



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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PRODUCT CATALOG





Why MG Chemicals?

At MG Chemicals, we realize that our number one asset is you, our customer.

ISO Quality Standards.

Since 1955, M.G. Chemicals has provided the North American electronics industry with a full line of high performance chemicals and accessories. The M.G. Chemicals manufacturing facility operates under the ISO 9001 Quality System Standard. All products undergo M.G. Chemicals' design process including the testing and analysis of each product to maximize performance, user safety, environmental safeguards and market desirability.

MSDS Access.

M.G. Chemicals lists complete handling, environmental, safety and shipping information for each product on Material Safety Data Sheets. MSDSs are available at www.mgchemicals.com/msds or by fax.

Technical Support.

We will endeavor to provide our customers with the requested information they need with prompt and courteous attention. We offer help on our website www.mgchemicals.com and with our 1-800 Tech Support hotline.

Product Shipping.

M.G. Chemicals products are offered in IATA tested and United Nations approved high performance shipping cartons, to easily transport all of our products anywhere in the world.

Product Availability.

M.G. Chemicals products are readily available through electronic distribution in North America and internationally. Please contact M.G. Chemicals for the closest stocking distributor in your area.

You.

Customer care is what separates M.G. Chemicals from the pack. Our commitment to all of these principles focus on getting you the quality product and support you deserve.

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ACCESSORIES

APPENDICES

Dusters / Circuit Coolers

Super Duster 134A

- ▶ 100% HFC 134A gas
- ▶ Ozone safe
- ▶ Non-flammable
- ▶ Non-conductive
- ▶ Zero residue
- ▶ Variable trigger valve



402A

- ▶ NON-FLAMMABLE
- ▶ NON-CONDUCTIVE
- ▶ MOISTURE FREE GAS
- ▶ ZERO RESIDUE
- ▶ NON-VOC

Removes microscopic dust, lint and foreign particles. Cleans computers and keyboards, photographic and audio-video equipment, coin counters, printers, timing devices, cash machines, optical equipment, fax machines and other electro mechanical instruments. High rate of flow delivery system for increased performance.

Available Sizes

402A	Catalog No.	Size	Format
	402A-140G	140g (5 oz)	Aerosol
	402A-285G	285g (10 oz)	Aerosol
	402A-450G	450g (16 oz)	Aerosol

Trigger Valve

Allows user precision control and greater comfort.



402-T

For use with Super Duster 134 Refill canisters (402AR). Allows user precision control and greater comfort. This high quality threaded chrome valve is for use with Cat# 402AR Super Duster Refill aerosol cans, and can be used over and over. It simply screws onto the top of the can, and can be easily removed at any time later without damage to the valve or the can, even if the can's contents have not been depleted.

Available Sizes

402T	Catalog No.	Size	Format
	402T*	Fits 402AR	Chrome Trigger Valve
	402AR	285g (10 oz)	Aerosol

This high quality threaded chrome valve is for use with Cat# 402AR Super Duster Refill aerosol cans, and can be used over and over.

*Not available for USA distributors

Super Cold 134A

Chills to -51°C (-60°F)



403A

- ▶ NON-FLAMMABLE
- ▶ NON-CONDUCTIVE
- ▶ MOISTURE FREE GAS
- ▶ ZERO RESIDUE
- ▶ NON-VOC

- ▶ 100% HFC 134A gas
- ▶ Ozone safe
- ▶ Non-flammable
- ▶ Non-conductive
- ▶ Zero residue
- ▶ Variable valve allows greater user control

Available Sizes

403A	Catalog No.	Size	Format
	403A-400G	400g (14 oz)	aerosol
	403A-285G	285g(10 oz)	aerosol

Used to locate thermal intermittent electronic components, PCB cracks, cold solder joints, and oxidized junctions. Freezes gum and adhesives for easy removal. Protects heat-sensitive components during soldering. Chills to -51°C (-60°F).





CLEANER DEGREASERS

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CONTACT CLEANERS

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FLUX + FLUX REMOVERS

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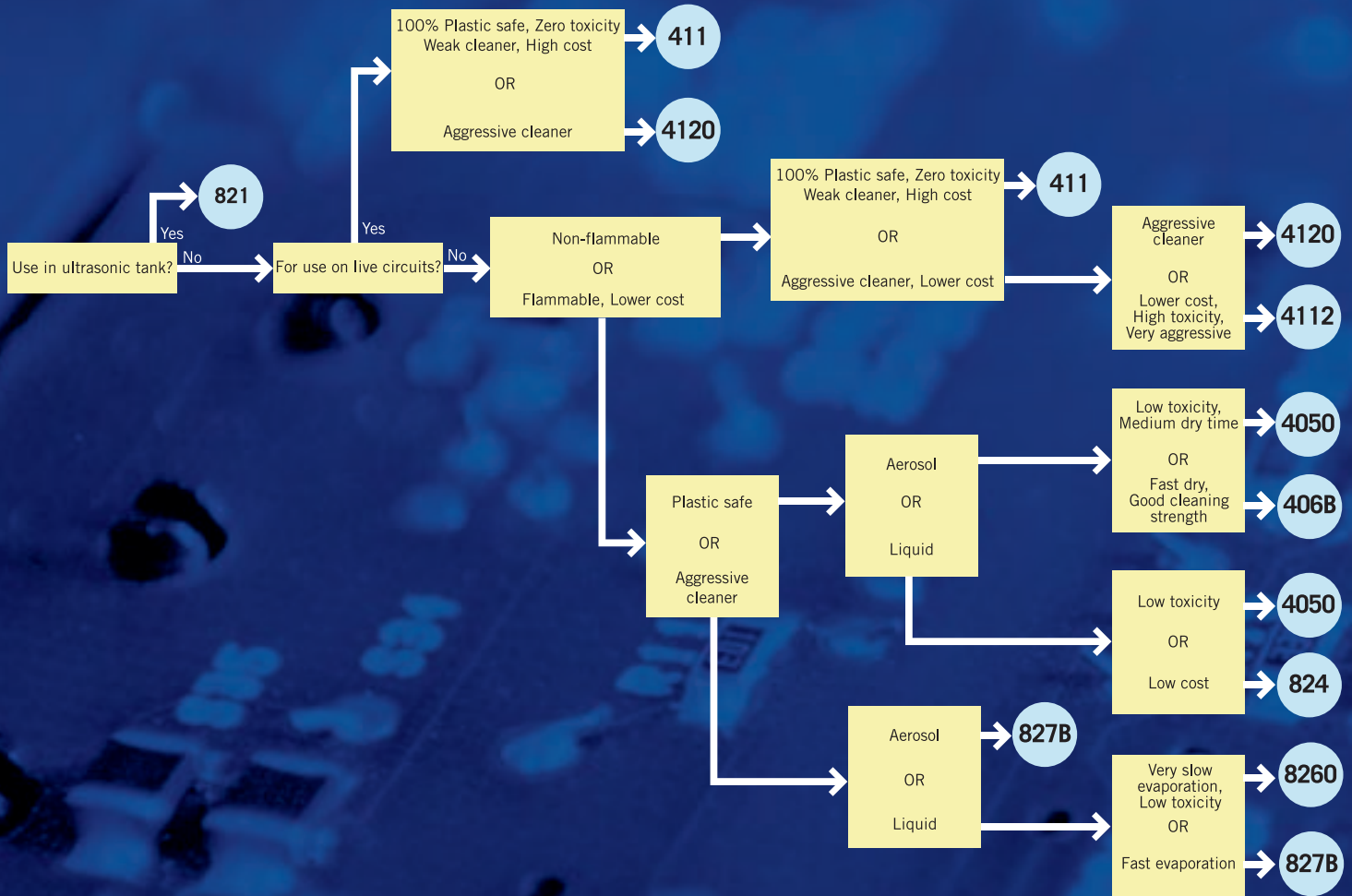
SPECIALTY CLEANERS / CHEMICALS

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Cleaner Degreaser Selection Chart

► Use this flowchart to determine the cleaner degreaser best suited to your application.



Isopropyl Alcohol

824

Use when a cost effective general purpose cleaner is required.

- ▶ SAFE ON PLASTICS
- ▶ LOW TOXICITY
- ▶ COST EFFECTIVE

99.953% Pure anhydrous alcohol (824, 824W). A great general-purpose cleaner degreaser. Also effective as a flux remover. Perfect for use on fiber optics. Flammable.

Available Sizes

	Catalog No.	Size	Format
824	824-100ML	125ml (4.2 oz)	Liquid
	824-500ML	500ml (17 oz)	Pump
	824-1L	1L (34 oz)	Liquid
	824-4L	4L (1 gal)	Liquid
	824-1G	4L (1 gal) x 4	Liquid
	824-20L	18.9L (5 gal)	Liquid
824W	824-205L	205L (55 gal)	Liquid
	824-W	20.3 cm x 12.7 cm (8" x 5")	Single
	824-WX50	20.3 cm x 12.7 cm (8" x 5")	50 pack
	824-WX500	20.3 cm x 12.7 cm (8" x 5")	500 pack
8241	8241-T	-	90 wipes in pop-up tub



Safety Wash

4050

Use when a low toxicity cleaner degreaser is required.

- ▶ SAFE ON PLASTICS
- ▶ LOW TOXICITY

Effective at removing oils, greases, inorganic and organic soils, smoke, flux, and ionic residues from PC boards, office and medical equipment, connectors, electronic or mechanical parts, workbenches, relays and semi-conductors. Flammable.



Available Sizes

	Catalog No.	Size	Format
4050	4050-400G	400g (14 oz)	Aerosol
	4050-525G	525g (18.5 oz)	Aerosol
	4050-1L	1L (34 oz)	Liquid
	4050-4L	4L (1 gal)	Liquid
	4050-20L	18.9L (5 gal)	Liquid

Super Wash

406B

Use when a rapidly drying cleaner degreaser is required.

- ▶ SAFE ON PLASTICS
- ▶ RAPID DRY TIME

Perfect for quickly cleaning PC boards. Rapid dry time makes this an excellent product for rinsing away slower drying solvents. Great for rinsing dissolved flux. Extremely flammable.



Available Sizes

	Catalog No.	Size	Format
406	406B-450G	450g (16 oz)	Aerosol

Cleaner Degreasers : Plastic Safe

HFE Solvent

411



Use only when requiring a 100% non-flammable, non-toxic, and safe on plastic cleaner degreaser.

Suitable for use on live circuits. Suitable for use in cleaning oxygen lines. For a more cost effective and aggressive non-flammable / non-conductive cleaner use cat# 4120. Extra effective with MG Chemicals' hog-hair brushes.

- ▶ 100% NON-FLAMMABLE
- ▶ 100% NON-CONDUCTIVE
- ▶ 100% NON-TOXIC
- ▶ SAFE ON PLASTICS

Available Sizes

411	Catalog No.	Size	Format
	411-300G	300g (10.5 oz)	Aerosol

Liquid formats also available

Cleaner Degreasers : Strong

HFE Super Cleaner Degreaser

4120



Use when a cost effective non-flammable and non-conductive cleaner degreaser is required.

The most high tech cleaner degreaser available in the electronics market. Provides an economical and effective alternative to 141B solvent. Suitable for use on live circuits. Excellent cleaning strength. Also suitable for use as a contact cleaner or flux remover.

- ▶ NON-CONDUCTIVE
- ▶ NON-FLAMMABLE

DIRECT 141B REPLACEMENT

Available Sizes

4120	Catalog No.	Size	Format
	4120-450G	450g (16 oz)	Aerosol

Super Cleaner Degreaser

412



- Suitable for use on live circuits
- Excellent cleaning strength

Use when requiring an azeotropic, non-flammable and non-conductive cleaner degreaser is required.

- ▶ NON-CONDUCTIVE
- ▶ NON-FLAMMABLE

DIRECT 141B REPLACEMENT

Available Sizes

412	Catalog No.	Size	Format
	412-450G	450g (16oz)	Aerosol
	412-1L	1 L (34 oz)	Liquid

Immersion Super Solvent

8260



Use when immersion cleaning or wipe cleaning

Slow evaporation rate makes this product perfect for open air immersion cleaning. Human safe, biodegradable makes and environmentally friendly. Strong enough to easily strip most conformal coatings, uncured epoxies and adhesives, oils and greases, yet is safe on most plastics. Great for cleaning parts or tools.

- ▶ LOW FLAMMABILITY
- ▶ EXTREMELY SLOW EVAPORATION
- ▶ EFFECTIVE CLEANING STRENGTH
- ▶ SAFE ON MOST PLASTICS
- ▶ LOW TOXICITY
- ▶ BIO-DEGRADABLE

Available Sizes

8260	Catalog No.	Size	Format
	8260-1L	1L (34 oz)	Liquid

Aggressive Cleaners

Heavy Duty Cleaner Degreaser

827B



Use when an aggressive cleaner degreaser is required and plastic compatibility or flammability is not a concern.

Great for removing heavy oils and greases, burnt on flux, ionic residues, and difficult to remove soils. Very effective at cleaning and degreasing the solder side (non-component side) of PC boards. Ideal for use in cleaning steel, piping, and metal parts or tools.

- ▶ AGGRESSIVE CLEANER
- ▶ COST EFFECTIVE

Available Sizes

827B	Catalog No.	Size	Format
	827B-425G	425g (15 oz)	Aerosol
	827B-1L	1L (34 oz)	Liquid
	827B-4L	4L (1 gal)	Liquid
	827B-20L	18.9L (5 gal)	Liquid

NPB Heavy Duty

4112



Use when a non-flammable extremely aggressive cleaner degreaser is required, and toxicity is not a concern.

A cost effective 141B replacement. For use in exactly the same applications as 827B, but where non-flammability is a requirement. Avoid inhalation. Respirator recommended. Suitable for use in vapor degreasers. Suitable for use as a cleaner degreaser, contact cleaner, or flux remover.

- ▶ NON-FLAMMABLE
- ▶ EXTREMELY AGGRESSIVE

Available Sizes

4112	Catalog No.	Size	Format
	4112-340G	340g (12 oz)	Aerosol
	4112-1L	1L (34 oz)	Liquid
	4112-4L	4L (1 gal)	Liquid
	4112-20L	18.9L (5 gal)	Liquid
	4112-200L	200L (55 gal)	Liquid

Contact Cleaners

Electrosolve™ 409B

Use when a zero residue contact cleaner is required.

- ▶ FAST DRY
- ▶ SAFE ON PLASTICS
- ▶ ZERO RESIDUE

Available Sizes

409B	Catalog No.	Size	Format
	409B-140G	140g (5 oz)	Aerosol
	409B-340G	340g (12 oz)	Aerosol

Quickly penetrates and dissolves most soil types and non-ionic residues. A great general purpose contact cleaner. Extremely flammable.

Suitable for use in cleaning contacts, connectors, LED's, PCB's, components, circuit breakers, tuners, and microprocessors.



Super Contact Cleaner with Poly Phenyl Ether 801B

- ▶ SAFE ON PLASTICS
- ▶ MINERAL OIL LUBRICATION
- ▶ PROTECTS AGAINST OXIDATION

Available Sizes

801B	Catalog No.	Size	Format
	801B-125G	125g (4.4 oz)	Aerosol
	801B-100ML	125ml (3.5 oz)	Liquid
	801B-P	10 ml (0.34 oz)	Felt Pen



Use when requiring a contact cleaner with lubrication that offers long term protection from oxidation.

Cleans, lubricates, and protects. Removes oxidation. Contains electronic grade mineral oil for lubrication. Contains poly phenyl ether to provide contacts with long term protection from corrosion. Protects gold contacts for life. Improves conductivity. Perfect for use on potentiometers. Also suitable for use on contacts, tuners, sliders, plugs, jacks, and switches.

- Eliminates oxidation for years
- Protects gold for life
- Reduces contact scrubbing
- Reduces connection, wear, and abrasion failures
- Meets Bellcore spec. TR-NWT-00078
- Variable valve allows user to control rate of flow
- Do not use on live circuits

802H

Oxide Scrubber

Excellent for removing oxides and corrosion from all metals, including gold. After cleaning, apply MG Chemical's Super Contact Cleaner with poly phenyl ether (page 8) for lifetime protection of gold.



- ▶ NON-CHEMICAL
- ▶ EASY TO USE

Available Sizes

802H	Catalog No.	Size	Format
	802H	5 1/4" L	Pen with refill



Contact Cleaner with Silicones 404B

Use when requiring a contact cleaner with a dry lubrication.

- ▶ FAST DRY
- ▶ SAFE ON PLASTICS
- ▶ SILICONE LUBRICATION

Leaves behind a thin coating of dry silicone lubricant. Great for cleaning and lubricating delicate moving parts in electronic circuits.

Suitable for use on contacts, tuners, sliders, plugs, jacks, switches, and telescoping antennas. Extremely flammable.

Available Sizes

404B	Catalog No.	Size	Format
	404B-140G	140g (5 oz)	Aerosol
	404B-340G	340g (12 oz)	Aerosol

Flux and Flux Removers



**Heavy Duty Flux Remover
413B**

Use when an aggressive flux remover is required

▶ **AGGRESSIVE CLEANING STRENGTH**

Suitable for use with rosin, non-rosin, and no clean fluxes. Will harm delicate plastic components. Excellent for dissolving flux on the solder side of PC boards. Excellent for use in spot removing hard burnt on flux from the component side of PC boards.

Available Sizes

	Catalog No.	Size	Format
413B	413B-425G	425g (15 oz)	Aerosol
	413B-1L	1L (34 oz)	Liquid
	413B-4L	4L (1 gal)	Liquid
	413B-20L	18.9L (5 gal)	Liquid
4140	4140-400G	400g (14 oz)	Aerosol
	4140-500ML	500ml (17 oz)	Liquid
	4140-1L	1L (34 oz)	Liquid
	4140-4L	4L (1 gal)	Liquid
	4140-20L	18.9L (5 gal)	Liquid



**Flux Remover For PC Boards
4140**

Use when a general-purpose flux remover is required

▶ **SAFE ON PLASTICS**

Suitable for use with rosin, non-rosin, and no clean fluxes. Safe on plastic components. Available in liquid form for immersion processes.



How do you remove flux?

Removing flux is a two-step process. The first step is dissolving the flux. The second step is rinsing the dissolved flux off of the PC board.

The rinsing step is very important because after dissolving the flux it may appear that the solids in the flux have disappeared, but once the flux remover has evaporated away, the solids will re-deposit on the board as white residue.

Step 1: Dissolving the flux

If you are using flux remover in aerosol form, spray a little flux remover onto the flux, then agitate with a hog hair cleaning brush. If you are using our 4140 Flux Remover, you may spray it liberally, as it is safe on your components. If you are using 413B Heavy Duty Flux remover, you may spray it liberally on the solder side of the board, but be careful to only apply it directly to the flux contaminated area if you are using it on the component side of the board, as it will harm some components.

The 4140 is plastic safe so it may be applied liberally. Have a can of 413B handy in case you run into a patch of burnt-on difficult to remove flux.

If you are using flux remover in liquid form, pour the flux remover into a tray. If you are using 4140 Flux Remover, you may then submerge the PC board into the tray, agitating the flux with a hog-hair brush. If you are using 413B Heavy Duty Flux Remover, you should not submerge the board into the tray, as the components will be damaged. Instead, wet the hog-hair brush you are using by dipping it into the tray, then use it to agitate the flux on the board. Periodically rinse and re-wet the brush by swishing it in the flux remover.

Step 2: Rinsing the board

You must ensure that you push the dissolved flux solids off of the board before the flux remover evaporates and the solids re-deposit. If you are using flux remover in aerosol form, the easiest way to do this is to hold the board vertically and liberally apply more flux remover until you see the flux remover running off of the board.

If you have dissolved the flux by submerging the board in liquid flux remover, just dip the board into the tray and swish the flux remover and you should be ok. If you have been using the particular tray to dissolve flux on a number of boards, dissolved flux may accumulate in the tray and dipping the board may actually deposit flux solids onto the board. In this case you will want to either set up a separate tray for rinsing, or have an aerosol can handy for rinsing.

A particularly good option for rinsing dissolved flux off of a board is to use our 406B Super Wash. Super Wash comes in a large aerosol can, allowing for liberal use, and it dries very rapidly. Super Wash will rinse off un-evaporated flux remover as well as flux solids, and the board will be dry and ready for service almost immediately after rinsing.

Rosin Flux

835



- Superior fluxing ability
- Instant wetting
- After soldering, the rosin residue is non-corrosive, non-conducting, moisture resistant, and fungus resistant
- Meets Mil. Spec. #RA 14256
- ANSI Spec. 004
- ROMI Class, J Standard



Rosin Flux Pen

835-P

For precision application of rosin flux, in a convenient microtip pen format. RA type flux.

Available Sizes

	Catalog No.	Size	Format
835	835-100ML	125ml (4.2 oz)	Liquid
	835-1L	1L (34 oz)	Liquid
	835-4L	4L (1 gal)	Liquid
	835-P	10ml (0.34 oz)	Pen
	835-P-20	10ml x 20 (Bulk)	Pens

HFE Super Flux Remover

4141

Use when a non-flammable flux remover is required by safety regulations.

- ▶ GOOD CLEANING STRENGTH
- ▶ NON-FLAMMABLE

DIRECT 141B REPLACEMENT

Suitable for use with rosin, non-rosin, and no clean fluxes. May harm delicate plastic components.



Available Sizes

	Catalog No.	Size	Format
4141	4141-340G	340g (12 oz)	Aerosol

Specialized Cleaners

Specialized Cleaners



Antistatic Screen Cleaner

Eliminates static charges and provides long term static protection. Excellent for use on monitor screens.

FOR USE ON:

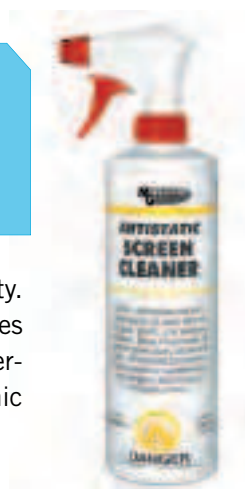
- ▶ CRT'S
- ▶ OFFICE EQUIPMENT
- ▶ TERMINALS
- ▶ CERAMICS
- ▶ GLASS
- ▶ MONITORS
- ▶ BAR CODE READERS

Neutralizes and eliminates build up of static electricity. Eliminates static charge from sensitive areas and provides long-term static protection. Spray on and wipe off fingerprints, grease, oils, inks, smoke, nicotine, carbon, organic and inorganic soils.

Available Sizes

4200	Catalog No.	Size	Format
	4200-500ml	500ml (17 oz)	Trigger Pump

4200



Ultrasonic Cleaner

For use in all ultrasonic tanks and equipment for removing flux, oils, and most types of soils.

- ▶ SAFE ON PLASTICS
- ▶ NON FLAMMABLE
- ▶ SAFE FOR WORKERS

821



Glass Cleaner

An all purpose glass, plastic, and chrome cleaner

High foaming action provides excellent cleaning capabilities on glass, plastic, chrome, stainless steel, countertops and tile. No harmful solvents or abrasives. For use on glass monitor screens, bar code readers and glass.

Available Sizes

825	Catalog No.	Size	Format
	825-500G	500G (18.5 oz)	Aerosol

825



Super-Concentrated Formula 100:1 Mix Ratio

Effectively cleans metals such as aluminum, copper, brass, silver and gold. Features: Super concentrated mix ratio: 1 to 100 with water. Very economical and environmentally safe.

Available Sizes

821	Catalog No.	Size	Format
	821-250ML	250ml (8.4 oz)	Liquid
	821-1L	1L (34 oz)	Liquid

Specialized Cleaners

Audio Video Head Cleaner 407C



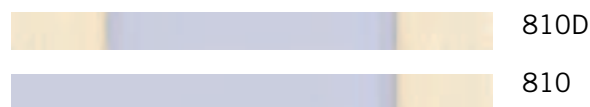
- ▶ ZERO RESIDUE
- ▶ SAFE ON PLASTICS

Cleans and restores sensitive magnetic and optical read/write heads. Removes nicotine, tape residues, metallic oxides, carbon deposits, oils, dirt.

Available Sizes

407C	Catalog No.	Size	Format
	407C-340G	340g (12 oz)	Aerosol
	407C-250ML	250ml (8.4 oz)	Liquid
	407C-1L	1L (34 oz)	Liquid

Perfect for use with MG Chemicals Chamois Swabs



See page 46 for Chamois Swabs

Label & Adhesive Remover 836



- ▶ SAFE ON PLASTICS

Effectively removes adhesives and sticker residues. Distinctive citrus odor is non offensive to the user.

Available Sizes

836	Catalog No.	Size	Format
	836-140G	140g (5 oz)	Aerosol

Rubber Renue 408A

- ▶ ZERO RESIDUE
- ▶ FAST EVAPORATING

Rejuvenates and conditions rubber. Rubs off oxidation film. Apply with cloth, brush, or swab. Excellent for use on belts, platens, rollers, rubber parts. Use with adequate ventilation.



Available Sizes

408A	Catalog No.	Size	Format
	408A-100ML	125ml (4.2 oz)	Liquid
	408A-250ML	250ml (8.4 oz)	Liquid
	408A-1L	1L (34 oz)	Liquid

Touch Pump Solvent Dispensers

Both dispensers come with a high-density polyethylene 8 oz. bottle suitable for many solvents. These square shaped bottles provide stability and save storage space. Wide openings allow for easy refill. Translucent bottles allow for easy viewing of contents.



Touch Pump Solvent Dispenser

8230-8

- Patented one handed operation
- Perfect for cleaning with cotton balls, pads, and brushes
- Precision machined valves, smooth consistent operation
- Cam-lock hinge, keeps lid open and closed, reduces odors
- No silicone or latex, perfect for ultra clean environments
- 100% stainless steel, will not corrode or contaminate liquid

Anti-Spill Lock Anti-Backflow Touch Pump Solvent Dispenser

8231-8

- Patented one handed operation
- Perfect for cleaning with cotton balls, pads, and brushes
- Precision machined valves, smooth consistent operation
- Cam-lock hinge, keeps lid open and closed, reduces odors
- No silicone or latex, perfect for ultra clean environments
- 100% stainless steel, will not corrode or contaminate liquid

PLUS:

- Back flow protector stops fluids from re-entering the bottle
- Locking pump, will not leak when engaged - suitable for travel

Available Sizes

	Catalog No.	Size	Format
8230	8230-8	8 oz.	Pump bottle
8231	8231-8	8 oz.	Pump bottle

Projection Tube Coolant 803

Use as a heat transfer fluid in projection tubes. Compatible with all major brands. High purity, non-contamination. Easy to use container.



Available Sizes

	Catalog No.	Size	Format
803	803-250ML	250ml (8.4 oz)	Liquid
	803-500ML	500ml (17 oz)	Liquid





Super Wick™ 400 SERIES

Cleaned and manufactured using environmentally friendly technology

Any place you can put solder in, you can take it out with SUPER WICK. Remove the most expensive circuitry with confidence. Just lay the SUPER WICK on the soldered joint, apply tip of soldering iron to top-side for one second, and lift iron and SUPER WICK together to leave a clean connection ready for component removal or replacing. SUPER WICK is pure copper, specially woven wound on a pocket size spool with pressurized periphery.

Fine Braid Super Wick™

- RMA type flux
- Faster than most brands
- Environmentally safe residue
- More strands of copper per sq. inch
- Static dissipative spools on all sizes
- Chosen by many users as best brand
- Satisfaction guaranteed

No Clean Super Wick™

- Available in many sizes
- RMA type flux
- Leaves 15-25% less residue than our regular wick
- Residue does not require cleaning
- Static dissipative spools on all sizes
- Chosen by many users as best brand
- Satisfaction guaranteed

Fine Braid Format

Format	Cat. No.	Width	Color code
Fine Braid Super Wick 5 ft lengths (1.52 m)	423	.025"	#1 white (SMT)
	424	.050"	#2 yellow
	425	.075"	#3 green
	426	.100"	#4 blue
	427	.125"	#5 brown
Fine Braid Super Wick 25 ft lengths (7.62 m)	442	.050"	#2 yellow
	443	.075"	#3 green
	444	.100"	#4 blue
Fine Braid Super Wick 50 ft lengths (15.24 m)	451	.025"	#1 white (SMT)
	452	.050"	#2 yellow
	453	.075"	#3 green
	454	.100"	#4 blue
Fine Braid Super Wick 100 ft lengths (30.48 m)	462	.050"	#2 yellow
	463	.075"	#3 green
	464	.100"	#4 blue
Fine Braid Super Wick 500 ft lengths (152.4 m)	471	.025"	#1 white (SMT)
	472	.050"	#2 yellow
	473	.075"	#3 green
	474	.100"	#4 blue

No Clean Format

No Clean Super Wick 5 ft lengths (1.52 m)	424-NS	.050"	#2 yellow
	425-NS	.075"	#3 green
	426-NS	.100"	#4 blue
No Clean Super Wick 50 ft lengths (15.24 m)	453-NS	.075"	#3 green
	454-NS	.100"	#4 blue

Peelable Solder Mask 862

- Contains no ammonia
- Non corrosive to copper, gold, silver or pre-soldered surfaces
- Opaque pink color turns red when cured
- Can be used in water or solvent systems
- Anti-static, thixotropic
- Tested at temperatures 200°C and 400°C



Synthetic acrylic latex. Excellent for masking contacts, gold fingers, card edges and desired areas during circuit board repair. Meets MIL-STD-2000 paragraph 5.3.18 parts a, b, and d.

Available Sizes

862	Catalog No.	Size	Format
	862-150ML	150ml (5 oz)	Tube
	862-1G	4L (1 gal)	Pail

EPOXIES AND COATINGS



Potting & Encapsulating Epoxy Compound

832B Black / 832C Clear

Provides excellent protection from impact, shock, moisture, abuse, chemicals, and analysis. Provides technology security. Excellent for explosion proof components. Available in black and clear.

- Non-conductive, an electrical insulator
- Non-porous
- Water and chemical resistant
- Contains a form of nylon for excellent impact resistance
- Provides excellent technology security, extremely difficult to remove once cured
- Excellent machining properties
- Suitable for explosion proof components, spark arresting
- Less than 0.5% shrinkage during cure
- Low toxicity
- Easy and simple to mix
- Long pot life
- Can be cured in one hour at 65°C (150°F)
- Excellent adhesion to most surfaces



Epoxies

Available Sizes

	Catalog No.	Size	Color	Format
832B	832B-375ML	375 ml (12 oz)	Black	liquid
	832B-3L	3 L (0.8 gal)	Black	liquid
	832B-60L	60 L (15.6 gal)	Black	liquid
832C	832C-375ML	375 ml (12 oz)	Clear	liquid
	832C-3L	3 L (0.8 gal)	Clear	liquid
	832C-60L	60 L (15.6 gal)	Clear	liquid

832B Specifications

Uncured Properties - Resin [Part A]

Viscosity	2,500 cps
Specific Gravity	1.1273

Uncured Properties - Hardener [Part B]

Viscosity	11,000 cps
Specific Gravity	0.9564
Color	Clear, amber tint

Cured Properties - Physical

Mixed Viscosity	3,300 cps
Mixed Specific Gravity	1.0577
Volume Mix Ratio (resin:hardener)	2.0:1
Mass Mix Ratio (resin:hardener)	2.3:1
Working time (100g)	60 min.
Cure Time (100g, room temp.)	24 hours
Heat Cure Time (100g, 65°C)	60 min.
Shore Hardness	82 Shore D

Cured Properties - Temperature

Constant Service Temperature	140°C (284°F)
Intermediate Service Temperature	145°C (293°F)

Cured Properties - Electrical

Insulative	Yes
Conductive	No

Chemical and Solvent Resistance

	Change after 3 days	Change after 45 days
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Hydrochloric Acid	< 0%	< 1%
Isopropyl Alcohol	< 0.3%	< 1%
Ethyl Lactate	< 3%	< 7%
Acetone	< 7%	destroyed
Xylene	< 2%	< 9%
Iso hexanes	< 5%	< 8%
Mineral spirits	< 0.3%	< 0.3%

For more specifications visit www.mgchemicals.com



Epoxies : Special Application

Flame Retardant Epoxy 832FRB



- Flame retardant epoxy will self-extinguish in less than 1 second
- Meets UL 94V-0
- Non-electrically conductive

Meets UL 94V-0 vertical burn test. A two component self extinguishing epoxy compound. Provides insulation and protects sensitive components and circuits from: static discharge, impact, heat, shock, conductivity, abuse, vibration, moisture, fresh and salt water, chemicals and analysis.

Uncured Properties - Resin [Part A]

Viscosity	6700 cps
Specific Gravity	1.32
Color	Blue

Uncured Properties - Hardener [Part B]

Viscosity	4700 cps
Specific Gravity	0.986
Color	Blue

Cured Properties

Volume Mix Ratio (resin:hardener)	1.2 : 1
Mass Mix Ratio (resin:hardener)	1.8 : 1
Working time (100g)	120 min.
Cure Time (100g, room temp.)	24 hours
Heat Cure Time (100g, 65°C)	60 min.
Shore Hardness	80 shore D
Constant Service Temp.	80°C (176°F)
Intermediate Service Temp.	90°C (194°F)
Insulative	Yes
Conductive	No

Available Sizes

832FRB	Catalog No.	Size	Format
	832FRB-375ML	375 ml (12 oz)	Blue Flame Retardant
	832FRB-3L	3 liters (0.8 gal)	
	832FRB-60L	60 liters (16 gal)	

Thermally Conductive Epoxy 832TC



- Two part epoxy, with a 1 to 1 mixing ratio by volume
- Two hour working time
- Suitable for large production runs
- Cures in 2 days at room temperature or one hour at 65°C.
- Non-electrically conductive

100% solids. Formulated with undiluted Bis F resin for superior physical properties, and pigmented with high purity pigment to provide excellent thermal conductivity at reasonable cost.

Pigmented black for excellent thermal absorption and emission. Provides superior protection from impact, shock, conductivity, moisture, abuse, chemicals, and analysis.

Uncured Properties - Resin [Part A]

Viscosity	41,100 cps
Specific Gravity	1.8019
Color	Black

Uncured Properties - Hardener [Part B]

Viscosity	68,900 cps
Specific Gravity	1.5036
Color	Black

Cured Properties - PHYSICAL

Mixed Viscosity	76,300 cps
Mixed Specific Gravity	1.6156
Volume Mix Ratio (resin:hardener)	1.1 : 1
Mass Mix Ratio (resin:hardener)	1.35 : 1
Working time (100g)	120 min.
Cure Time (100g, room temp.)	24 hours
Heat Cure Time (100g, 65°C)	60 min.
Shore Hardness	82 Shore D

Cured Properties - TEMPERATURE

Constant Service Temperature	90°C (194°F)
Intermediate Service Temperature	110°C (230°F)
Thermal Conductivity	0.682 W / m * K
Thermal Diffusivity	0.38 mm ² / s
Volumetric Specific Heat	1.9MJ / m ³ * K

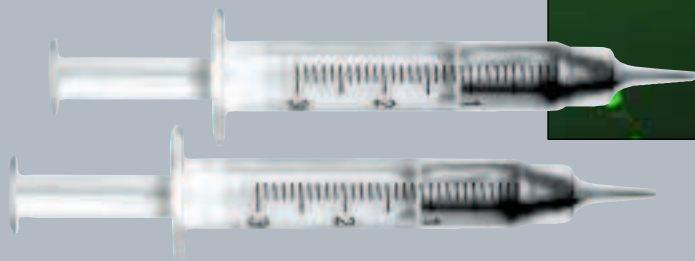
Available Sizes

832TC	Catalog No.	Size	Format
	832TC-450ML	450ml (15 oz)	Black Thermally Cond.
	832TC-2L	2 liters (0.5 gal)	
	832TC-40L	40 liters (10 gal)	

Silver Conductive Epoxy 8331

- Forms high strength conductive bonds
- Resistivity of 0.02 ohm • cm

This two part silver epoxy offers high electrical conductivity and strong conductive bonding. Use in place of traditional soldering on heat sensitive components. Good for repairing defective traces and creating jumpers on boards. Can be used as an effective heat sink adhesive. This Conductive Silver Epoxy comes in two 7g syringes.



Available Sizes

8331	Catalog No.	Size	Format
	8331-14G	14g (0.35 oz)	Dual Syringe
	8331-454G	454g (1 lb.)	Liquid

Epoxy & Adhesive Cleaner 8328

Very effective for cleaning up work area and mixing equipment of uncured epoxies.

- Human and environment safe
- Low odor
- Slow evaporator
- Safe on most plastics
- Zero residue



Available Sizes

8328	Catalog No.	Size	Format
	8328-500ML	500ml (17 oz)	Trigger Pump

Epoxy Mold Release 8329

Non Silicone Formula

For use with all types of epoxies and phenolic resins.



Available Sizes

8329	Catalog No.	Size	Format
	8329-350G	350 g (12.3 oz)	Aerosol



PROTECTIVE COATINGS

Protective Coatings : Conformal

Why are protective coatings required?

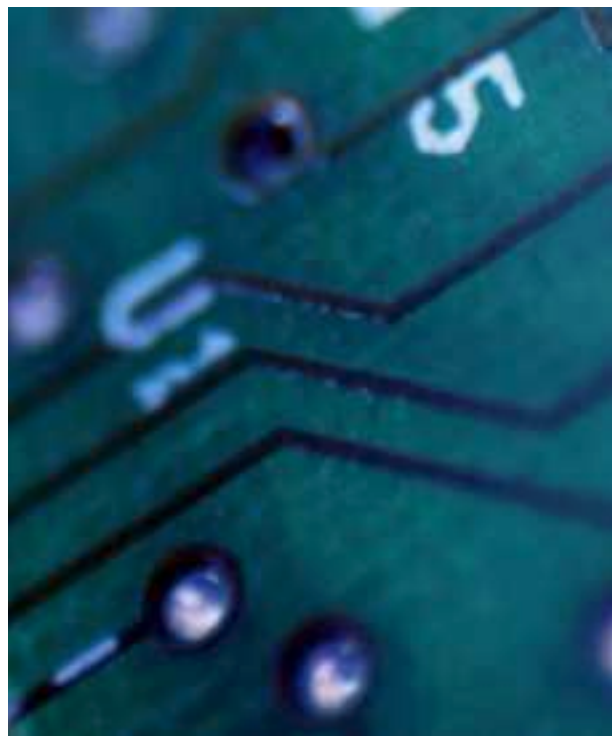
Protective coatings are necessary to ensure a long and effective working life of electrical and electronic components. MG Chemicals offers a wide range of coatings suitable for protecting:

- Circuit boards
- Windings and coils
- Transformers
- Field coils
- Stator windings
- and more

The coatings protect components from:

- Electrical arcing
- Environmental factors
- Physical force
- Mold
- Fungus

What do coatings do?



Protective Coatings

► Suppress arcing

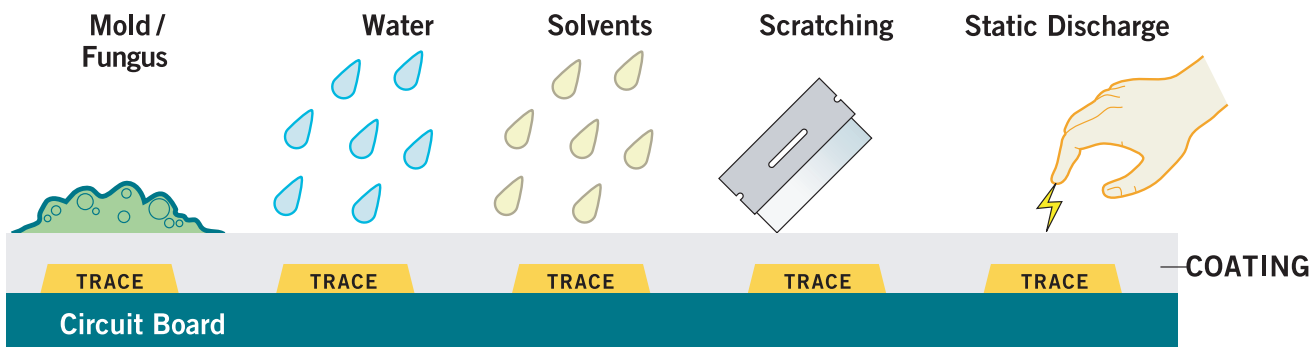


WHAT IS ARCING?



Arcing occurs when voltage jumps from one surface to another due to the close proximity of parallel currents. The result is a board malfunction or damaged components. It may occur on any circuitboard without a coating.

► Resist environmental and physical forces



Protective Coatings : Conformal

Urethane Conformal Coating 4223

Our Urethane Conformal Coating conforms to Military Specification MIL-V-173C-2. It is a unique, high temperature electrical insulator that dries very quickly to a tough, clear, chemically resistant film. It is an excellent conformal coating for all types of electrical and electronic parts. Provides extraordinary abrasion resistance, excellent chemical and moisture protection.

OUTSTANDING PROPERTIES

- Fungicidal
- Fast drying-units can be handled in 30 minutes
- Apply by dip, brush or spray
- Class F temperature rating (160°C / 320°F)
- Excellent chemical resistance
- Oil and moisture resistant
- Excellent for coating circuit boards
- Superior abrasion resistance
- Excellent adhesion
- Good flexibility
- Can be thinned to desired viscosity using M.G. Chemicals Cat No. 435
- UV indicator



Specifications

Color / Appearance	Clear / Amber
Density @25°C (75°F), Lbs/gal	7.5 - 8.5
Viscosity 30°C (86°F), Zahn #2	74 - 82 seconds
Viscosity @25°C (75°F) Brookfield Viscometer cps	130 - 270
Flash point	27°C (81°F)
Film Build, mils/side, ASTM D-115	1 - 1.5
Thinner	M.G. Chemicals Cat No. 435
Cure Time @25°C (75°F) on Strip, min.	Set to Touch 10 Tack Free 60
Federal Specification, TT-P-1436-Free of After Tack	1 hour
Class F temperature rating	160°C (320°F)
Corrosive Effect on Copper	None
CHEMICAL RESISTANCE	
Water	Excellent
Acid (10% Sulfuric Acid)	Excellent
Alkali (1% Sodium Hydroxide)	Excellent
Salt Water	Excellent
Oil, ASTM D-115	Passed
FUNGUS RESISTANCE, MIL-V-173-2	
Aspergillus Niger	Passed
Aspergillus Flavus	Passed
Penicillium Funiculosum	Passed
Trichoderma SP	Passed
ELECTRICAL PROPERTIES	
Dielectric Strength, Volts/mil (dry)	1800
Dielectric Strength, Volts/mil (wet)	1200

Available Sizes

4223	Catalog No.	Size	Format
	4223-55ML	55ml (2 oz)	Liquid
	4223-1L	950ml (1 quart)	Liquid
	4223-4L	3.78L (1 gal)	Liquid
	4223-20L	18.9L (5 gal)	Liquid

Aerosol form also available

Protective Coatings : Conformal

Coating Options

Type	Acrylic	Silicone	Urethane	Red Insulating Varnish	Super Corona Dope
Cat. No.	419B	422A	4223	4228	4226
Moisture Resistance	Extreme	Extreme	Extreme	Extreme	Extreme
Acid Resistance	Moderate	Low	Extreme	Moderate	Moderate
Temperature Resistance	Moderate	High	Moderate	Moderate	Moderate
Flexible or Hard Finish	Hard	Flexible	Hard	Flexible	Flexible
Dielectric Strength (V/mil)	2200	2000	2000	3100	4100 (Baked cure)
Color	Clear	Clear	Clear	Red	Clear
Formats Available	Aerosol/Liquid/Pen	Aerosol/Liquid/Pen	Aerosol/Liquid	Liquid	Liquid
Recommended Uses:	Field coils	Molded bakelite	Circuit boards	Stators	
Coatings and Varnishes	Control coils	Electrical connectors	Controller shafts	Transformers	
	Windings	Collector rings	Commutator ends	Bus bars	
	Motor frames	Fuse tubes	Porcelain	Junction boxes	
	Switch bases	Solenoid coils	Soldered joints	Cables	

Acrylic Conformal Coating 419B

- ▶ ALL ROUND PRINTED CIRCUIT BOARD PROTECTOR
- ▶ CLEAR, DURABLE, MOLD RESISTANT COATING
- ▶ EFFECTIVE IN PREVENTING STATIC DISCHARGE
- ▶ CONTAINS UV INDICATOR FOR Q.C. INSPECTION

419B Acrylic Conformal Coating is a durable finish product that provides an all round protective coating for printed circuit boards against moisture, corrosion, and thermal shock. It protects and insulates electrical and electronic components and assemblies, including generators, motors, transformers, relays, and solenoid coils. For clean up, use MG Chemicals 435 Thinner Cleaner.



Available Sizes

419B	Catalog No.	Size	Format
	419B-340G	340g (12 oz)	Aerosol
	419B-55ML	55ml (2 oz)	Liquid
	419B-1L	950ml (1 quart)	Liquid
	419B-4L	3.78L (1 gal)	Liquid
	419B-20L	18.9L (5 gal)	Liquid
	4190-GP	5ml (0.16 oz)	Microtip pen

Silicone Conformal Coating 422

- ▶ UL RECOGNIZED (FILE #E203094)
- ▶ UL 94 FLAME CLASS, 94V-0
- ▶ CSA TESTED (FILE #LO 4000-4068)
- ▶ REMAINS FLEXIBLE FROM -65°C TO 200°C (-85°F TO 392°F)
- ▶ CONTAINS UV INDICATOR FOR Q.C. INSPECTION

Protect PCBs and related equipment against moisture, thermal shock, and vibration. This Silicone Conformal Coating is a flexible finish product that provides a protective coating for printed circuit boards against moisture, corrosion, and thermal shock. It protects and insulates electrical and electronic components and assemblies, including generators, motors, transformers, relays, and solenoid coils. For clean up, use MG Chemicals 435 Thinner Cleaner.



Available Sizes

422	Catalog No.	Size	Format
	422A-340G	340 gram (12 oz)	Aerosol, with UV
	422-55ML	55ml (2 oz)	Liquid
	422-1L	950ml (1 quart)	Liquid
	422-4L	3.78L (1 gal)	Liquid
	422-20L	18.9L (5 gal)	Liquid
	422A-P	5ml (0.16 oz)	Microtip pen