2017 product catalog

Superior products for electronic prototyping, assembly and maintenance
n-propyl bromide (also known as nPB or 1-Bromopropane, CAS 106-94-5) is under close scrutiny by local and national government officials and health and safety managers because of safety concerns. Studies have shown that exposure to nPB can cause negative neurological and reproductive effects. The National Toxicology Program (NTP) has stated that nPB is “reasonably anticipated to be a human carcinogen”, based on increased lung, large intestine and skin cancers observed in animal studies. OSHA has issued a Hazard Alert detailing worker safety concerns. The American Conference of Governmental Industrial Hygienists (ACGIH) recommends a 10 ppm time-weighted average threshold limit, but has proposed a lower 0.1 ppm (ACGIH 2013). (Source: OSHA Hazard Alert - https://www.osha.gov/dts/hazardalerts/1bromopropane_hazard_alert.html)

Safety, regulatory and liability concerns are driving the change from nPB, and Chemtronics® has the ideal replacements with Tri-V™ High Performance Solvents. Electro-Wash® Tri-V, Max-Kleen™ Tri-V, and Flux-Off® Tri-V offer the cost and cleaning performance of nPB, but with much greater safety!
**Electro-Wash® Tri-V**
Extra-strength, nonflammable electronics cleaner degreaser for replacing n-propyl bromide
- Nonflammable
- Can be used on energized equipment
- Fast drying
- Does not contain n-propyl bromide, trichloroethylene, or perchloroethylene

<table>
<thead>
<tr>
<th>Cleaner Degreasers</th>
<th>Plastic-Safe</th>
<th>Non Ozone Depleting Chemicals</th>
<th>Dries Fast</th>
<th>Dielectric Breakdown (Aerosol)</th>
<th>Grease</th>
<th>Oil</th>
<th>Ionic Soils</th>
<th>Aerosol Spray</th>
<th>Vapor Degreasing</th>
<th>Ultrasonics</th>
<th>Rot Immersion</th>
<th>Cold Immersion</th>
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**Electro-Wash® Delta**
Extra-strength, nonflammable electronics cleaner degreaser
- Nonflammable
- Best AK225 replacement chemistry
- Fast drying
- Contains no ozone depleting compounds, low VOC’s

<table>
<thead>
<tr>
<th>Cleaner Degreasers</th>
<th>Plastic-Safe</th>
<th>Non Ozone Depleting Chemicals</th>
<th>Dries Fast</th>
<th>Dielectric Breakdown (Aerosol)</th>
<th>Grease</th>
<th>Oil</th>
<th>Ionic Soils</th>
<th>Aerosol Spray</th>
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**Industrial Degreasers**

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<th>Cleaner Degreasers</th>
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<th>Non Ozone Depleting Chemicals</th>
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<th>Dielectric Breakdown (Aerosol)</th>
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</table>

1 – Excellent 2 – Good 3 – Fair
Electro-Wash® High Purity Solvents are the most effective products made for critical cleaning and degreasing. Each cleaner is engineered for specific applications — from precision cleaning of sensitive equipment to heavy duty degreasing. Electro-Wash® cleaner degreasers clean a wide variety of soil, oil, grease, oxides and handling contamination from equipment and assemblies.

**Electro-Wash® QD**
Fast drying, nonflammable electronics cleaner degreaser
- Nonflammable, nonchlorinated
- Excellent material compatibility
- Displaces moisture
- Evaporates fast, minimizes down time

DEL1608B 12 oz / 340 g aerosol

**Electro-Wash® VZ**
Economical, non-ozone depleting, nonflammable universal cleaner degreaser
- Nonflammable
- One cleaner for all soil types
- Low odor
- Evaporates quickly without leaving residue
- Penetrates to clean hard to reach areas

ES6100 12 oz / 340 g aerosol
ES6119 19 oz / 538 g aerosol
ES6101 1 gal / 3.7 L liquid
ES6155 53 gal / 200 L liquid
**Electro-Wash® MX**
Extra-strength, plastic safe universal cleaner with moderate evaporation time
- Safe on plastics
- Flammable
- Extra cleaning strength
- Moderate evaporation rate increases cleaning power
- Leaves no residue
- Removes organic and ionic soils

ES1621 10 oz / 283 g aerosol
CP421 25 - 8" x 10" / 20.3 cm x 10" / 25.4 cm premoistened wipes (9 ml each)
FW2150 9 g / 0.32 oz pen

**Electro-Wash® CZ**
Non-ozone depleting, nonflammable cleaner degreaser safe for use on plastics
- Safe on plastics
- Nonflammable
- Dries fast
- Leaves no residue

ES7100 12 oz / 340 g aerosol
ES7101 1 gal / 3.7 L liquid

**Electro-Wash® NXO**
Extra-strength, nonflammable cleaner degreaser
- Nonflammable
- Extra cleaning strength
- Dries fast
- Leaves no residue
- Test on plastics

ES1607 12 oz / 340 g aerosol
ES107 1 gal / 3.7 L liquid

**Electro-Wash® NXO**
Extra-strength universal cleaner and degreaser safe for use on plastics
- Safe on plastics
- Flammable
- Extra cleaning strength
- Dries fast
- Leaves no residue
- Removes organic and ionic soils

ES810 5 oz / 141 g trigger aerosol
ES1210 12.5 oz / 354 g aerosol
ES110 1 gal / 3.7 L liquid

**Electro-Wash® Two Step**
Extra-strength, nonflammable ultrasonic and immersion cleaner
- Nonflammable
- Extra cleaning strength
- Leaves no residue when rinsed with Electro-Wash PX or Electro-Wash CZ
- Increasing temperature increases solvency

ES125A 1 gal / 3.7 L liquid

**Electro-Wash® PR**
Regular-strength cleaner safe for use on plastics
- Safe on plastics
- Flammable
- Dries fast
- Leaves no residue

ES1603 10 oz / 283 g aerosol
Max-Kleen™ Heavy-Duty Degreasers rise to the challenge of your most difficult jobs. These industrial strength cleaners offer fast, easy removal of grease, tar, asphalt, oil and grime. The extra-strength your toughest degreasing jobs require.

Max-Kleen™ Tri-V™ Extra-strength, nonflammable heavy duty degreaser for replacing n-propyl bromide
- Nonflammable
- Can be used on energized equipment
- Fast drying
- Does not contain n-propyl bromide, trichloroethylene, or perchloroethylene

Max-Kleen™ Citrus Citrus-based extra-strength degreaser
- Citrus-based formula
- Engineered for fast removal of oxidized grease, sludge, wax, tar and oil
- Dielectric strength of 62 kV
- Does not contain chlorinated solvents
- Safe on most metals and plastics
- Non-corrosive and nonconductive
- NSF Registered — Nonfood Compounds/Code C1

Max-Kleen™ Citrus HF High flashpoint citrus-based degreaser for heavy greases
- Citrus-based formula with moderate evaporation
- Quickly removes all types of tough soils including oxidized oil and grease
- Safe for use on most metals and plastics
- Flashpoint greater than 140°F
- Non-corrosive and nonconductive
- Low Toxicity
- Leaves no residue
Pow-R-Wash™ Delta
Nonflammable cleaner safe for use on powered-up contacts and surrounding plastics
- Nonflammable
- Best AK225 replacement chemistry
- Fast drying
- Dielectric breakdown 30 kV
- Contains no ozone depleting compounds, low VOC’s

DEL1681  12 oz / 340 gm aerosol

Pow-R-Wash™ PR
Regular-strength contact cleaner safe for use on plastics
- Safe on plastics
- Flammable
- Dielectric breakdown of 44 kV
- Dries fast
- Leaves no residue

ES1605  10 oz / 283 g aerosol

Pow-R-Wash™ High Purity Formulations
remove environmental contaminants and protect contacts from corrosion and frictional wear. Contact cleaners restore electrical continuity to all electronic and electrical contacts by penetrating and removing insulating oil and grease, conductive carbon soil, and insulative oxides from contact surfaces. By restoring full circuit continuity, Chemtronics contact cleaners improve the performance of all equipment that rely on electrical contacts.

Product Selection Guide

<table>
<thead>
<tr>
<th>Cleaner Degreasers</th>
<th>Plastic-Safe</th>
<th>Nonflammable</th>
<th>Cleaning Strength</th>
<th>No Ozone Depleting Chemicals</th>
<th>Dries Fast</th>
<th>For Use on Live Circuits</th>
<th>Dielectric Breakdown</th>
<th>Lubricates</th>
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R – Regular Strength  X – Extra Strength  * For lubrication only

Strongest Cleaner

Most Plastic-Safe
Contact Cleaners / Lubricant

**Pow-R-Wash™ CZ**
Non-ozone depleting, nonflammable contact cleaner safe for use on powered-up contacts and surrounding plastics
- Safe on plastics
- Nonflammable
- Dielectric strength of 31 kV
- Evaporates quickly without leaving residue
- Dries fast
- Leaves no residue

ES7300 12 oz / 340 g aerosol

**Pow-R-Wash™ VZ**
Economical non-ozone depleting, nonflammable contact cleaner safe for use on live circuits
- Nonflammable
- Dielectric breakdown of 15 kV
- Noncorrosive
- Evaporates quickly without leaving residue
- Test on plastics
- Ideal AK225 replacement

ES6300 12 oz / 340 g aerosol
ES6301 1 gal / 3.7 L liquid

**Pow-R-Wash™ Cable Cleaner**
Extra-strength, plastic safe cable and contact cleaner with a moderate evaporation time
- Safe on plastics
- Flammable
- Dielectric breakdown of 63 kV
- Leaves no residue

ES2425 13.5 oz / 385 g aerosol

**Tun-O-Wash® Cleaner**
Universal fast drying cleaner for electromechanical and electronic tuners
- Safe on plastics
- Flammable
- Dries fast
- Leaves no residue
- Cleans hard-to-reach areas

ES2400 12.5 oz / 354 g aerosol

**DPL® Deep Penetrating Lubricant**
Deep penetrating lubricant to displace moisture and inhibit corrosion
- Restores, rejuvenates, protects and preserves contacts
- Foaming spray penetrates deeply to remove moisture and condensation
- Loosens, cleans, lubricates and protects frozen or corroded parts
- Dielectric strength of 30 kV
- Contains no chlorinated solvents or silicone
- Non-corrosive and nonconductive
- Safe on metals and plastics
- NSF Registered — Nonfood Compounds/Code H2

ES1626 11 oz / 322 g aerosol
Flux removal is critical to insure reliable circuitry. Not only unsightly, flux residue can promote short circuits and corrosion, degrading or destroying the printed circuit board. **Flux-Off® Flux Removers** are specially formulated to remove all types of lead-free, rosin (types R, RA and RMA), no-clean, water soluble and synthetic flux.

**Flux-Off® Delta**
Extra strength, nonflammable solvent that removes heavy and encrusted flux deposits
- Nonflammable
- Best AK225 replacement chemistry
- Fast drying
- Contains no ozone depleting compounds, low VOC’s

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<tr>
<th>Code</th>
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<td>DEL892B</td>
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<td>DEL552</td>
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**Flux-Off® Tri-V™**
Extra strength, nonflammable flux remover for replacing n-propyl bromide
- Nonflammable
- Can be used on energized equipment
- Fast drying
- Does not contain n-propyl bromide, trichloroethylene, or perchloroethylene

<table>
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### Flux Removers

#### Product Selection Guide

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<td>2 – Good</td>
<td>NR – Not Recommended</td>
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</table>

#### Flux-Off® VZ
Economical, non-ozone depleting, nonflammable flux remover
- Nonflammable
- Cleans R, RMA, RA, and no-clean flux
- Low odor
- Dries fast
- Leaves no residue
- Test on plastics

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<thead>
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<td>53 gal / 200 L liquid</td>
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#### Flux-Off® CZ
Non-ozone depleting, nonflammable flux remover safe for use on plastics
- Safe on plastics
- Nonflammable
- Cleans R, RMA, RA, and no-clean flux
- Dries fast
- Leaves no residue

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<th>ES7200</th>
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<tr>
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#### Flux-Off® Complete
Powerful, economical flux remover for cleaning no-clean flux
- Cleans R, RMA, RA, and no-clean flux
- Dries fast
- Leaves no residue
- Flammable

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<td>ES5598</td>
<td>53 gal / 200 L liquid</td>
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</table>
Flux Removers

Flux-Off® Lead-Free
Powerful flux remover for high temperature, lead-free flux removal
- Engineered for removing high temperature, lead-free flux
- Can also be used to remove tin/lead fluxes
- Flammable
- Evaporates quickly without leaving residue
ES1697 12 oz / 340 g aerosol
ES897B 6 oz / 170 g BrushClean™ System
ES197 1 gal / 3.7 L liquid
ES5597 55 gal / 208 L liquid

Flux-Off® Heavy-Duty
Heavy-duty flux remover for removing encrusted no-clean and rosin flux
- Nonflammable
- Dries fast
- Leaves no residue
- Test on plastics
ES1631 12 oz / 340 g aerosol
ES131 1 gal / 3.7 L liquid

Flux-Off® Rosin
Plastic safe flux remover for cleaning all rosin and rosin-based no-clean flux
- Safe on plastics
- Flammable
- Evaporates quickly
- Leaves no residue
ES1035 10 oz / 283 g aerosol
ES1035B 10 oz / 283 g BrushClean™ System
ES835B 5 oz / 141 g BrushClean™ System
ES135 1 gal / 3.7 L liquid
ES535 5 gal / 18.5 L liquid
ES5535 55 gal / 208 L liquid

The BrushClean™ System
Gentle scrubbing action of a brush combined with high performance flux removers

The BrushClean™ System
This system increases cleaning efficiency in two ways – minimizing solvent usage by applying solvent only where you need it, and maximizing cleaning with the addition of mechanical scrubbing action.
- Powerful solvents with scrubbing action of a brush
- Brush precisely applies solvent
- For critical defluxing, use Controlwipe™ (C910) between brush and board to absorb dissolved flux residues
- Solvent flow flushes brush clean
- New brush supplied with every can

Three powerful tools — one convenient package:
- Spot clean with the brush
- Flush under SMD’s with the extension tube
- Clean large areas with the spray nozzle
Flux Removers

Flux-Off® Aqueous
Aqueous flux remover for use in ultrasonics and in-line cleaning systems
- Water-based saponifier for removing all flux types
- Safe on plastics
- Nonflammable
- Concentrated – dilute to adjust cleaning strength
- Requires a water rinse
ES132  1 gal / 3.7 L liquid

Flux-Off® No Clean Plus
Powerful economical flux remover for cleaning no-clean flux
- Flammable
- Dries fast
- Leaves no residue
- Test on plastics
ES1696  12 oz / 340 g aerosol
ES896B  6 oz / 170 g BrushClean™ System
ES196   1 gal / 3.7 L liquid
ES596   5 gal / 18.5 L liquid
ES5596  55 gal / 208 L liquid

Flux-Off® Water Soluble
Plastic safe flux remover for cleaning water-soluble flux
- Safe on plastics
- Flammable
- Dries fast
- Leaves no residue
ES1530  13.5 oz / 383 g aerosol
ES130   1 gal / 3.7 L liquid

IPA - Isopropyl Alcohol
Conveniently packaged and easy to use 99.8% technical grade isopropyl alcohol
- Safe on plastics
- Flammable
- Dries fast
- Leaves no residue
- Cleans hard-to-reach areas
ES820L  8 fl oz / 236 ml liquid
ES105   1 gal / 3.7 L liquid
ES505   5 gal / 18.9 L liquid
ES5505  55 gal / 200 L liquid
Chemtronics® Dusters are microscopically clean, oil and moisture free sources of "canned air" developed for applications where safe, ultra-pure cleaning is required. Compact and portable, Chemtronics dusters deliver powerful jet action to instantly remove particles from even the most inaccessible areas. Economize solvent usage by removing layers of dry particulate allowing the solvent to work immediately on encrusted soils. Also accelerate surface drying when using slow evaporating cleaners.

**Ultrajet® All-Way**
Invertable duster with the BIGGEST blast to clean anything fast

All-Way Spray can be sprayed into hard to reach places without the risk of dispensing a liquid spray that can freeze or damage sensitive surfaces.

- Nonflammable
- Highest powered cleaning strength
- Zero VOC
- Filtered to 0.2 microns
- 100% ultra-pure HFC-134a — leaves no residue
- Safe on plastics

**ES1620**  8 oz / 226 g aerosol

**Ultrajet®**
Duster with the BIGGEST blast to clean anything fast

- Nonflammable
- Highest powered cleaning strength
- Zero VOC
- Filtered to 0.2 microns
- 100% ultra-pure HFC-134a — leaves no residue
- Safe on plastics

**ES1020**  10 oz / 283 g aerosol

**Ultrajet® 70**
Powerful, economical duster with a BIGGER blast than competitive dusters

- Nonflammable
- High powered cleaning strength
- Bigger Blast than competitive dusters
- Zero VOC
- Filtered to 0.2 microns
- 100% ultra-pure HFC-134a — leaves no residue
- Safe on plastics

**ES1015**  10 oz / 283 g aerosol
### Product Selection Guide

<table>
<thead>
<tr>
<th>Duster</th>
<th>Blasting Power</th>
<th>Nonflammable</th>
<th>All-Way Spray</th>
<th>Contents</th>
<th>Force Generated*</th>
<th>Internal Pressure</th>
<th>GWP**</th>
<th>Use On Live Circuits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrajet® XX Strength</td>
<td>XX Strength</td>
<td>Yes</td>
<td>No</td>
<td>HFC-134a</td>
<td>1.51 N</td>
<td>71 PSIG</td>
<td>1300</td>
<td>Yes</td>
</tr>
<tr>
<td>Ultrajet® All-Way XX Strength</td>
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<td>Yes</td>
<td>HFC-134a</td>
<td>1.78 N</td>
<td>71 PSIG</td>
<td>1300</td>
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<td>X Strength</td>
<td>Yes</td>
<td>No</td>
<td>HFC-134a</td>
<td>1.35 N</td>
<td>71 PSIG</td>
<td>1300</td>
<td>Yes</td>
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<tr>
<td>Duster Regular Strength</td>
<td>Regular Strength</td>
<td>Yes</td>
<td>No</td>
<td>HFC-134a</td>
<td>0.94 N</td>
<td>71 PSIG</td>
<td>1300</td>
<td>Yes</td>
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<tr>
<td>152A Blast™ X Strength</td>
<td>X Strength</td>
<td>No</td>
<td>No</td>
<td>HFC-152a</td>
<td>1.38 N</td>
<td>63 PSIG</td>
<td>140</td>
<td>No</td>
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<tr>
<td>Typhoon Blast™ 70 X Strength</td>
<td>X Strength</td>
<td>Yes</td>
<td>No</td>
<td>HFO-1234ze</td>
<td>0.93 N</td>
<td>47 PSIG</td>
<td>6</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Force generated measured without extension tubes on Shimpo force gauge.  
** Global warming potential (GWP) is calculated based on a 100 year time horizon.  Carbon dioxide has a GWP of 1.

### Duster

**Economical, regular strength duster**
- Nonflammable
- Regular cleaning strength
- Zero VOC
- Filtered to 0.2 microns
- 100% ultra-pure HFC-134a
- Leaves no residue
- Safe on plastics

**ES1017** 10 oz / 283 g aerosol  
**ES1217** 8 oz / 226 g aerosol  
**ES1617** 12 oz / 340 g aerosol

### 152A Blast™

**Economical, extra-strength general purpose duster**
- Safe on plastics
- High powered cleaning strength
- Flammable
- Zero VOC
- 100% pure HFC-152a
- 1/10th Global Warming Potential of HFC-134a

**Applications:**
- Cleaning dust and particles from de-energized electronics
- Maintenance and repair of de-energized computers, postage meters, and servers

**ES1029** 10 oz / 283 g aerosol

### Typhoon Blast™ 70 Duster

**Powerful and economical, ultra-low GWP duster with the BIGGER blast**
- Ultra-Low GWP
- High powered cleaning strength
- Nonflammable
- Zero VOC
- Filtered to 0.2 microns
- 100% HFO-1234ze
- Leaves no residue
- Safe on plastics

**ES1025** 10 oz / 383 g aerosol

### Ultrajet® Duster System

**Reusable duster system with a precision surgical-grade chrome trigger valve**
- Nonflammable
- Conductive trigger valve prevents static build-up
- Zero VOC
- Filtered to 0.2 microns
- 100% ultra-pure HFC-134a — leaves no residue
- Safe on plastics

**Applications:**
- Ground valve for cleaning sensitive electronics
- Cleaning inside electrical cabinets

**ES1020K** 10 oz / 283 g aerosol kit  
Contents: ES1020R and ES710V  
**ES1020R** 10 oz / 283 g aerosol refill  
**ES710V** Chrome Trigger Valve

---

Chrome trigger can be grounded for static sensitive applications, and fits refill can (ES1020R).
Freeze Spray

Freeze Spray
Economical, general purpose freeze spray with wide spray for cooling entire PC boards
• Wide spray for cooling entire boards
• Safe on plastics
• Nonflammable
• Filtered to 0.2 microns
ES1052 10 oz / 283 g aerosol
ES1550 15 oz / 425 g aerosol

Freez-It®
High-performance, pinpoint-accurate freeze spray for isolating individual components on PC boards
• Pinpoint spray isolates individual components without freezing surrounding areas
• Safe on plastics
• Nonflammable
• Filtered to 0.2 microns
ES1050 10 oz / 283 g aerosol
ES1550 15 oz / 425 g aerosol

Freez-It® Antistat
High-performance, pinpoint-accurate freeze spray that safely cools individual static-sensitive components
• Pinpoint spray isolates individual components without freezing surrounding areas
• Ideal for use on static sensitive components
• Non-frosting
• Safe on plastics
• Nonflammable
• Filtered to 0.2 microns
ES1051 10 oz / 283 g aerosol
ES1551 15 oz / 425 g aerosol

Arctic Blast™
Ultra-low GWP freeze spray with pin-point accuracy for isolating individual components
• Ultra-low Global Warming Potential
• Pinpoint spray isolates individual components without freezing surrounding areas
• Ideal for use on static sensitive components
• Non-frosting
• Safe on plastics
• Nonflammable
• Filtered to 0.2 microns
ES1054 10 oz / 283 g aerosol

Arctic Blast™ Antistat
Ultra-low GWP antistatic freeze spray with pin-point accuracy for isolating individual components
• Ultra-low Global Warming Potential
• Pinpoint spray isolates individual components without freezing surrounding areas
• Ideal for use on static sensitive components
• Non-frosting
• Safe on plastics
• Nonflammable
• Filtered to 0.2 microns
ES1055 10 oz / 283 g aerosol

Arctic Storm™
Ultra-low GWP freeze spray with wide spray for cooling entire PC boards
• Ultra-low Global Warming Potential
• Wide spray for cooling an entire board
• Safe on plastics
• Nonflammable
• Filtered to 0.2 microns
ES1056 10 oz / 283 g aerosol

Chemtronics® Freeze Sprays are exceptionally pure, nonflammable and provide instantaneous freezing action while leaving no residue. Conveniently packaged and designed for either pinpoint or full board application, these non-reactive circuit refrigerants vaporize instantly while cooling targeted areas.

Product Selection Guide

<table>
<thead>
<tr>
<th>Product</th>
<th>Application</th>
<th>Global Warming Potential*</th>
<th>Volatile Organic Compound**</th>
<th>Frost Formation</th>
<th>Cooling Speed</th>
<th>Cooling Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arctic Blast™</td>
<td>Pinpoint</td>
<td>6</td>
<td>0%</td>
<td>Yes</td>
<td>Fast</td>
<td>-49ºF/-45ºC</td>
</tr>
<tr>
<td>Arctic Blast™ Antistat</td>
<td>Pinpoint</td>
<td>6</td>
<td>&lt;1%</td>
<td>No</td>
<td>Fast</td>
<td>-49ºF/-45ºC</td>
</tr>
<tr>
<td>Arctic Storm™</td>
<td>Wide Area</td>
<td>6</td>
<td>0%</td>
<td>Yes</td>
<td>Very Fast</td>
<td>-49ºF/-45ºC</td>
</tr>
<tr>
<td>Freeze-It®</td>
<td>Pinpoint</td>
<td>1300</td>
<td>0%</td>
<td>Yes</td>
<td>Fast</td>
<td>-60ºF/-51ºC</td>
</tr>
<tr>
<td>Freeze-It® Antistat</td>
<td>Pinpoint</td>
<td>1300</td>
<td>&lt;1%</td>
<td>No</td>
<td>Fast</td>
<td>-60ºF/-51ºC</td>
</tr>
<tr>
<td>Freeze Spray</td>
<td>Wide Area</td>
<td>1300</td>
<td>0%</td>
<td>Yes</td>
<td>Very Fast</td>
<td>-60ºF/-51ºC</td>
</tr>
</tbody>
</table>

* Global warming potential (GWP) is calculated based on a 100 year time horizon. Carbon dioxide has a GWP of 1.
Chemtronics Static Free™ products are engineered to protect electronic equipment and workspaces from static buildup while cleaning and reconditioning. These products provide everything required for a comprehensive surface treatment program as recommended by ANSI/ESDS 20.20.

### Static Dissipative Products

#### Static Free™ Plast-N-Glas®
Foaming, non-streaking static dissipative cleaner for transparent surfaces
- Controls static, cleans and polishes in one application
- Effectively removes handling oils, finger soils and nicotine stains
- Prevents attraction of dust and dirt
- Compatible with plastics, glass and stainless steel
- Foaming spray won’t run or drip; ideal for optical surfaces
- Not for use on anti-glare coatings or mesh screens

**Applications:**
- Cleaning computer monitors and housings
- Removing handling soils from precision glassware
- Maintaining cleanliness of observation windows on production equipment

**ES1668** 14 oz / 397 g aerosol

#### Static Free™ Hand Guard™
Hand lotion formulated to protect against electrostatic discharge
- Special formulation minimizes potential for static damage
- Penetrates deeply to moisten and refresh dry, chapped or chemically irritated skin
- Non-greasy formula contains Aloe Vera and Vitamin E
- Contains no lanolin, silicone or mineral oil that could inhibit solderability of printed circuits or components

**C805** 8 fl oz / 236 ml liquid

#### Static Free™ Mat and Benchtop Reconditioner
Cleans and rejuvenates ESD-safe surfaces
- Cleans and rejuvenates burned or dead spots on ESD mats
- Excellent for extending life of ESD mats
- Will not dry mat surfaces with repeated use
- Long-lasting dissipative protection; up to 30 days
- Effective in relative humidity below 15%
- Chloride and amine free formulation
- Noncorrosive
- Meets static decay criteria of MIL-B-891705C

**ES1664T** 16 fl oz / 472 mL Trigger Spray

### Static Dissipative Products

#### Static Free™ Hand Guard™
Hand lotion formulated to protect against electrostatic discharge
- Special formulation minimizes potential for static damage
- Penetrates deeply to moisten and refresh dry, chapped or chemically irritated skin
- Non-greasy formula contains Aloe Vera and Vitamin E
- Contains no lanolin, silicone or mineral oil that could inhibit solderability of printed circuits or components

**C805** 8 fl oz / 236 ml liquid
**VacuPak™ Resealable Packaging**

Guarantees Soder-Wick is as fast as the day it was made. Cans are vacuum sealed with nitrogen-purge to eliminate moisture, which causes oxidation and hurts performance. 10 bobbins/can.

- 5’ and 10’ packaged 25 bobbins/sleeve, all others 1 spool/sleeve.

---

### Product Selection Guide

<table>
<thead>
<tr>
<th>Product</th>
<th>Size</th>
<th>Color</th>
<th>5’</th>
<th>10’</th>
<th>25’</th>
<th>100’</th>
<th>500’</th>
<th>5’ / 1.5m</th>
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</thead>
<tbody>
<tr>
<td><strong>Soder-Wick® Rosin</strong></td>
<td>1</td>
<td>White</td>
<td>80-1-5</td>
<td>80-1-10</td>
<td>50-1-25</td>
<td></td>
<td></td>
<td>SW18015</td>
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<tr>
<td>Fastest wicking action with rosin flux coated desoldering braid</td>
<td>2</td>
<td>Yellow</td>
<td>80-2-5</td>
<td>80-2-10</td>
<td>50-2-25</td>
<td>50-2-100</td>
<td>50-2-500</td>
<td>SW18025</td>
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<tr>
<td></td>
<td>3</td>
<td>Green</td>
<td>80-3-5</td>
<td>80-3-10</td>
<td>50-3-25</td>
<td>50-3-100</td>
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<tr>
<td></td>
<td>4</td>
<td>Blue</td>
<td>80-4-5</td>
<td>80-4-10</td>
<td>50-4-25</td>
<td>50-4-100</td>
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<td>SW18045</td>
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<td>5</td>
<td>Brown</td>
<td>80-5-5</td>
<td>80-5-10</td>
<td>50-5-25</td>
<td></td>
<td></td>
<td>SW18055</td>
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<td>6</td>
<td>Red</td>
<td>80-6-5</td>
<td></td>
<td>50-6-25</td>
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<td></td>
<td></td>
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<tr>
<td><strong>Soder-Wick® No Clean</strong></td>
<td>1</td>
<td>White</td>
<td>60-1-5</td>
<td>60-1-10</td>
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<td></td>
<td></td>
<td>SW16015</td>
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<td>Cleanest, leaving behind no ionic residue, with no clean flux coated desoldering braid</td>
<td>2</td>
<td>Yellow</td>
<td>60-2-5</td>
<td>60-2-10</td>
<td></td>
<td></td>
<td></td>
<td>SW16025</td>
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<tr>
<td></td>
<td>3</td>
<td>Green</td>
<td>60-3-5</td>
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<td></td>
<td>4</td>
<td>Blue</td>
<td>60-4-5</td>
<td>60-4-10</td>
<td></td>
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<td>SW16045</td>
</tr>
<tr>
<td>tally</td>
<td>5</td>
<td>Brown</td>
<td>60-5-5</td>
<td>60-5-10</td>
<td></td>
<td></td>
<td></td>
<td>SW16055</td>
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<td>6</td>
<td>Red</td>
<td>60-6-5</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Soder-Wick® Lead-Free</strong></td>
<td>1</td>
<td>White</td>
<td>40-1-5</td>
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<td></td>
<td></td>
<td></td>
<td>SW14025</td>
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<tr>
<td>Safest on thermally sensitive components, with this specially engineered no clean flux coated desoldering braid</td>
<td>2</td>
<td>Yellow</td>
<td>40-2-5</td>
<td>40-2-10</td>
<td></td>
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<td>SW14035</td>
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<td>40-4-10</td>
<td></td>
<td></td>
<td></td>
<td>SW14045</td>
</tr>
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</table>

*Offered in static dissipative (SD) bobbins:

- DOD Standard 1686C and MIL-HDBK-263B
- Mil-Std-2000A
- Mil-B-81705C Static Decay Rate Provision

---

**All Soder-Wick meet these specs:**

- MIL-F-14256 F type R flux
- NASA-STD-8739.3 Soldered Electrical Connections
- DOD-STD-883E, Method 2022
- ANSI/IPC J STD-004, Type ROLO

**Soder-Wick® Desoldering Braid**, the world’s leading brand of desoldering braid, is the fastest, cleanest and safest braid in the industry. It significantly reduces rework/repair time and minimizes the risk of heat damage to the board.

**Solder-Wick No-Clean and Lead Free wick meet these specs:**

- Meets parameters tested by the Singapore Institute of Standards and Industrial Research (SISIR) for Solderability
- ANSI/IPC J STD-004, Type ROLO
Desoldering Braid

Chem-Wik® Desoldering Braid

Chem-Wik® Desoldering Braid ensures fast and safe desoldering with ultra-pure, oxygen free copper braid that quickly and completely removes solder from circuit boards and components. Its fast wicking action protects components from harmful heat damage. PermaPak™ Barrier Packaging is nitrogen-purged, which ensures braid freshness and speed by sealing out harmful effects of the environment and protecting against oxidation.

Chem-Wik® Desoldering Braid meets or exceeds industry performance standards:

- MIL-F-14256F Type R
- NASA STD-8739.3 Soldered Electrical Connections
- ANSI/IPC J STD-004, Type ROL0
- DOD-STD-883E, Method 2022

PermaPak™ Barrier Packaging
5’ packaged 25 bobbins/sleeve, all others 1 spool/sleeve.

Product Selection Guide

<table>
<thead>
<tr>
<th>Product</th>
<th>Size</th>
<th>Color</th>
<th>10’</th>
<th>25’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soder-Wick® Unfluxed</td>
<td>.060”/1.5mm</td>
<td>Yellow</td>
<td>75-2-10</td>
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<tr>
<td></td>
<td>.080”/2.0mm</td>
<td>Green</td>
<td>75-3-10</td>
<td>70-3-25</td>
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<tr>
<td></td>
<td>.110”/2.8mm</td>
<td>Blue</td>
<td>75-4-10</td>
<td></td>
</tr>
</tbody>
</table>

Desoldering Braid Product Application Guide

<table>
<thead>
<tr>
<th>Size</th>
<th>Color</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>.030”/0.8mm</td>
<td>White / Gray</td>
<td>SMD, Micro-Circuits</td>
</tr>
<tr>
<td>.060”/1.5mm</td>
<td>Yellow</td>
<td>Small Pads, SMDs</td>
</tr>
<tr>
<td>.080”/2.0mm</td>
<td>Green</td>
<td>Medium Pads</td>
</tr>
<tr>
<td>.110”/2.8mm</td>
<td>Blue</td>
<td>Large Pads</td>
</tr>
<tr>
<td>.145”/3.7mm</td>
<td>Brown</td>
<td>Terminals</td>
</tr>
<tr>
<td>.210”/5.3mm</td>
<td>Red</td>
<td>Large Lugs</td>
</tr>
</tbody>
</table>

Chem-Wik® Rosin

Fast wicking action with rosin flux coated desoldering braid

<table>
<thead>
<tr>
<th>Size</th>
<th>Color</th>
<th>5’</th>
<th>25’</th>
<th>50’</th>
<th>100’</th>
<th>500’</th>
</tr>
</thead>
<tbody>
<tr>
<td>.030”/0.8mm</td>
<td>Gray</td>
<td>2-5L</td>
<td>2-25L</td>
<td>2-50L</td>
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<tr>
<td>.050”/1.3mm</td>
<td>Yellow</td>
<td>5-5L</td>
<td>5-25L</td>
<td>5-50L</td>
<td>5-100L</td>
<td>5-500L</td>
</tr>
<tr>
<td>.075”/1.9mm</td>
<td>Green</td>
<td>7-5L</td>
<td>7-25L</td>
<td>7-50L</td>
<td>7-100L</td>
<td>7-500L</td>
</tr>
<tr>
<td>.100”/2.5mm</td>
<td>Blue</td>
<td>10-5L</td>
<td>10-25L</td>
<td>10-50L</td>
<td>10-100L</td>
<td>10-500L</td>
</tr>
</tbody>
</table>

*Offered in static dissipative (SD) bobbins:
- Reduces the risk of damage associated with static electricity
- DOD Standard 1668C and MIL-HDBK-263B
- Mil-Std-2000A
- Mil-B-81705C Static Decay Rate Provision
CircuitWorks® Repair and Prototype Tools

CircuitWorks® comprehensive line of conveniently packaged and precision dispensing rework and repair products makes circuit board repair and prototyping faster, easier and more accurate. Advanced-formula materials packaged in unique delivery systems ensure superior performance and pinpoint accuracy. The full range of products meets all of the technicians needs for electronics rework and prototyping — repairing, cleaning, protecting, bonding, and restoring electrical conductivity to circuit boards and components.

All CircuitWorks® products are compliant with IPC-7711 Rework of Electronic Assemblies, and ANSI/J-STD-001.

Conductive Ink

Conductive Ink Applications:
- Repairs traces
- Links components
- Makes smooth jumpers
- Shields electronics

CircuitWorks® Conductive Pen
Pen dispenser for drawing highly conductive silver traces, jumpers and shielding with precision and control
- Quickly creates highly conductive silver traces
- Valved pen tip for easy applications
- Solderable at low temperatures
- Dries in minutes at room temperature
- Choice of Micro Tip for fine lines or Standard Tip for wider lines

<table>
<thead>
<tr>
<th></th>
<th>Standard Tip</th>
<th>Micro Tip</th>
</tr>
</thead>
<tbody>
<tr>
<td>CW2200STP</td>
<td>8.5 g / 0.3 oz</td>
<td></td>
</tr>
<tr>
<td>CW2200MTP</td>
<td>8.5 g / 0.3 oz</td>
<td></td>
</tr>
</tbody>
</table>

CircuitWorks® Nickel Conductive Pen
Pen dispenser for economically drawing conductive traces, jumpers and shielding
- Quickly creates conductive nickel traces on most surfaces
- Easy and economical to use
- Valved pen tip for easy applications
- Dries in minutes at room temperature

CW2000 Standard Tip 9 g / 0.32 oz

CircuitWorks® Rubber Keypad Repair Kit
Conveniently-sized kit for permanent repair of rubber keypads
- Restores electrical conductivity to worn carbon contacts
- Forms a tough, flexible, wear-resistant surface
- Repairs over 50 rubber button contacts

Applications:
- Restores rubber and telephone keypads
- Restores flexible carbon contacts

<table>
<thead>
<tr>
<th></th>
<th>Adhesive</th>
<th>Curing Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>CW2605</td>
<td>3 g / 0.1 oz</td>
<td>0.3 g / 0.01 oz</td>
</tr>
</tbody>
</table>

CircuitWorks® Flex Conductive Pen
Micro-tip pen for drawing conductive traces on flexible and ITO surfaces
- Quickly creates flexible conductive silver traces on flex circuitry
- Micro tip for precise applications
- Dries in minutes at room temperature
- Highly adherent silver-based polymer system

CW2900 Micro Tip 8.5 g / 0.3 oz
Conductive Grease

**CircuitWorks® Silver Conductive Grease**
Greas for superior electrical and thermal conductivity, lubrication and protection
- Fills connector gaps to maximize electrical and thermal conductivity
- Protects against moisture and corrosion
- Thermally stable over a wide temperature range
- Conductive lubricant containing pure silver
- Controls static discharge
- Grounds circuits

**CW7100** 6.5 g / 0.23 oz

Thermal Compounds

*For fast, efficient heat transfer between circuit components and heat sinks.*

**CircuitWorks® Boron Nitride Heat Sink Grease**
Ultra-high efficiency, thermally conductive grease
- Provides maximum thermal conductivity with superior dielectric properties
- Silicone free compound will not harden or dry out
- Electrically insulative; noncorrosive and nonflammable
- Thermally stable from -99.4°F/-73°C to 392°F/200°C
- Exceeds MIL-C-47113 for Thermal Conductivity

**CW7250** 3.4 g / 0.12 oz

**CircuitWorks® Silicone Free Heat Sink Grease**
Non-contaminating silicone free heat-sink grease
- Silicone free compound will not harden or dry out
- Excellent thermal conductivity and dielectric properties
- Non-corrosive
- Thermally stable from -5°F/-15°C to 392°F/200°C
- Exceeds MIL-C-47113 for thermal conductivity

**CW7270** 8 g / 0.28 oz

**CircuitWorks® Heat Sink Grease**
Silicone compound for heat transfer away from electronics and electrical components
- Excellent thermal and dielectric properties
- Will not dry out, harden, or melt
- Noncorrosive and nonflammable
- Thermally stable from -40°F/-40°C to 342°F/172°C
- Meets MIL-DTL-47113D Type I

**CT40-5** 142 g / 5 oz
Conductive Epoxies

Conductive Epoxy Applications:
- Repair traces and temperature sensitive circuits
- Make high-strength solderless conductive connections

CircuitWorks® Conductive Epoxy
Epoxy for precision repairs and high-strength conductive bonding
- Conductive silver epoxy provides excellent electrical conductivity
- High strength conductive bond with a five minute work time
- Repairs defective traces and creates jumpers on boards
- Quick solderless electronic connections

CW2400  Adhesive  7 g / 0.25 oz
         Hardener  7 g / 0.25 oz

CircuitWorks® 60 Minute Conductive Epoxy
Epoxy system with extended pot life for high strength conductive bonds
- Conductive silver epoxy provides excellent electrical conductivity
- Sixty minute work time provides a high strength conductive bond
- Extended pot life provides increased work time
- Repairs defective traces and creates jumpers on boards
- Quick solderless electronic connections

CW2460  Adhesive  10 g / 0.35 oz
         Hardener  10 g / 0.35 oz in jars

Protective Overcoats

CircuitWorks® Overcoat Pen
The pen dispenser for precise application of a tough protective acrylic conformal coating
- Simple to use, single component system
- Hard, durable coating
- High dielectric strength helps prevent electrical discharge
- Dries quickly at room temperature
- Protects against moisture and abrasion damage
- Meets MIL-I-46058C and IPC-CC-830A

Applications:
- Insulates and protects conductive pen traces
- Repairs permanent solder mask
- Prevents shorting and arcing

CW3300C  Clear  4.9 g / 0.16 oz
CW3300G  Green  4.9 g / 0.16 oz
CW3300B  Blue  4.9 g / 0.16 oz
CW3300BLACK  Black  4.9 g / 0.16 oz
CW3300WHITE  White  4.9 g / 0.16 oz

CircuitWorks® Epoxy Overcoat
Tough, thermally stable, epoxy protective conformal coating
- Provides a hard, durable, protective green coating
- Excellent dielectric properties; helps prevent electrical discharge
- Protects against moisture and abrasion
- Ideal for pre-reflow solder resist repair
- Service temperature from -55°F/-48°C to 600°F/315°C
- Meets the requirements of IPC-7721, 2.4.1

Applications:
- Ideal for repairing permanent solder mask before reflow applications
- Protects circuits and prevents shorting and arcing

CW2500  Adhesive Syringe  4 g / 0.14 oz
         Hardener Syringe  3.4 g / 0.12 oz
CircuitWorks® Repair and Prototype Tools

Flux / Solder

CircuitWorks®
Flux Dispensing Pens
Pen for applying flux with precision and control
- Chisel tip marker provides exact delivery of flux to surface
- Easily removed with appropriate CircuitWorks® Flux Remover Pen

No Clean Flux Dispensing Pen
- Applies a patented noncorrosive, halide free, no clean flux
- Flux meets Belcore TR-N-NWT-000078 and IPC SF-818 for Surface Insulation Resistance
- Flux meets ANSI/IPC J-STD-004, Type ROLO
 CW8100 9 g / 0.32 oz

Lead-Free Flux Dispensing Pen
- Applies a noncorrosive, halide free, no clean flux for high temperature, lead-free application
- Can also be used for tin/lead solders
- Flux meets Belcore TR-N-NWT-000078 and IPC SF-818 for Surface Insulation Resistance
- Flux meets ANSI / IPC J-STD-004, Type ROLO
- Easily removed with Lead-Free Flux Remover Pen, or Flux-Off® Lead-Free Flux Remover
 CW8400 9 g / 0.32 oz

Rosin Flux Dispensing Pen
- Applies a noncorrosive, nonconductive Type R flux
- Flux meets MIL-F-14256 F Type R and ANSI/IPC J-STD-004, Type ROLO
 CW8200 9 g / 0.32 oz

Water Soluble Flux Dispensing Pen
- Applies a neutral pH organic water soluble flux for rapid soldering
- Flux meets ANSI/IPC J-STD-004, ORH1 Classification
- Easily removed with water or Flux-Off® Water Soluble (pg. 12)
 CW8300 9 g / 0.32 oz

CircuitWorks®
No-Clean Tacky Flux
Conveniently packaged no-clean flux gel formulated for easy BGA rework
- Formulated for No-Clean applications
- Syringe applicator provides exact delivery of flux
- Long tack time, extended shelf life
- No refrigeration required
- Noncorrosive, halide and halogen free
- Meets IPC requirements for ROLO, No Clean
- Conforms to ISO 9454
- Meets Belcore TR-N-NWT-000078 requirements
- Meets DIN EN 29454-1 1.1.3.C classification
- RoHS Compliant
 CW8500 3.5 g / 0.12 oz Syringe

CircuitWorks®
BA Dispensing Pen
Empty pen for easy filling, dispensing, and applying all types of liquids
- Fill with your choice of liquids; fluxes, cleaning solvents, oils, etc.
- Wide opening allows easy filling
- Wide base permits the pen to stand upright on your work bench, minimizing footprint
- Tough and durable body, valve and nib
- Anti-roll cap prevents pen from rolling off bench top
Applications:
- Portable and convenient way to apply the specific flux for your process
- Dispensing lubricants, contact preservatives or coatings
- Can be used with inks or marking materials
 CW7000 2 Empty Pens per Package

CircuitWorks®
Lead-Free Pocket Solder
Lead free, high purity pocket sized solder dispenser for convenient rework and repair
- SAC 305 for soldering lead-free applications
- 96.5% Tin (Sn), 3.0% Silver (Ag), 0.5% Copper (Cu)
- Type ROLO flux per IPC J-STD-004
- Ensures even, reliable solder connections
- Cleans and wets heavily tarnished copper surfaces
 S200 1.0 mm / 0.04" Diameter,
 3.18 m / 125" Length
Cleaning and Lubricating Pens

**CircuitWorks® Conformal Coating Remover Pen**
Pen for precise removal of silicone, acrylic and urethane coatings from PCBs
- Spot cleans tight tolerance areas on circuit boards
- Marker dispenser provides controlled and exact application
- Evaporates quickly
- Provides low surface tension for superior wetting
- Low VOC content
CW3500 9 g / 0.32 oz

**CircuitWorks® Flux Remover Pen**
Pen for precise removal of flux from printed circuit boards
- Completely removes flux in seconds
- Spot cleans tight tolerance areas on circuit boards
- Marker dispenser provides controlled spot cleaning
- Dries fast
No Clean Flux Remover Pen
CW9100 9 g / 0.32 oz
Rosin Flux Remover Pen
CW9200 8 g / 0.28 oz

**CircuitWorks® Lead-Free Flux Remover Pen**
Pen for removing lead-free flux with precision and control
- Completely removes lead free flux residues in seconds
- Can also be used to remove tin/lead fluxes
- Marker dispenser provides controlled and exact application
- Dries fast
CW9400 9 g / 0.32 oz

**CircuitWorks® Gold Guard™ Pen**
Pen for cleaning and lubricating gold and other noble metal contacts and connectors
- Cleans and leaves protective polyphenyl ether lubricant in one step
- Extends life of noble metal contacts
- Chisel tip marker for exact delivery to the contact
- Safe on plastics
CW7400 8.5 g / 0.3 oz

**CircuitWorks® Flux Remover Pen**
Pen for removing lead-free flux residues in seconds
- Can also be used to remove tin/lead fluxes
- Marker dispenser provides controlled and exact application
- Dries fast
CW9400 9 g / 0.32 oz

**CircuitWorks® The Mighty Pen®**
Powerful universal cleaning pen
- Outstanding cleaning ability
- Marker dispenser provides controlled and exact application
- Mild citrus aroma
- U.S. Patent 6,677,291 and 6,677,292, and foreign patents
Applications:
- General purpose cleaning and refurbishing of equipment
- Removes ink stains, label adhesives, and difficult to remove soils
CW3700 11 g / 0.39 oz

**Fiber-Wash™ Fiber Optic Cleaning Pens**
- Specifically formulated for cleaning all fiber optic connectors
- Removes handling soils, dust, oils and airborne contamination
- Cleans alone or in combination with the SqR™, p-QbE®, QbE® Cleaning Platforms
- Cleans and eliminates electrostatic deposits of airborne contaminants
- Completely portable; controlled dispensing of cleaning solution

**Fiber-Wash™ MX Precision Cleaner Pen**
Convenient pen with the extra-strength, plastic safe precision cleaner
FW2150 9 g / 0.32 oz pen
FW2150BLK Box of 24 pens, 9g each

**Fiber-Wash™ AQ Precision Cleaner Pen**
Nonflammable, aqueous fiber optic cleaner
FW2190 5 g / 0.2 oz pen

**Fiber-Wash™ NF Precision Cleaner Pen**
Nonflammable, fast drying fiber optic cleaner
FW2170 10 g / 0.4 oz pen
Konform® Conformal Coatings are used to protect printed circuit boards, components and flex circuitry. These coatings provide excellent electrical insulation and withstand hot and cold operating environments, as well as heat generated by electronic circuitry. Formulated to protect components and circuits in the most demanding of environments, all Konform® conformal coatings contain a UV indicator for easy quality assurance (except Konform® LED). These tough, transparent coatings will not chip or crack, thereby providing excellent protection. All are convenient and ready to use.

Konform® SR
Silicone coating for maximum flexibility and protection from extreme temperatures and vibration damage
- Silicone coating working temperature from -85°F/-64°C to 390°F/200°C
- High dielectric strength of 1100 volts/mil
- Easily removed with Electro-Wash® Two Step, Electro-Wash® NXO, or CircuitWorks® Conformal Coating Remover Pen
- Meets MIL-I-46058C, Type SR
- Compliant to IPC-CC-830A
- Engineered for applications where flexibility and high temperature resistance are required
- Contains UV Tracer for easy quality control
- UL recognized (standard viscosity only)

CTSR-12 10 oz / 283 g aerosol
CTSR-P 16 fl oz / 473 ml liquid
CTSR1 1 gal / 3.7 L liquid
CTSR5 5 gal / 19 L liquid

Konform® AR
Acrylic coating for effective insulation against high voltage arcing and shorts
- Acrylic coating working temperature from -75°F/-59°C to 270°F/132°C
- High dielectric strength of 8300 volts/mil
- Meets MIL-I-46058C, Type AR
- Compliant to IPC-CC-830A
- Designed to provide effective insulation against electrical shorts and harsh environments
- Provides excellent acid resistance
- Easily repairable
- Contains UV Tracer for easy quality control
- UL recognized

CTAR-12 11.5 oz / 326 g aerosol
CTAR-P 16 fl oz / 473 ml liquid
CTAR1 1 gal / 3.7 L liquid
CTAR5 5 gal / 19 L liquid

High Viscosity
CTSR-HV1 1 gal / 3.7 L liquid
Konform® LED
Silicone conformal coating designed for light emitting diode (LED) applications

- Silicone coating transparent to visible wavelengths, will not block or change light intensity or wavelength
- Extends component life by protecting against adverse environments
- Good insulation properties help with circuit insulation characteristics, excellent flexibility minimizes thermal stress
- Resists moisture, salt, fungus, corrosive vapors, and severe environments
- Engineered to withstand heat generated by PCB as well as climatic temperature extremes
- Compliant with IPC-CC-830A, MIL-I-46058C (without UV) and RoHS

NEW!
Konform® LED is specially formulated to be optically clear.

**Product Selection Guide**

<table>
<thead>
<tr>
<th>Konform®</th>
<th>Solvent</th>
<th>Temperature Resistance</th>
<th>Abrasion Resistance</th>
<th>Acidity Resistance</th>
<th>Humidity Resistance</th>
<th>Water Submersion</th>
<th>UL Recognizable</th>
<th>UV Traceable</th>
<th>Flexibility</th>
<th>Solderability</th>
<th>Repairability</th>
<th>Dielectric Breakdown</th>
<th>Working Temperature</th>
<th>Tack Free Time</th>
<th>Full Cure Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR</td>
<td></td>
<td>1 4 2 2 1</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>1100</td>
<td>-85F to 390º (-65ºC to 200º)</td>
<td>15 min.</td>
<td>24 hrs. @RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SR High Viscosity</td>
<td></td>
<td>1 4 2 2 1</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>1100</td>
<td>-85F to 390º (-65ºC to 200º)</td>
<td>15 min.</td>
<td>24 hrs. @RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AR</td>
<td></td>
<td>2 1 1 3 1</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td>8300</td>
<td>-75F to 270º (-59ºC to 132º)</td>
<td>30 min.</td>
<td>24 hrs. @RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>LED</td>
<td></td>
<td>1 4 2 2 1</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>1100</td>
<td>-85F to 390º (-65ºC to 200º)</td>
<td>15 min.</td>
<td>24 hrs. @RT</td>
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<td></td>
<td></td>
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<tr>
<td>Ultra</td>
<td></td>
<td>2 2 1 3 1</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>8300</td>
<td>-75F to 270º (-59ºC to 132º)</td>
<td>10 min.</td>
<td>24 hrs. @RT</td>
<td></td>
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<tr>
<td>UR-A</td>
<td></td>
<td>3 1 1 1 4</td>
<td>✓</td>
<td></td>
<td></td>
<td>Water-based</td>
<td>3340</td>
<td>-85F to 257º (-65ºC to 125º)</td>
<td>1 hr.</td>
<td>24 hrs. @RT</td>
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<tr>
<td>HR</td>
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<td>3 1 2 2 4</td>
<td>✓</td>
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<td>Water-based</td>
<td>7100</td>
<td>-31F to 212º (-35ºC to 100º)</td>
<td>1 hr.</td>
<td>24 hrs. @RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 – Outstanding  2 – Excellent  3 – Good  4 – Fair  NA – Not Available

**Konform® LED-P**  16 fl oz / 473 ml liquid
**CTLED1**  1 gal / 3.7 L liquid
**CTLED5**  5 gal / 18.5 L liquid
Konform® Ultra
Ultra-fast drying acrylic coating for superior insulation against high voltage arcing
- Extremely fast drying; allows quick throughput, minimizes processing time
- Acrylic coating operating temperature from -75°F/-59°C to 270°F/132°C
- High dielectric breakdown of 8300 volts/mil
- Meets MIL-I-46058C, Type AR
- Compliant to IPC-CC-830B Class B
- Designed to provide effective insulation against electrical shorts and harsh environments
- Provides excellent acid resistance
- Easily repairable
- Contains UV Tracer for easy quality control

CTUFD-12 11.5 oz / 326 g aerosol
CTUFD1 1 gal / 3.7 L liquid
CTUFD5 5 gal / 18.5 L liquid

Konform® UR-A
Water-based urethane conformal coating formulated for superior durability and moisture protection
- Water-based coating minimizes odor and VOC exposure
- Provides outstanding barrier and moisture protection
- Urethane coating offers outstanding abrasion and solvent resistance
- Coating operating temperature from -85°F/-65°C to 257°F/125°C
- High dielectric breakdown of 3340 volts/mil
- Compliant to IPC-CC-830B Class B
- Provides excellent acid resistance
- Contains UV Tracer for easy quality control

CTURA1 1 gal / 3.7 L liquid
CTURA5 5 gal / 18.5 L liquid

Konform® HR
Water-based conformal coating for superior dielectric and abrasion resistance
- Water-based coating minimizes VOC exposure
- Unique acrylic/urethane based coating; provides the flexibility and toughness of urethane, with the superior insulation protection of an acrylic
- Coating operating temperature from -31°F/-35°C to 212°F/100°C
- High dielectric breakdown of 7100 volts/mil
- Compliant to IPC-CC-830B Class B
- Provides excellent acid resistance
- Contains UV Tracer for easy quality control

CTHR1 1 gal / 3.7 L liquid
CTHR5 5 gal / 18.5 L liquid

All Konform® conformal coatings contain a UV indicator for improved quality assurance (except CTLED).
Chemask® Temporary Solder Masks protect PC boards, plated thru-holes, contacts, pins, posts, terminals and gold fingers during reflow and wave soldering. They provide short-term high-temperature protection from molten solder to a minimum of 515°F/268°C. All products are nonflammable, non-contaminating and will not leave ionic or corrosive residue. Use as a protective mask during conformal coating process.

Chemask® Temporary Solder Masks

Chemask® — Peelable
Fast curing, peelable temporary solder masking agent
- Dries tack-free in 15 minutes
- Easy to use — just peel off dried Chemask® masking agent
- Latex material is compatible with all flux systems and stable with cleaning solvents

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM8</td>
<td>8 fl oz / 236 ml liquid squeeze bottle</td>
</tr>
<tr>
<td>CM1</td>
<td>1 gal / 3.7 L liquid</td>
</tr>
</tbody>
</table>

Chemask® NA — Non-Ammoniated
High temperature, peelable, temporary mask safe for use on sensitive metals
- Will not affect gold, copper, nickel, silver and OSP finishes
- For lead-free or tin/lead processes
- Stable to 550°F (288°C)
- Phthalate-free, low toxicity and environmentally safe
- Compatible with rosin, no-clean and water soluble flux types
- Dries tack free in 15 minutes
- Can be placed directly into pre-heat oven without waiting
- Removes easily and leaves no residue
- Non-contaminating, non-staining and noncorrosive

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNA8</td>
<td>8 fl oz / 236 ml liquid squeeze bottle</td>
</tr>
<tr>
<td>CNA1</td>
<td>1 gal / 3.7 L liquid</td>
</tr>
</tbody>
</table>

Chemask® LF — Lead-Free
High temperature, peelable temporary mask ideal for lead-free applications
- Formulated for use with lead-free applications
- Can also be used with tin/lead solders
- Usable within five minutes of application with preheat cycles
- Provides short-term high temperature protection up to 550°F (288°C)

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLF8</td>
<td>8 fl oz / 236 ml liquid squeeze bottle</td>
</tr>
<tr>
<td>CLF1</td>
<td>1 gal / 3.7 L liquid</td>
</tr>
</tbody>
</table>
Temporary Solder Mask

Product Selection Guide

<table>
<thead>
<tr>
<th>Product Characteristics</th>
<th>Application Methods</th>
<th>Removal Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Automated Dispenser</td>
<td>Stencils</td>
</tr>
<tr>
<td></td>
<td>Screens</td>
<td>Peels</td>
</tr>
<tr>
<td></td>
<td>Open Loop/Closed Loop</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemask® Peelable</th>
<th>NR</th>
<th>15 min.</th>
<th>30 min.</th>
<th>NA</th>
<th>All types</th>
<th>All types</th>
<th>Yes</th>
<th>No</th>
<th>No</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemask® NA Non-Ammoniated</td>
<td>Yes</td>
<td>15 min.</td>
<td>30 min.</td>
<td>Yes; can be placed directly into preheat</td>
<td>All types</td>
<td>All types</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Chemask® LF Lead-Free</td>
<td>NR</td>
<td>15 min.</td>
<td>30 min.</td>
<td>Yes; 4 min. full cure</td>
<td>All types</td>
<td>All types</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Chemask® HV High Viscosity</td>
<td>Yes</td>
<td>15 min.</td>
<td>30 min.</td>
<td>Yes; 4 min. full cure</td>
<td>All types</td>
<td>All types</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Chemask® Aqua Water Soluble</td>
<td>No</td>
<td>30 min.</td>
<td>60 min.</td>
<td>NA</td>
<td>All types</td>
<td>Remove with water and water-based cleaners</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Chemask® WF Water Filterable</td>
<td>No</td>
<td>30 min.</td>
<td>60 min.</td>
<td>NA</td>
<td>Not compatible with water-based flux</td>
<td>Remove with water and water-based cleaners</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Chemask® W Water Soluble</td>
<td>No</td>
<td>30 min.</td>
<td>60 min.</td>
<td>NA</td>
<td>All types</td>
<td>Remove with alcohol, xylene, water and water-based cleaners</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

NA – Not Available  NR – Not Recommended  *Open Loop System Only

Chemask® HV — High Viscosity

High viscosity, peelable temporary solder masking agent

- Usable within five minutes of application with preheat cycle
- More controlled application
- Thicker coating does not seep through thru-holes
- Latex material is compatible with all flux systems and stable with cleaning solvents

CHV8 8 fl oz / 236 ml liquid squeeze bottle

Chemask® Aqua

High temperature, water soluble, temporary mask safe for use on component-free areas

- Protects boards from molten solder to 515°F (268°C)
- Prolongs deionized water system life
- Low foaming
- Compatible with most flux types
- Leaves no corrosive residue
- Does not contain Methanol
- Non-contaminating

CMAQ8 8 fl oz / 236 ml liquid squeeze bottle
CMAQ1 1 gal / 3.7 L liquid

Chemask® W — Water Soluble

Water soluble temporary solder masking agent

- Dissolves in water cleaning cycles
- Noncorrosive; safe for sensitive gold, silver and copper
- Can be used as a water soluble tacking compound

CW8 8 fl oz / 236 ml liquid squeeze bottle

Chemask® WF — Water Filterable

Low-foaming, water filterable temporary solder masking agent

- Easily removed in water cleaning cycles
- Does not coat filtration equipment
- Noncorrosive; safe for sensitive contacts
- Removed with inexpensive filters, increasing the life span of activated carbon/resin beds
- US Patent Number 6,207,265

Applications:
- Ideal for use with closed loop cleaning systems
- Increases productivity by reducing cleaning system maintenance
- Short-term high-temperature protection from molten solder to 515°F (268°C)

CWF8 8 fl oz / 236 ml liquid squeeze bottle
CWF1 1 gal / 3.7 L liquid

Safe for Sensitive Metal Surfaces

Automated Dispenser Preheat Activated

Full Cure Time @ Room Temperature Tack Free Time @ Room Temperature

Flux Resistance Solvent Resistance
IPA Presaturated Wipes
General purpose presaturated wipe in a convenient dispenser
- Ultra pure mixture of IPA and deionized water
- Strong, will not tear, shred, unravel or lint
- Holds up to the most rigorous scrubbing
- SIP125P, SIP100P and SIP91P pull-up presaturated wipes are ideal for cleaning of semi-automatic printer stencils, and touch-up cleaning of automatic printer stencils
- IPA100B wipes are lint free and precut — excellent for cleaning fine pitch stencils

SIP100P 100 pull-up presaturated wipes 70% IPA and 30% deionized water
SIP125P 125 pull-up presaturated wipes 70% IPA and 30% deionized water
SIP91P 100 pull-up presaturated wipes 91% IPA and 9% deionized water
IPA100B 100 c-fold presaturated wipes 70% IPA and 30% deionized water

Chempad™ Presaturated Wipe
General purpose, presaturated lint-free cleaning wipe
- Contains ultra pure blend of 91% IPA/9% deionized water
- Thick, non-abrasive, wiping pad
- Quickly removes dust, oils and contaminants

CP400 50 single pack presaturated wipes

Electro-Wash® MX
Presaturated Wipe
Extra-strength plastic safe universal cleaner with moderate evaporation time
- Cleans all soil types — organic and ionic
- Moderate evaporation rate increases cleaning power
- Leaves no residue
- Presaturated wipe great for toolbox or travel

Applications:
- Ideal for cleaning fiber optics and fiber optic connectors, cables, hard-line coax cable, cable splices, PC boards, motors, tools and transformers, flooding compounds, control systems, screens and stencils

CP421 25 single pack presaturated wipes

Optic Prep™
Presaturated Wipe
Highest quality premoistened lens-grade tissue for cleaning optical surfaces
- Safely cleans and polishes optical surfaces, lenses, photographic equipment, fiber optic connectors and instruments
- Compatible with most plastics, glass and metals
- Mild cleaning solution, nonabrasive wipe
- Quickly removes dust, oils and contaminants connectors and instruments

CP410 50 single pack presaturated pads

Chemswab™
Presaturated Swab
Easy to use swab presaturated with alcohol
- Urethane foam swab (Foamtips™ #120) presaturated with ultra-pure IPA
- Evaporates quickly with no residue or contamination
- Nonabrasive
- Ideal for field service kits

CS25 25 presaturated swabs

Screen Prep™
Presaturated Wipe
Convenient cleaning and static control for monitors
- Cleans and provides a static dissipative treatment
- Prevents airborne recontamination for up to seven days
- Safely removes dust, dirt, oil and nicotine
- Controls static-generated contamination
- Wet pad cleans and applies static protection
- Dry wiper polishes screen optically clear

CSP20 25 twin packs
#1 presaturated pad
#2 polishing wiper
Chemtronics® Dry Wipes are engineered and manufactured clean. They are designed for controlled environments, light industrial, benchtop, laboratory and high absorbency applications. They are ideal for use with strong solvents and the full range of engineered Chemtronics® cleaners; Electro-Wash™ cleaner degreasers, Static Free™ static control products and Flux-Off™ flux removers.

**Opticwipes™**
Soft laboratory-grade cellulose tissue designed for use on optical and other sensitive surfaces
- 100% cellulose
- Highly absorbent; high wet strength
- Noncontaminating
- Solvent resistant
- Low in soluble extractable contamination and particle generation

**Twillwipes™**
Highly absorbent wipe for abrasion-free cleaning and drying of sensitive surfaces, components and equipment
- Strong, textured 100% cotton
- Minimal linting
- Cleanroom Compatible Class 1000 / ISO Class 4
- Resistant to caustic solvents and temperatures up to 302°F/150°C

**Controlwipes™**
Solvent resistant highly absorbent wipe
- Nonwoven, spunlaced polyester cellulose fabric
- General purpose lint-free wipe
- Strong, will not tear, shred, unravel or lint
- High absorbency and liquid retention
- Will not abrade surfaces
- Resistant to most solvents and dilute acids
- For applications requiring contamination control

**Applications:**
- Removing light surface contamination from CRT’s and optical glass surfaces
- Cleaning and absorbing solvents from semi-critical work surfaces

**C910** 150 wipes  9” x 9” / 23 cm x 23 cm

**Applications:**
- Cleaning optical surfaces, photo processing, lab equipment and other precision instrumentation
- Ideal for cleaning optical lenses

**C920** 500 wipes  9” x 9” / 23 cm x 23 cm
Foamtips™
Highly absorbent precision cleaning swab with a wide variety of head sizes and shapes
- Precision cleaning swabs with 100 ppi polyurethane open cell foam head
- Purest medical grade foam
- Foamtips™ Pro swab (CFP50) has a blue scrubber side and a soft absorbent side
- Available in a variety of head sizes and shapes with various handle lengths

<table>
<thead>
<tr>
<th>Product</th>
<th>Pkg Count</th>
<th>Swab Length</th>
<th>Handle Width</th>
<th>Head Length</th>
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<th>Handle Material</th>
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<tr>
<td>Foamtips™ Pro</td>
<td>50 swabs</td>
<td>6.75&quot;</td>
<td>0.20&quot; x 0.13&quot;</td>
<td>white head: 0.75&quot;</td>
<td>white head: 0.44&quot;</td>
<td>polypropylene</td>
<td>white side: 100 ppi open cell foam</td>
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<td>CFP50</td>
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<td>17.1 cm</td>
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<td>Scrubber Side</td>
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<td></td>
<td>17.5 mm</td>
<td>17.1 mm</td>
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| Foamtips™ #100 | 50 swabs | 6.10" | 0.06" x 0.06" | 0.88" | 0.38" | wood | 100 ppi open cell foam over cotton bud |
| CF50           |          | 15.5 cm | 1.5 mm x 1.5 mm | 22.3 mm | 9.6 mm |       |                   |

| Foamtips™ #110 | 50 swabs | 5.00" | 0.19" x 0.13" | 0.38" | 0.82" | polypropylene | 100 ppi open cell foam |
| CF1050         |          | 12.7 cm | 4.8 mm x 3.3 mm | 9.7 mm | 20.8 mm |               |                   |

| Foamtips™ #120 | 50 swabs | 5.12" | 0.19" x 0.05" | 1.00" | 0.50" | polypropylene | 100 ppi open cell foam |
| CF2050         |          | 13.0 cm | 4.8 mm x 1.3 mm | 25.4 mm | 12.7 mm |               |                   |

| Foamtips™ #130 | 50 swabs | 6.00" | 0.13" x 0.13" | 0.75" | 0.25" | polypropylene | 100 ppi open cell foam |
| CF3050         |          | 15.4 cm | 3.3 mm x 3.3 mm | 19.0 mm | 6.3 mm |               |                   |

| Foamtips™ #140 | 50 swabs | 2.87" | 0.10" x 0.10" | 0.50" | 0.19" | polypropylene | 100 ppi open cell foam |
| CF4050         |          | 7.3 cm | 2.7 mm x 2.7 mm | 12.7 mm | 4.8 mm |               |                   |
**Swabs and Applicators**

**Flextips™ & Super Flextips™**
Ideal flexible heads for cleaning optics and small confined areas

- Nonabrasive
- Made without adhesives or glue
- Open cell foam on Flextips for high absorbency, soil capture and gentle cleaning
- Closed cell foam on Super Flextips for increased toughness and abrasion resistance

<table>
<thead>
<tr>
<th>Product</th>
<th>Pkg Count</th>
<th>Swab Length</th>
<th>Handle Width</th>
<th>Head Length</th>
<th>Handle Material</th>
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<tbody>
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<td>50 swabs</td>
<td>4.45&quot;</td>
<td>0.16&quot; x 0.16&quot;</td>
<td>0.81&quot;</td>
<td>0.25&quot;</td>
<td>nylon/polypropylene</td>
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<tr>
<td></td>
<td></td>
<td>11.3 cm</td>
<td>4.0 mm x 4.0 mm</td>
<td>20.5 mm</td>
<td>6.3 mm</td>
<td>100 ppi open cell foam</td>
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<tr>
<td>Super Flextips™ SX50</td>
<td>50 swabs</td>
<td>4.45&quot;</td>
<td>0.16&quot; x 0.16&quot;</td>
<td>0.81&quot;</td>
<td>0.25&quot;</td>
<td>nylon/polypropylene</td>
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<tr>
<td></td>
<td></td>
<td>11.3 cm</td>
<td>4.0 mm x 4.0 mm</td>
<td>20.5 mm</td>
<td>6.3 mm</td>
<td>100 ppi closed cell foam</td>
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<tr>
<td>Flextips™ Mini CXM50</td>
<td>50 swabs</td>
<td>4.13&quot;</td>
<td>0.16&quot; x 0.16&quot;</td>
<td>0.53&quot;</td>
<td>0.19&quot;</td>
<td>nylon/polypropylene</td>
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<td></td>
<td></td>
<td>10.5 cm</td>
<td>4.0 mm x 4.0 mm</td>
<td>13.5 mm</td>
<td>4.8 mm</td>
<td>100 ppi open cell foam</td>
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<tr>
<td>Super Flextips™ Mini SXM50</td>
<td>50 swabs</td>
<td>4.13&quot;</td>
<td>0.16&quot; x 0.16&quot;</td>
<td>0.53&quot;</td>
<td>0.19&quot;</td>
<td>nylon/polypropylene</td>
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<tr>
<td></td>
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<td>10.5 cm</td>
<td>4.0 mm x 4.0 mm</td>
<td>13.5 mm</td>
<td>4.8 mm</td>
<td>100 ppi closed cell foam</td>
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</table>

**Chamois Tips™**
Ideal swab for cleaning magnetic and optical, audio and video heads

- Synthetic chamois cloth head
- Material is free of oils and residues
- Flexible handle bends to clean hard-to-reach areas
- Bonded without adhesives
- Seamless construction
- Effectively cleans excess ink from ink jet cartridges
- Abrasion resistant
- Non-snagging

<table>
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<th>Pkg Count</th>
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<td>3.25&quot;</td>
<td>0.38&quot; x 0.07&quot;</td>
<td>0.88&quot;</td>
<td>0.38&quot;</td>
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<td>8.25 cm</td>
<td>9.6 mm x 1.7 mm</td>
<td>22.3 mm</td>
<td>9.6 mm</td>
<td>(acrylonitrile-butadiene-styrene) synthetic chamois cloth</td>
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</table>

**Microtips™**
Precision applicator for pinpoint solvent, adhesive and lubricant application

- Porous polyvinylidene fluoride-tipped precision applicator and cleaning tool
- Low extractables and particulate levels
- High chemical resistance – compatible with most solvents
- 1.9 mm tapered tip
- Excellent choice for depositing solvents, adhesives and coatings
- Effective as a stylus or pick

<table>
<thead>
<tr>
<th>Product</th>
<th>Pkg Count</th>
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<td>0.62&quot;</td>
<td>0.07&quot;</td>
<td>polypropylene</td>
<td>polyvinylidene fluoride</td>
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</table>
**Cottontips™ & Cottontips™ Low Lint**
Economical swabs designed for general cleaning applications

- 100% pure pharmaceutical grade bleached white cotton head
- Soft and highly absorbent
- Compatible with most solvents
- Available with single or double head
- Rigid wooden handle

**Cottontips™ Low Lint:**
- Special low lint cotton fibers used for critical, low particle applications

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<tr>
<th>Product</th>
<th>Pkg Count</th>
<th>Swab Length</th>
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<td>0.19&quot;</td>
<td>wood</td>
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<td>15.2 cm</td>
<td>2.0 mm x 2.0 mm</td>
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<td>15.2 cm</td>
<td>2.0 mm x 2.0 mm</td>
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<td>2.0 mm x 2.0 mm</td>
<td>16 mm</td>
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**Cottontips™ MicroPoint**
Low particulate, pointed cotton swab, designed for precision applications

- Tightly wrapped head construction
- Small size for delicate precision cleaning
- Extremely Low linting
- High absorbency capacity and rate
- Good solvent compatibility
- Sharp point
- Non-static generating

<table>
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<th>Product</th>
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<th>Handle Width</th>
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