadmium	114.818 49 **In** [Kr] $4d^{10} 5s^2 5p$ mp: 156.6˚C d: 7.31 g/cc Indium	118.710 50 **Sn** [Kr] $4d^{10} 5s^2 5p^2$ mp: 232.0˚C d: 7.265 g/cc Tin	121.75 51 **Sb** [Kr] $4d^{10} 5s^2 5p^3$ mp: 630.7˚C d: 6.68 g/cc Antimony	127.60 52 **Te** [Kr] $4d^{10} 5s^2 5p^4$ mp: 449.5˚C d: 6.24 g/cc Tellurium	126.9045 53 **I** [Kr] $4d^{10} 5s^2 5p^5$ mp: 113.7˚C d: 4.933 g/cc Iodine	131.29 54 **Xe** [Kr] $4d^{10} 5s^2 5p^6$ mp: -111.0˚C d: 5.761 g/l Xenon
195.08 78 **Pt** [Xe] $4f^{14} 5d^9 6s$ mp: 1768.4˚C d: 21.45 g/cc Platinum	196.96654 79 **Au** [Xe] $4f^{14} 5d^{10} 6s$ mp: 1064.2˚C d: 19.32 g/cc Gold	200.59 80 **Hg** [Xe] $4f^{14} 5d^{10} 6s^2$ bp: 356.73˚C d: 13.534 g/cc Mercury	204.3833 81 **Tl** [Xe] $4f^{14} 5d^{10} 6s^2 6p$ mp: 303.5˚C d: 11.85 g/cc Thallium	207.2 82 **Pb** [Xe] $4f^{14} 5d^{10} 6s^2 6p^2$ mp: 327.5˚C d: 11.34 g/cc Lead	208.98037 83 **Bi** [Xe] $4f^{14} 5d^{10} 6s^2 6p^3$ mp: 271.4˚C d: 9.79 g/cc Bismuth	208.9824 84 **Po** [Xe] $4f^{14} 5d^{10} 6s^2 6p^4$ mp: 254˚C d: 9.20 g/cc Polonium	209.9871 85 **At** [Xe] $4f^{14} 5d^{10} 6s^2 6p^5$ mp: 302˚C d: none Astatine	222.0176 86 **Rn** [Xe] $4f^{14} 5d^{10} 6s^2 6p^6$ mp: -61.8˚C d: 9.72 g/cc Radon
269 110 **Uun** Ununnilium	272 111 **Uuu** Unununium	277 112 **Uub** Ununbium						

157.25 64 **Gd** [Xe] $4f^7 5d 6s^2$ mp: 1311˚C d: 7.89 g/cc Gadolinium	158.92534 65 **Tb** [Xe] $4f^9 6s^2$ mp: 1356˚C d: 8.27 g/cc Terbium	162.50 66 **Dy** [Xe] $4f^{10} 6s^2$ mp: 1409˚C d: 8.56 g/cc Dysprosium	164.93032 67 **Ho** [Xe] $4f^{11} 6s^2$ mp: 1474˚C d: 8.78 g/cc Holmium	167.26 68 **Er** [Xe] $4f^{12} 6s^2$ mp: 1529˚C d: 9.05 g/cc Erbium	168.9342 69 **Tm** [Xe] $4f^{13} 6s^2$ mp: 1545˚C d: 9.32 g/cc Thulium	173.04 70 **Yb** [Xe] $4f^{14} 6s^2$ mp: 819˚C d: 6.97 g/cc Ytterbium	174.967 71 **Lu** [Xe] $4f^{14} 5d 6s^2$ mp: 1663˚C d: 9.84 g/cc Lutetium
247.0703 96 **Cm** [Rn] $5f^7 6d 7s^2$ mp: 1345˚C d: 13.51 g/cc Curium	247.0703 97 **Bk** [Rn] $5f^9 7s^2$ mp: 986˚C d: 14.78 g/cc Berkelium	251.0796 98 **Cf** [Rn] $5f^{10} 7s^2$ mp: 900˚C d: 15.1 g/cc Californium	252.0829 99 **Es** [Rn] $5f^{11} 7s^2$ mp: 860˚C d: 8.84 g/cc Einsteinium	257.0951 100 **Fm** [Rn] $5f^{12} 7s^2$ mp: none d: none Fermium	258.0986 101 **Md** [Rn] $5f^{13} 7s^2$ mp: none d: none Mendelevium	259.1009 102 **No** [Rn] $5f^{14} 7s^2$ mp: none d: none Nobelium	262.11 103 **Lr** [Rn] $5f^{14} 6d 7s^2$ mp: none d: none Lawrencium

Table of Element Symbol, Oxidation States and Atomic Weights

Oxidation States (bold indicates most stable state, -- = unknown)
Atomic Mass based on the $^{12}C=12$

Element	Symbol	Oxidation States	Atomic Weight
Actinium	Ac	3	227.0278
Aluminum	Al	3	26.981539
Americium	Am	**3**,4,5,6	243.0614
Antimony	Sb	±**3**,5	121.757
Argon	Ar		39.948
Arsenic	As	±**3**,5	74.92159
Astatine	At	±**1**,3,5,7	209.9871
Barium	Ba	2	137.327
Berkelium	Bk	**3**,4	247.0703
Beryllium	Be	2	9.012182
Bismuth	Bi	**3**,5	208.98037
Bohrium	Bh	--	262.1229
Boron	B	3	10.811
Bromine	Br	±**1**,5	79.904
Cadmium	Cd	2	112.411
Calcium	Ca	2	40.078
Californium	Cf	3	251.0796
Carbon	C	2,±**4**	12.011
Cerium	Ce	**3**,4	140.115
Cesium	Cs	1	132.90543
Chlorine	Cl	±**1**,3,5,7	35.4527
Chromium	Cr	2,**3**,6	51.9961
Cobalt	Co	**2**,3	58.93320
Copper	Cu	1,**2**	63.546
Curium	Cm	3	247.0703
Dubnium	Db	--	262.1138
Dysprosium	Dy	3	162.50
Einsteinium	Es	3	252.0829
Erbium	Er	3	167.26
Europium	Eu	2,**3**	151.96
Fermium	Fm	3	257.0951
Fluorine	F	-1	18.9984032
Francium	Fr	1	223.0197
Gadolinium	Gd	3	157.25
Gallium	Ga	3	69.723
Germanium	Ge	4	72.61
Gold	Au	1,**3**	196.96654
Hafnium	Hf	4	178.49
Hassium	Hs	--	265
Helium	He		4.002602
Holmium	Ho	3	164.93032
Hydrogen	H	1	1.00794
Indium	In	3	114.818
Iodine	I	±**1**,5,7	126.9045
Iridium	Ir	2,3,**4**,6	192.22
Iron	Fe	2,**3**	55.847
Krypton	Kr		83.80
Lanthanum	La	3	138.9055
Lawrencium	Lr	3	262.11
Lead	Pb	**2**,4	207.2
Lithium	Li	1	6.941
Lutetium	Lu	3	174.967
Magnesium	Mg	2	24.3050
Manganese	Mn	**2**,3,4,6,7	54.93805
Meitnerium	Mt	--	266
Mendelevium	Md	2,3	258.0986
Mercury	Hg	1,**2**	200.59
Molybdenum	Mo	2,3,4,5,**6**	95.94
Neodymium	Nd	3	144.24
Neon	Ne		20.1797
Neptunium	Np	3,4,**5**,6	237.0482
Nickel	Ni	**2**,3	58.6934
Niobium	Nb	3,**5**	92.9064
Nitrogen	N	2,±**3**,4,5	14.00674
Nobelium	No	2,3	259.1009
Osmium	Os	2,3,**4**,6,8	190.23
Oxygen	O	-2	15.9994
Palladium	Pd	**2**,4	106.42
Phosphorus	P	±3,4,**5**	30.973762
Platinum	Pt	2,**4**	195.08
Plutonium	Pu	3,**4**,5,6	244.0642
Polonium	Po	2,**4**	208.9871
Potassium	K	1	39.0983
Praseodymium	Pr	3,**4**	140.9151
Promethium	Pm	3	146.9151
Protactinium	Pa	4,**5**	231.0359
Radium	Ra	2	226.0254
Radon	Rn		222.0176
Rhenium	Re	-1,2,4,6,**7**	186.207
Rhodium	Rh	2,**3**,4	102.9055
Rubidium	Rb	1	85.4678
Ruthenium	Ru	2,3,**4**,6,8	101.07
Rutherfordium	Rf	4	261.1087
Samarium	Sm	2,**3**	150.36
Scandium	Sc	3	44.95591
Seaborgium	Sg	--	263.1182
Selenium	Se	-2,**4**,6	78.96
Silicon	Si	4	28.0855
Silver	Ag	1	107.8682
Sodium	Na	1	22.989768
Strontium	Sr	2	87.62
Sulfur	S	±2,4,**6**	32.066
Tantalum	Ta	5	180.9479
Technetium	Tc	7	98
Tellurium	Te	-2,**4**,6	127.6
Terbium	Tb	**3**,4	158.92534
Thallium	Tl	**1**,3	204.3833
Thorium	Th	4	232.0381
Thulium	Tm	2,**3**	168.9342
Tin	Sn	2,**4**	118.710
Titanium	Ti	3,**4**	47.88
Tungsten	W	2,3,4,5,**6**	183.84
Uranium	U	3,4,5,**6**	238.0289
Vanadium	V	2,3,4,**5**	50.9415
Xenon	Xe		131.29
Ytterbium	Yb	2,**3**	173.04
Yttrium	Y	3	88.90585
Zinc	Zn	2	65.38
Zirconium	Zr	4	91.224

General Constants

Universal Gas Constant	R = 0.0821(Atm)(L)/(K)(mole)
Acceleration Due to Gravity	g = 32.17 ft/sec^2, 9.8 m/sec^2
Avogadro's Constant	N = 6.023 x 10^{23} molecules/mole
Speed of Light	c = 186,282 miles/sec, 3 x 10^{10} cm/sec
Heat of Fusion (water 1 atm, 0ºC)	ΔH_{fus} = 79.7 cal/g
Heat of Vaporization (water 1 atm, 100ºC)	ΔH_{vap} = 540 cal/g
Volume of Perfect Gas	22.4L/mol at 0ºC, 760 torr
Faraday's Constant	F = 96485.31 C/mol
Planck's Constant	h = 6.626 x 10^{-27} erg/sec
Bragg's Law	2d $n\lambda$ = 2d sin(θ)
Absolute Zero	-273.15 ºC
Temp. of Liquid Nitrogen	-195.8 ºC

Technical Reference

Solvent Miscibility Table, Density and Boiling Point

Solvent	Density @25°C	Boiling Point	Immiscible with
Acetic acid	1.049 g/mL	117-118°C	
Acetone	0.791 g/mL	56°C	
Acetonitrile (AcCN)	0.786 g/mL	81-82°C	
Benzene	0.874 g/mL	80°C	
2-Butanol	0.808 g/mL	98°C	
Butyl alcohol	0.81 g/mL	116-118°C	
tert-Butylmethyl ether (MtBE)	0.74 g/mL	55-56°C	
Carbon tetrachloride	1.594 g/mL	76-77°C	
Chloroform	1.492 g/mL	60.5-61.5°C	
Cyclohexane	0.779 g/mL	80.7°C	Acetonitrile
Cyclopentane	0.751 g/mL	50°C	Acetonitrile
Dichloroethane	1.256 g/mL	83°C	
N,N-Dimethylformamide (DMF)	0.944 g/mL	153°C	Cyclohexane, Cyclopentane
1,4-Dioxane	1.034 g/mL	100-102°C	
Dipropyl ether	0.736 g/mL	88-90°C	DMF
Ethyl acetate (EtOAc)	0.902 g/mL	76.5-77.5°C	
Ethyl alcohol (EtOH)	0.789 g/mL	78°C	
Ethyl ether	0.706 g/mL	34.6°C	
n-Heptane	0.684 g/mL	98°C	Acetonitrile, DMF
n-Hexane	0.659 g/mL	69°C	Acetonitrile, DMF
Isooctane	0.692 g/mL	98-99°C	Acetonitrile, DMF
Isopropyl alcohol	0.785 g/mL	82°C	
Methanol (MeOH)	0.791 g/mL	64.7°C	Cyclohexane, Cyclopentane, n-Heptane, n-Hexane, Isooctane
Methylene chloride (CH_2Cl_2)	1.325 g/mL	39.8-40°C	
Methyl sulfoxide (DMSO)	1.10 g/mL	189°C	Cyclohexane, Cyclopentane, Dipropyl ether, Ethyl ether, n-Heptane, n-Hexane, Isooctane
n-Pentane	0.626 g/mL	35-36°C	Acetonitrile, DMF, Methanol, DMSO
1,1,2,2-Tetrachloroethane	1.586 g/mL	147°C	
Tetrahydrofuran (THF)	0.889 g/mL	65-67°C	
Toluene	0.865 g/mL	110-111°C	
Trichloroethane	1.336 g/mL	74-76°C	
Water	1 g/mL	100°C	Benzene, 2-Butanol, Butyl alcohol, Carbon tetrachloride, Chloroform, Cyclohexane, Cyclopentane, Dichloroethane, Dipropyl ether, Ethyl acetate, Ethyl ether, n-Heptane, n-Hexane, Isooctane, Methylene chloride, n-Pentane, 1,1,2,2-Tetrachloroethane, Toluene, Trichloroethane
Xylene	0.868 g/mL	138-139°C	DMF, DMSO, Water

Miscible / Immiscible

Read down column and across for solvent miscibility

Density@25°C
Boiling Point

Unit Conversions

Temperature		
ºFahrenheit	ºCelsius	(ºF - 32) x 5/9
ºCelsius	ºFahrenheit	(ºC x 9/5) + 32
ºCelsius	ºKelvin	ºC + 273
Mass		
1 ounce	= 28.4 grams	
0.03527 grams	= 1 ounces	
Liquid Volume		**Multiply by**
Ounces (US)	Milliliters	29.57
Pints (US)	Liters	0.47
Quarts (US)	Liters	0.95
Gallons (US)	Liters	3.8
Milliliters	Ounces (US)	0.034
Liters	Pints (US)	2.1
Liters	Quarts (US)	1.06
Liters	Gallons (US)	0.26
Cubic Feet	Cubic meters	0.03
Cubic Yards	Cubic meters	0.76

1 ppm = 1 µg/mL (wt. /vol.) and
1 ppm = 1 µg/g (wt./wt.)
1% = 10,000 ppm (parts per million)
1 ppm = 1,000 ppb (parts per billion)
1 ppb = 1,000 ppt (parts per trillion)

1 g = 1,000 mg (milligram)
1 mg = 1,000 µg (microgram)
1 µg = 1,000 ng (nanogram)

1 L = 1,000 mL (milliLiter)
1 mL = 1,000 µL (microLiter)
1 µL = 1,000 nL (nanoLiter)

Abbreviations

AA	Atomic Absorption
ACS	American Chemical Society
ANSI	American National Standards Institute
AOAC	Association of Official Analytical Chemists
APHA	American Public Health Association
ASTM	American Society for Testing Materials
BSI	British Standards Institute
CAS	Chemical Abstracts Service
CI	Color Index
EPA	U.S. Environmental Protection Agency
GLC	Gas Liquid Chromatography
GR	Guaranteed Reagent
ICP	Inductively Coupled Plasma
IR	Infrared
KF	Karl Fischer
meq	Milliequivalent
NF	National Formulary
NIST	National Institute of Standards and Technology
OSHA	Occupational Safety and Health Administration
RFA	Renewable Fuel Association
SPE	Solid Phase Extraction
TLC	Thin Layer Chromatography
USDA	U.S. Department of Agriculture
USP	U.S. Pharmacopoeia

Instrumentation for Analysis

GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectroscopy
GC/FID	Gas Chromatography/Flame Ionization Detector
GC/PID	Gas Chromatography/Photoionization Detector
GC/ECD	Gas Chromatography/Electron Capture Detector
GC/ELCD	Gas Chromatography/Electrolytic Conductivity Detector
GC/NPD	Gas Chromatography/Nitrogen phosphorus Detector
HPLC	High Performance Liquid Chromatography
NPD/TEA	Nitrogen-Phosphorus Detector/Thermal Energy Analyzer with the reductive Hall detector
TCD/FID	Thermal Conductivity Detector/ Flame Ionization Detector
NPD/AFD/TSD	Nitrogen-Phosphorus Detector/Alkali-Flame Detector/Thermionic Specific Detector
NPA/ELCD/FPD	Nitrogen-Phosphorus Detector/ Electrolytic Conductivity Detector/Flame Photometric Detector
HRGC/LRMS	High Resolution Gas Chromatography/Low Resolution Mass Spectrometry
FTIR	Fourier Transform Infrared

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2,3,6-Trichlorobiphenyl	30
2,3'6-Trichlorobiphenyl	30
2,4,4'-Trichlorobiphenyl	30
2,4,5-Trichlorobiphenyl	30
2,4'5-Trichlorobiphenyl	30,229
2,4,6-Trichlorobiphenyl	30,37
2,4'6-Trichlorobiphenyl	30
3,3'4-Trichlorobiphenyl	30
3,3'5-Trichlorobiphenyl	30
3,4,4'-Trichlorobiphenyl	30
3,4,5-Trichlorobiphenyl	30
3,4'5-Trichlorobiphenyl	30
2,4,8-Trichlorodibenzofuran	52
1,2,3-Trichlorodibenzo-p-dioxin	50
1,2,4-Trichlorodibenzo-p-dioxin	50
1,7,8-Trichlorodibenzo-p-dioxin	50
2,3,7-Trichlorodibenzo-p-dioxin	50
1,1,1-Trichloroethane	90,139,213,260
1,1,2-Trichloroethane	90,139,213
Trichloroethene	90,139,260
Trichloroethylene	213
Trichlorofluoromethane	90,115,118,122,139,213
Trichloronate	83,139
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2,4,5-Trichloronitrobenzene	67
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2,3,5-Trichlorophenol	94
2,3,6-Trichlorophenol	94,178
2,4,5-Trichlorophenol	94,139,154,155,213,227
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3,4,5-Trichlorophenol	94,139
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2,3,6-Trichlorophenyl-4-nitrophenyl ether	48,97,233
2,3,4-Trichlorophenyl-4-nitrophenyl ether	48,97,233
2,3,5-Trichlorophenyl-4-nitrophenyl ether	48,97,233
2,4,5-Trichlorophenyl-4-nitrophenyl ether	48,97,233
2,4,6-Trichlorophenyl-4-nitrophenyl ether	48,97,233
3,4,5-Trichlorophenyl-4-nitrophenyl ether	48,97,233
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Tricyclazole	83,139
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Triethanolamine	117
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o,o,o-Triethylphosphorothioate	83,139
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Triflumizole	83
Triflumuron	83
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1,1,1-Trifluoroethane	122,139
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a,a,a-Trifluorotoluene	139
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3,4,5-Trimethacarb	83,139
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1,3,5-Trimethylbenzene	90,139
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Zineb	83
Ziram	83,139
Zirconium	117

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AS Tech. Rep.	_____	Product Ordering #	_____
Quote Creation Date	_____	Quoted price $	_____

No. of Comps. ____

Product Description _____

Concentration _____

Solvent / Matrix _____

Requested Quantity

Organic

- ☐ 5 x 1 mL
- ☐ 10 x 1 mL
- ☐ 20 x 1 mL
- ☐ other ___ x ___

Inorganic

- ☐ 1 x 500 mL
- ☐ ___ x 500 mL

	Component (s)	CAS No. (optional)	Concentration (if varied)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Concentration Units

- ☐ ng/mL
- ☐ µg/mL
- ☐ mg/mL
- ☐ wt. %
- ☐ vol. %

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