



**TECHSPRAY®**

Electronic Assembly Cleaners

*Water Based & Solvent Defluxers • Stencil Cleaners • Oven Cleaner • Surface Cleaners*



**NEW!**

**ECO-STENCIL**



**TECHSPRAY  
RENEW™**

*High Performance Eco-Cleaning™*



**TECHSPRAY®**

## Electronic Assembly Cleaners

*The Complete Solution...  
Solvent & Water-Based*

**Techspray, with over 40-years of experience,** offers one of the broadest, most effective lines of electronic assembly cleaners. TECHSPRAY RENEW™ is a premium brand of eco-friendly water-based cleaners, including new Eco-dFluxer SMT100 and Eco-Stencil RF. TECHSPRAY® is a high-precision brand of solvent cleaners, including Precision-V for vapor-degreasers. **Precision, safety, and performance...Techspray engineers advanced chemistries to improve your products and processes.**

	WATER-BASED						SOLVENT-BASED						
	1502 Pine-Shower	1550 Eco-dFluxer	1570 Eco-Stencil UM	1571 Eco-Stencil RF	1572 Eco-Stencil AQ	1573 Eco-Oven	1621 Ecoline	1631 / 1634 G3	1638 G3 Bulk	1651 Precision-V	1652 Plastic-Safe	1654 / 1655 Vap-Degr	1608 / 1610 IPA**
PCB CLEANING													
Inline defluxing		●											
Batch defluxing		●											
Ultrasonic defluxing		●					*	●	●	●			
Vapor-Degreaser defluxing											●		
Manual defluxing							●	●	●	●			●
Misprinted board cleaning - batch				●	●								●
Misprinted board cleaning - manual			●										●
STENCIL CLEANING													
Manual stencil cleaning			●	●									●
Batch stencil cleaning				●	●								●
Understencil cleaning			●	●									●
Blade & tool cleaning			●										●
MAINTENANCE CLEANING													
Oven cleaning						●							●
Pallet cleaning						●							●
Wave finger cleaning						●							●
ESD mat & table-top cleaning	●												
Equipment surface cleaning	●		●										
GENERAL & INDUSTRIAL CLEANING													
Vapor-Degreaser degreasing											●		
Ultrasonic degreasing	●						*	●	●	●	●		
Manual degreasing	●						●	●	●	●			●
Work surface cleaning	●												

NOTE: Test for substrate compatibility as a part of your qualification process.

\* non-heated ultrasonic only

\*\* information on IPA and additional solvent products are available in full Techspray catalog or [www.techspray.com](http://www.techspray.com).



High Performance Eco-Cleaning™

**NEW!**



## Eco-dFluxer SMT100

*Water-based Inline & Batch Flux Remover*

Eco-dFLuxer SMT100 is a water-based, environmentally friendly cleaner that is designed to work in both inline and batch cleaning equipment. An optimal combination of solvents and saponifiers lowers surface tension for penetration under low stand-offs, and powerful cleaning action to remove all flux residues.

Effective on a wide variety of solders and fluxes: Lead, Lead-Free, Aqueous, RMA, No-Clean, and new halide-free fluxes. High compatibility with common PCB metals & plastics. Eco-dFluxer SMT100 is highly filterable with long bath life. Moderate pH avoids many disposal issues.

High performance cleaning gives you brilliant solder joints and allows you to increase dilution, increase line speeds, reduce waste water, decrease cost per board, and most importantly...

**eliminate field failures due to ionic contamination!**

Eco-dFLuxer SMT100 is fully compliant with California CARB requirements. Also compliant with European REACH and WEEE initiatives. It does not contain RoHS restricted substances, SVHC listed substances, or halides.



photo courtesy of Speedline Electrovert

- Effective on a wide variety of solders and fluxes
- Non-flammable
- Ultra rinsable
- High compatibility with common PCB metals & plastics
- Highly concentrated – 10%-20% dilution
- Biodegradable
- Low VOC, zero GWP
- Non-ozone depleting
- Halide-Free

<b>1550-G</b>	1 gal. (3.8L) plastic container
<b>1550-5G</b>	5 gal. (19L) plastic container
<b>1550-54G</b>	54 gal. (205L) plastic drum



5 gal. (19L)

54 gal. (205L)

## Defoamer DF1

*Defoaming agent for Eco-dFluxer SMT100*

Reduce foaming as cleaner becomes loaded to extend bath life. Add directly to sump at 1 to 4 fl oz. (30-120ml) per 100 gallons (379L). Dilute in spray bottle to 15% with DI water to eliminate foaming issue on the spot.

- Effective at all processing temperatures
- Extends bath life
- Silicone & particulate free
- Non-flammable

<b>1555-P</b>	1 pt. (0.47L) plastic container
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**NEW!**


### Eco-Stencil RF

#### Rinse-Free Batch Stencil Cleaner

Eco-Stencil RF is an effective non-flammable drop-in replacement for isopropyl alcohol (IPA) and other solvents commonly used in rinse-free batch stencil cleaning systems. Unique solvent and DI water blend is effective at removing a wide variety of pastes and adhesives. Higher concentration can be used for more difficult pastes and adhesives.

Eco-Stencil RF does not contain ionics, and will not leave contaminants that will change downstream process windows or lead to board failures. It can also be used as a manual and under-stencil cleaner.

- Rinse-free
- Drop in replacement for IPA
- Non-flammable
- Effective at ambient temperature
- Low VOC, zero GWP
- Highly concentrated down to 20%

**1571-G** 1 gal. (3.8L) plastic container  
**1571-5G** 5 gal. (19L) plastic container  
**1571-54G** 54 gal. (205L) plastic drum



Photo courtesy of Austin American Technology

### Eco-Stencil AQ

#### Water-Based Batch Stencil Cleaner

When a water rinse is a part of the cleaning process, Eco-Stencil AQ provides an economical, yet powerful cleaning solution. This water-based cleaner uses the latest environmentally friendly surfactants to break down pastes and adhesives. Concentrated formula saves shipping and storage cost.

Drop-in replacement for semi-aqueous and aqueous cleaners. Eco-Stencil AQ is compatible with the most popular cleaning equipment and works with current filtration methods, providing a long bath life and minimized disposal cost.

- Biodegradable
- Non-flammable
- Low VOC, zero GWP
- For use in batch stencil cleaners with automatic or manual rinse
- Highly concentrated – 10% dilution

**1572-G** 1 gal. (3.8L) plastic container  
**1572-5G** 5 gal. (19L) plastic container  
**1572-54G** 54 gal. (205L) plastic drum



1571-G

1571-5G



1572-G

1572-5G



1570-QT

1570-G

1570-100DSP

## Eco-Stencil UM

### Manual & Under Stencil Cleaner

Effectively removes all types of solder paste and uncured adhesive from screens, misprinted boards and equipment. Completely safe on stencils, squeegees, and equipment surfaces. Ideal replacement for IPA cleaners, which are often prohibited because of safety, environmental restrictions on VOC emissions, or waste disposal issues.



Convenient pre-saturated wipes available in a pop-up dispenser. Wipe material is lint-free and resistant to tearing and shredding.

- Quickly clean paste or uncured adhesive
- Safe for stencils, tools, misprinted boards
- Non-flammable
- Biodegradable
- Low VOC, zero GWP

#### Applications:

- Manual stencil tool, work surface, and squeegee cleaning
- Automatic underside wipe stencil cleaning
- Removes unsoldered leaded & lead-free solder pastes
- Cleans off uncured adhesives

<b>1570-100DSP</b>	100 count pre-saturated wipes, (15cm x 20cm)
<b>1570-QT</b>	1 qt. (0.95L) w/ trigger sprayer
<b>1570-G</b>	1 gal. (3.8L) plastic container
<b>1570-GX10</b>	1 gal. (3.8L) concentrate makes 10 gallons (38L)



1573-QT

1573-G

## Eco-Oven

### Reflow Oven, Wave Finger & Pallet Cleaner

Cleans reflow ovens, wave soldering systems, associated heat exchanger systems, wave fingers, and solder pallets by removing all types of flux residues. Used for periodic preventative maintenance to keep equipment performing at peak levels. It is fast acting and more effective than IPA for baked-on flux residues.



- Quickly clean flux residue from oven & wave fingers
- Non-flammable
- Safe on warm ovens
- Biodegradable
- Low VOC, zero GWP

#### Applications:

- Removal of baked-on flux residues from SMT oven and wave equipment
- Maintenance cleaning for heat exchange systems  
(NOTE: important to rinse thoroughly from aluminum and copper)
- Finger cleaning in all brands of wave solder equipment
- Remove accumulated flux from wave solder pallets



Wave fingers

<b>1573-QT</b>	1 qt. (0.95L) w/ trigger sprayer
<b>1573-G</b>	1 gal. (3.8L) plastic container
<b>1573-5G</b>	5 gal. (19L) plastic container

## Pine-Shower

### Surface & Equipment Cleaner

Leveraging the cleaning power of pine, **Pine-Shower** quickly removes flux residues, grease and other soils, and leaves a non-oily finish. Safe on ESD-safe mats, work benches and equipment surfaces. Does not contain butyl cellosolve, which is an unhealthy ingredient in many degreasers and surface cleaners. Free of ionics and silicones that can contaminate PCB's and lead to board failure.

- Clean flux and oils from equipment & surfaces
- Safe on most plastics and painted surfaces
- Concentrated and dilutable
- Biodegradable
- Non-flammable
- Low VOC, zero GWP
- pH in neutral range – non-corrosive

<b>1502-QT</b>	1 qt. (0.95L) w/ trigger sprayer
<b>1502-G</b>	1 gal. (3.8L) plastic container
<b>1502-5G</b>	5 gal. (19L) plastic container



1502-QT

1502-G

## Ecoline Flux Remover

Hydrocarbon-based defluxer formulated to be powerful, yet very economical. Eliminates brushing and scrubbing, saving time and materials.

- Powerful cleaner
- Proven effective for lead-free processes
- Ideal for sensitive plastics
- Non-ozone depleting

Specifications: GM H1013; USDA Accepted; Ford Tox #142431, USDA: Approved K-2 rated aerosol and bulk.

<b>1621-10S</b>	10 oz. (398ml) aerosol
<b>1621-5G</b>	5 gal. (18.9L) metal drum
<b>1621-54G</b>	54 gal. (204L) metal drum



1621-10S



## Flux Remover

Patented defluxer formulated to be powerful and non-flammable, yet economical. Eliminates brushing and scrubbing, saving time and materials.

- Non-flammable
- Powerful cleaner
- Proven effective for lead-free processes
- Non-ozone depleting

Specifications: B-28680, Ford Tox #167834

<b>1631-5S</b>	5 oz. (115ml) aerosol w/brush attachment
<b>1631-16S</b>	16 oz. (368ml) aerosol



1631-16S



## Flux Remover & Maintenance Cleaner

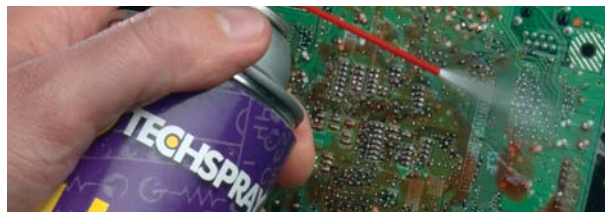
Formulated to reduce VOCs within your facility. Ideal for aviation and other applications where strict VOC caps apply (based on EPA VOC exemptions). Bulk chemicals ideal for cold/bucket cleaning and ultrasonics (not intended for vapor degreaser).

- Non-flammable
- Safe on most plastics
- High precision – residue-free
- Rapid evaporation
- Non-corrosive
- Low toxicity

<b>1651-16S</b>	16 oz. (368ml) aerosol
<b>1651-P</b>	1 pint (0.47L) glass bottle
<b>1651-G</b>	1 gal. (3.8L) glass bottle
<b>1651-5G</b>	5 gal. (18.9L) metal drum



1651-16S



## No-Clean Flux Remover

The power of G3, but specifically formulated to avoid and clean white residues caused by no-clean fluxes.

- Non-flammable
- Ideal for no-clean fluxes
- Proven effective for lead-free processes
- Non-ozone depleting

<b>1634-12S</b>	12 oz. (276ml) aerosol
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1634-12S



## Universal Bulk Cleaner

Powerful, non-flammable bulk cleaner that is ideal for manual cleaning of R, RA and no-clean fluxes.

- Non-flammable
- Powerful cleaner
- All-in-one degreaser and defluxer



5G drum

1638-G

<b>1638-G</b>	1 gal. (3.8L) in glass
<b>1638-5G</b>	5 gal. (18.9L) metal drum
<b>1638-54G</b>	54 gal. (204L) metal drum



## Plastic-Safe Universal Cleaner

Plastic-Safe formula is engineered for use on sensitive plastic components, packaging and casements. Ideal for optics cleaning, critical electronics and other sensitive surfaces. Qualifies under the aerospace NESHAP VOC guidelines.

- Non-flammable
- Low VOC
- Safe on sensitive plastics
- High precision – residue-free
- Non-ozone depleting

Specifications: NESHAP 63.741-753

<b>1652-10S</b>	10 oz. (208ml) aerosol
<b>1652-P</b>	1 pint (0.47L) glass bottle
<b>1652-G</b>	1 gal. (3.8L) glass bottle



1652-10S





## Vapor-Degreaser Solvents

Ideal replacement for AK225-based cleaners, which will be phased out by 2015 due to ozone depletion restrictions.

(See side bar at below)

Azeotropic properties that allow it to maintain stable as it is cycled in a vapor-degreaser. It is not reactive nor corrosive to metals commonly found in the construction of vapor-degreasers.

Exposure to Precision-V solvents is less hazardous than many other solvents commonly used in vapor-degreasers: e.g. TCE, nPB, and Perc.

Precision-V solvents have a lower boiling point than most other vapor-degreaser solvents. This reduces heat-stress on components being cleaned and reduces energy consumption from the boil sump and chiller coils.



## Vapor-Degreaser Parts Cleaner

Precision-V Parts Cleaner removes oils, greases, silicones and other common industrial contaminants.

- Non-flammable
- Low VOC
- Safe on most plastics
- Rapid evaporation
- Residue-free
- Non-ozone depleting

<b>1654-G</b>	1 gal. (3.8L) in glass bottle
<b>1654-5G</b>	5 gal. (18.9L) metal drum
<b>1654-54G</b>	54 gal. (204L) metal drum

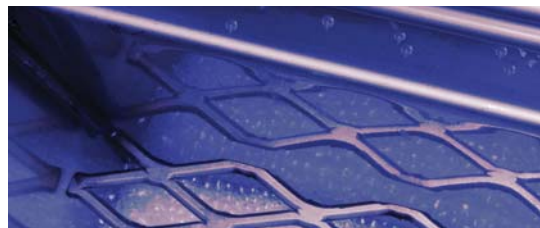


## Vapor-Degreaser Flux Remover

Precision-V Flux Remover cleans R, RA, RMA and SA type flux residues after high temperature reflow, wave and hand-soldering. Ideal for lead and lead-free processes.

- Non-flammable
- Low VOC
- Safe on most plastics
- Rapid evaporation
- Residue-free
- Non-ozone depleting

<b>1655-G</b>	1 gal. (3.8L) in glass bottle
<b>1655-5G</b>	5 gal. (18.9L) metal drum
<b>1655-54G</b>	54 gal. (204L) metal drum



## AK225 2015 PHASE-OUT

### About AK225 Phase-Out

The EPA has mandated, under obligations set by the Montreal Protocol, the phase out of AK225 products by 2015.

AK225 blends are commonly used in vapor-degreaser cleaning in applications where aggressive cleaning without residue is required. Because AK225 is an HCFC, it is ozone depleting and scheduled for phase-out by 2015.

All virgin AK225 usage, except in a very small set of exemptions (e.g. defense), will be banned along with production and importation.

### Techspray Has A Solution!

The dates have been set, but all the specific requirements are not in place. We expect ever tightening restrictions to be enacted before 2015, at the national, state, and municipal level. We recommend starting the qualification process now to avoid sudden restrictions hindering your output.

Techspray has developed Precision-V solvent cleaners to replace AK225 solvents. Precision-V is formulated to maintain the benefits of AK225: non-flammability, plastic-safety, and azeotropic properties (for vapor-degreasers).

# TECHLAB

## Techspray's Cleaning & Coating Application Lab

**Techspray combines over 30-years' experience developing high precision cleaners and conformal coatings, giving us a unique perspective of these inter-related processes.**

Techspray's TechLab offers a state-of-the-art cleaning, coating and analytical services to help customers optimize their processes. Cleaning equipment includes inline, batch, ultrasonic, and vapor-degreasing systems. This equipment allows us to better duplicate your production environment for process optimization and troubleshooting.

Techspray has access to ultra-sensitive analytical equipment to not only detect contamination, but to speciate the residues to determine whether or not they may lead to current leakage, electrochemical migration, and even board failure. Testing & analytical capabilities include:

- Ion chromatography (IC) for ionic cleanliness
- SIR testing for materials and finished assemblies
- Electromigration test
- R.O.S.E. testing for general ionic measurements
- High magnification digital photo documentation



Photo courtesy of Foresite

Localized extraction system seals over specific components.



### Ultra-Sensitive Extraction Method

TechLab uses a localized extraction method, which seals over troublesome areas of the board and injects high temperature steam, and then collects the affluent for analysis. This method is the most sensitive extraction process available, allowing identification of ionic contamination that other methods commonly miss.

### Techspray... in good company within ITW

Techspray is a part of Illinois Tool Works (ITW) with sister companies like a world-class soldering and flux supplier, and leading manufacturers of PCB assembly equipment. Synergies with ITW companies allow Techspray to effectively identify and solve cleaning and coating process issues.

Techspray also has access to the ITW Tech Center, a centralized group of engineers and scientists armed with the latest testing and analytical technologies, with locations in both Chicago, Illinois USA and Shanghai, China.

### Free TechLab Qualification Testing

Contact Techspray for free TechLab qualification testing. We are available to help qualify new cleaning processes, evaluate current processes, or troubleshoot contamination issues. We can test actual production samples or use our specially designed cleanliness testing board.

*Let's work together to optimize your cleaning process.*



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SCAN FOR MOBILE SITE

