

## SPECIALTY CHEMICALS (Cont.)



### Silicone Dielectric Compound

Soft, inert silicone grease with excellent dielectric properties. Usable over a wide range of temperatures. Its consistency is vaseline-like and it is white opaque in color. It provides an excellent dielectric coating which excludes moisture and prevents high voltage arcing. Applicable to components in the high voltage section of TV receivers. Protects ignition systems in automobiles and boats, in addition to providing an outstanding corrosion resistant coating on exposed metal surfaces, such as TV antenna terminals as well as general rustproofing. This compound also makes an excellent lubricant for rubber or plastic.

**Part No. 10-8101** 1 fl. oz. Tube  
N.S.N. 6850-00-268-7963

**Part No. 10-8102** 1 gal. Can

**Part No. 10-568** 1/3 fl. oz. Chem-O-Jector



### Anti-Seize Compound

Specifically engineered to resist seizing and corrosion on any threaded surface up to 2100°F. This is an excellent product for eliminating seizing of soldering iron tips, especially threaded types. Will prevent seizing, "cold-welding" and fretting corrosion of all metal threads; a preliminary degreasing with Trichloroethane or similar solvent is suggested for maximum benefit. Apply by dipping, brush, etc.

**Part No. 10-1230** 1 fl. oz.



### Belt & Drive Non-Slip

Prevents slippage in mechanical or electro-mechanical devices which are driven with cords, belts, pulleys and drives. Restores proper functions on belts and drive pulleys in turntables, record changers and tape recorders, especially where the rubber parts have hardened and/or become slick and cause slippage.

**Part No. 10-8602** 2 fl. oz. Bottle w/ Brush



### Re-Grip

Cleans and revitalizes hardened and glazed rubber drives and belts of record changers, etc. Gives racing models more grip. Eliminates slipping and squealing. Brings new life to dried rubber drive belts. Reduces the need to replace belts, saving maintenance downtime.

**Part No. 19-729** 1 fl. oz. Bottle

## ACCESSORIES



Part No. 19-780



Part No. 19-781

### Squeeze Bottle & Squeeze Riser

These reliable bottles accurately dispense solvents in the required amounts in the proper location. For use with GC Bulk Chemicals, wipes and brushes. Can be used safely with all GC chemicals. The squeeze riser professionally dispenses chemicals without using an aerosol.

**Part No. 19-780** 4 oz. Squeeze Bottle

**Part No. 19-781** 4 oz. Squeeze Riser



### GC Touch Dispenser

Stops waste. Dispense only as much fluid as needed for the job. Saves time and effort. No stopper or cap to remove. One-handed touch on the dish dispenses the required amount of fluid, leaving the other hand free. Prevents contamination. Liquid in bottle stays clean until used. Fluid pumped into dish doesn't drip back into bottle. Hinged lid protects dish when not in use. Use with all GC cleaner/degreaser and defluxing solvents. Not for use with iodine, acids or bases.

**Part No. 19-764** 4 oz. Bottle with Pump

**Part No. 19-766** 6 oz. Bottle with Pump

**Part No. 19-768** 8 oz. Bottle with Pump



### 1oz. Glass Bottle

GC glass bottle with plastic cap allows safe storage for when you want to work with smaller quantities of oils, contact cleaners, and other liquids.

**Part No. 10-285** 1 oz. Glass Bottle with Cap

## ACCESSORIES (Cont.)



### "The PUMP"™

"The Pump" is a new air-powered spray bottle that provides an environmentally conscious alternative to conventional aerosols. The refillable, reusable spray bottle uses air as a propellant with its self-contained "Air Pump." Save money with "The Pump" by buying liquid solvents in bulk. This durable unit replaces the use of aerosol cans. "The Pump" provides an excellent cleaning alternative to aerosols. Use with cleaners, degreasers, alcohol, CFC's, HCFC's and other chemicals.

**Part No. 19-769** 3 fl. oz. Pump Bottle

**Part No. 19-763** 6 fl. oz. Pump Bottle



### Chem-O-Jector

Plunger type applicator for all grease type or semi-liquid chemicals. Made of polyethylene with neoprene plunger unaffected by most chemicals. Length: 5-1/2" (plunger extended).

**Part No. 8887** .2 oz. (6cc)



### GC Wipes

Soft non-woven GC wipes with the strength of rayon. Safe for critical applications. Provides excellent contamination control on precise instrumentation, semi-conductors and other critical uses.

Applications: for cleanroom applications; resistant to most solvents, alcohols and dilute acids; cleaning photo processing equipment; high liquid retention; wiping laboratory instrumentation; will not abrade surfaces; computer screens; contamination control.

**Part No. 19-747** White 9" x 10 1/2"

Package of 30

Replaces Part No. 19-746



### Poly & Cotton Lint Free Swabs

A special absorbent polyurethane swab with a fine texture that is gentle enough for cleaning delicate surfaces. Particularly good for delicate tape heads and similar usage. Reusable if used with solvents such as TF solvent, alcohol, etc.

**Part No. 10-277** Package of 30



### Double Headed Cleaning Swabs

Cotton tipped swabs for general cleaning with Alcohol, Freon TF, 1,1,1 Trichloroethane, etc. 6" length, package of 50 swabs.

**Part No. 10-270** Package of 50



### Needle Tip Chemical Bottles

GC bottles for quantity chemical use when buying in bulk. These bottles allow you to work with precision and buy economically. Use polyethylene bottles for trouble-free dispensing of oils, mixtures and other liquids.

**Part No. 10-284** 4 oz. Size



### Chemical Injector

Needle type injector, supplied with 1/2 oz. vial. Ideal for contact cleaners, light oils, etc.

**Part No. 8383** 1/2 oz. Size



### Acid Brushes

Brushes for cleaning with solvents, applying coatings and a host of other uses. These brushes are economical enough to use as throw-away in many applications. Or may be used repeatedly with cleaners such as Freon TF, Chlorothene, Flux Solv, etc. Handles are of tin plated steel and bristles a medium-fine horse hair. Also fine for dusting keyboards, optics, etc. All 6" long, width below refers to width at base of bristles.

Part No.	Description	Width (Bristle)	Qty. Per Pkg.
10-251	No. 1 Acid Brush	3/8"	4
10-252	No. 2 Acid Brush	7/16"	4
10-253	No. 3 Acid Brush	1/2"	3
10-254	No. 4 Acid Brush	5/8"	2
10-255	No. 5 Acid Brush	3/4"	2
10-259	Acid Brush Set		7
	P/N	Quantity	
	10-251	1	
	10-252	2	
	10-253	1	
10-254	2		
10-255	1		

For the latest information—[www.gcelectronics.com](http://www.gcelectronics.com)

All quantities are single; BU's are packages of 10 Unless otherwise noted.

## ACCESSORIES (Cont.)



### Anti-Static Applicators

These static-dissipative swabs are designed to attract dust and contaminants for easy cleaning while reducing static electricity. 6" Applicator with Anti-Static polyolefin handle. Head size 3/16" D x 11/16" L.

**Part No. 19-752** Package of 50

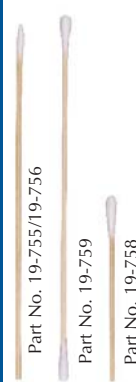
**Part No. 19-754** Package of 50



### Foam Applicators

6" Foam-tip applicator on polypropylene shaft.  
Head size 3/16" D x 11/16" L.

**Part No. 19-753** Package of 50



### Cotton Applicators

6" Pointed cotton-tip applicator on wooden shaft. Head size @.105" D, tapering to .020" Dia.

**Part No. 19-755**

6" Single cotton-tip applicator on wood shaft. Package of 100.

**Part No. 19-756**

6" Pointed cotton-tip applicator on wood shaft. Package of 100.

**Part No. 19-758**

3" Cotton-tip applicator on wood shaft. Package of 100.

**Part No. 19-759**

6" Double-tipped cotton applicator. Package of 100.

## CIRCUIT BOARDS



### Bare Copper Circuit Boards

One ounce copper (0.0014") on base of either FR-4 (G-10) fiberglass or CEM-1 type epoxy reinforced board, 1/16" thick.

Copper on One Side Only:

**Part No. 22-250** 3" x 5"

**Part No. 22-260** 4" x 6"

**Part No. 22-261** 6" x 6"

**Part No. 22-263** 6" x 9"

**Part No. 22-264** 8" x 10"

**Part No. 22-268** 11" x 14"

Assortment of 4 one sided boards:

**Part No. 22-272** [1] 2" x 4-1/2",  
[1] 3" x 4-1/2",  
[2] 2-1/4" x 3"

Copper on Both Sides:

**Part No. 22-267** 6" x 9"

Military Specification Number:  
MIL-S13949H CF



### Positive Pre-Sensitized Phenolic Circuit Boards

Made of 1.5 mm (1/16") thick phenolic base with one ounce (0.0014") copper. Coated with POSITIVE photo etch resist. Use with GC Developer, Part No. 22-225 or 22-226 concentrate. Mix at a ratio of 9 parts water to 1 part concentrate. Dielectric constant at 1 MHz=5.3.

Copper on One Side Only:

**Part No. 21-166** 6" x 6"

**Part No. 21-169** 6" x 9"

**Part No. 21-1710** 7" x 10"

**Part No. 21-1212** 12" x 12"



### Positive Pre-Sensitized Circuit Boards

1 oz. copper (0.0014") on a 1/16" (UL 94V-O) epoxy-glass FR-4 board. New high quality positive pre-sensitized PC boards are double protected from light and handling damage. The peel-off coating protects the board while handling or cutting prior to exposure. Can be exposed with common fluorescent lamp. GC makes it easy for anyone to make a professional looking board. Use with GC Developer Part Nos. 22-225 or 22-226 mixed 1 to 9 with water. Dielectric constant at MHz=5.4.  
Meets Fed. Spec.: 5-10941-1.

Copper on Both Sides:

**Part No. 21-339**  
3" x 4"

**Part No. 21-350**  
6" x 6"

**Part No. 21-353**  
6" x 9"

**Part No. 21-357**  
12" x 12"

Copper on One Side Only:

**Part No. 21-330**  
2" x 4"

**Part No. 21-332**  
3" x 4"

**Part No. 21-243**  
3" x 6"

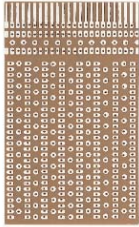
**Part No. 21-334**  
4" x 6"

**Part No. 21-336**  
6" x 6"

**Part No. 21-338**  
6" x 9"

**Part No. 21-247**  
7" x 10"

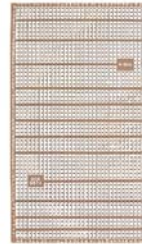
**Part No. 21-252**  
12" x 12"



### Plug-In IC Phenolic Prototype Board

IC's plug directly into board. 0.1" spacing accepts 14 pin or 16 pin IC's, up to 20 pin IC's. Silver plated lands with 24-way card edge connector plug on one end. Made of tough phenolic. 0.1" centers x 2-3/8" wide x 4" long x 1/16" thick, .035" holes.

**Part No. 22-500**



### Versa Strip Phenolic Prototype Board

Alpha-numerical indexing. Silver-plated land patterns. Predetermined short tracks for multi IC work. 0.1" centers x 3-1/2" wide x 6" long x 1/16" thick, .035" holes.

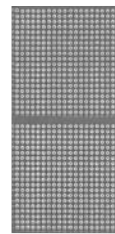
**Part No. 22-502**



### Export Design Phenolic Prototype Board

Accommodates all types of IC's, transistor packages and passive parts. Lands and buss bars are tin-plated. 0.1" centers x 3-1/8" wide x 5-1/16" long x 1/16" thick.

**Part No. 22-504**



### Experimenter's Phenolic Prototype Board

Save time and money with ready-to-use printed circuit boards. Excellent for use in prototype building, experimenting, hobby or science projects and kit building. Made of tough phenolic with .03" punched holes on 0.150" centers. Choice of single or quad land pattern. 3-3/8" wide x 6-3/4" long x 1/16" thick.

**Part No. 22-510** Quad Land Pattern

**Part No. 22-512** Single Land Pattern



### Printed Strip Phenolic Prototype Board



Alpha-numerical indexing. Tin-plated land patterns for positive pin identification. 0.1" centers x 3-1/2" wide x 6" long x 1/16" thick, .035" holes.

**Part No. 22-506**



### Perforated Bare Phenolic Prototype Boards

Unexcelled for prototypes, breadboards, hobby or science projects. Made of tough phenolic with punched holes. Boards are bare phenolic—no copper clad.

**Part No. 22-514** 0.042" holes; 0.100" spacing  
2-1/4" wide x 6" long x 1/16" thick

**Part No. 22-516** 4-1/2" wide x 6" long x 1/16" thick

**Part No. 22-518** 0.093" holes; 0.265" spacing



### Experimenter's Phenolic Prototype Board

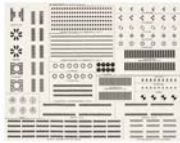


Ready-to-use copper plated printed circuit board has 550 solder tie-points, 94 five-point terminals and two 40-point buss strips on 0.3" centers. Phenolic board has pre-punched holes, mounting holes. 2" wide x 6" long x 1/16" thick.

**Part No. 22-508**



**DRAFTING AIDS**



**Circuit Board Drafting Patterns**

An 8-1/2" x 11" sheet containing two dozen of the most commonly used pre-spaced component configurations. Self-adhesive pads may easily be removed from master sheet with printed circuit knife and placed upon Mylar® positive artwork. Interconnection may be made with GC's line of opaque drafting tapes. A highly refined process and ink assures true opacity and the excellent definition necessary for quality printed circuit work.

**Part No. 21-677**



**Mylar® Layout Film**

Package of 2 transparent mylar sheets with clear finish plus one grid pattern sheet. Std. 0.10" spacing.

**Part No. 22-290** 8 1/2" x 11"

Mylar is a registered trademark of DuPont.

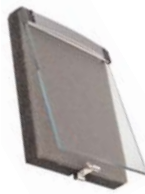


**Etch Resist Ink Pens** 

Black felt tip pens for marking nomenclature and touching up photo artwork or etch resist circuits directly on the PC board or on the positive. Dries instantly. Easy application. Can be removed with Stripping Solution (22-240) or alcohol.

**Part No. 22-220** Std. Size – draws lines approx. 1/32" wide

**Part No. 22-222** Fine Line – draws lines as thin as 1/64" wide




**Exposing Frame**

Assures tight contact between positive or negative and the photosensitive material. Results in perfect transfer of circuit image to the board.

**Part No. 22-280** For boards up to 4 1/2" to 6 1/2"

**Part No. 22-393** For boards up to 10" to 12"

**PC DEVELOPING & ETCHING**

**Positive Type Developer Concentrate** 

For developing photo sensitized PC boards coated with positive type etch resist. To be diluted with 9 parts of water to 1 part of developer. 6 oz. will develop 10 to 20 sq. ft. of PC board.

**Part No. 22-225** 2 fl. oz. Bottle  
**Part No. 22-226** 6 fl. oz. Bottle

**PC Board Etching Solution** 

This ferric chloride solution is one of the most effective and safest etching materials for copper clad PC boards. 6 oz. will etch about 180 sq. inches of PC board. Use only in plastic or glass trays. pH. 1.57

**Part No. 22-237** 6 fl. oz. Bottle  
**Part No. 22-238** 32 fl. oz. Bottle  
**Part No. 22-239** 1 Gallon Container

**Professional PC Board Power Etching System**



A semi-automatic etching device for use in labs, schools, prototype shops and for limited PC board production. Reduces etching time to minutes. Air pump agitates etching solution for fast, very even etches. Handles up to two 8" X 10" PC boards at a time, either single or double sided. Tank comes with a tip-proof wire stand that can remain portable or attached to the bench with screws. For professional labs, it can be mounted as a bench well. Boards fit into a submersible rack with handles that keep hands away from the etchant as well as separating the PC boards. Lid prevents splashes, reduces evaporation, and can be turned upside down and used as an auxiliary tray.

Kit contains:  
1 Etching Tank and Reservoir Lid (12"H x 2-1/2"W x 10-1/2"L)  
Molded Polyethylene – ABS PC Board Holder  
Capacity – 1.25 Gallons of Etching Solution  
1 Etch-O-Matic Power Agitating Pump, 120V AC Operation  
1 Permanent or Portable Tip-Free Base  
1 PC Board Holder and Handle  
4 Feet of Supply Hose

**Part No. 22-394**

**Developing and Etching Trays**

Two plastic trays (5-1/4" x 7-1/4" I.D.) for positive method developing and for etching. One aluminum tray for rinsing (4-1/4" x 6-3/4" I.D.).

**Part No. 22-284** Set of 3  
**Part No. 22-285** 8" x 10" I.D. High Grade Wht Plastic  
**Part No. 22-286** 11" x 14" I.D. High Grade Wht Plastic

**Etching Solution Heater** 

Fits in tank and heats solution up to 38°C (100°F). Used to further reduce etching time. Built-in adjustable thermostat controls temperature continuously to 100°F. 120V AC/100 W Max.

**Part No. 22-392**

CHEMICALS & PRINTED CIRCUIT

## PRINTED CIRCUIT BOARD REPAIR



### Silver Print II

Conductive Paint

Bottle for PC repair or add-on circuit traces. Pure silver in acrylic lacquer based carrier may be brushed on for either conductors or shielding. Connections have equal or better conductivity than copper (0.1 ohms per square).

**Part No. 22-023** 1/2 troy oz. Bottle  
Replaces Part No. 22-201

**Part No. 22-024** 1 troy oz. Bottle  
Replaces Part No. 22-202



### Nickel Print

Conductive Paint

A quick drying lacquer-based coating, pigmented with powdered nickel. For repair and modification of printed circuits. Conductivity is 5 to 6 ohms per square.

**Part No. 22-207** 2 fl. oz. Bottle



### Print Kote Conformal Coating

The ultimate coating for PC boards. Provides a protective shield to resist environmental contaminants. Prevents arcing and shorting. Air dry 15-30 minutes. May be baked at 200°C for 30-60 minutes for extreme high temperature applications.

**Part No. 22-203** 2 fl. oz. Bottle  
N.S.N. 8010-00-711-2173

**Part No. 22-045** 11 oz. Aerosol  
Replaces Part No. 22-245



### Print Kote Solvent

A solvent to remove silicone and other types of protective coatings from PC boards. Required when modifying PC boards or replacing components where the protective coating interferes with the desoldering and resoldering operation.

**Part No. 22-209** 2 fl. oz. Bottle

N.S.N. 6810-00-711-2185



### Stripping Solution

Removes remaining etch resist from PC boards. Removes any coating that remains over the copper after etching which may interfere with the soldering of the component leads to the PC board.

**Part No. 22-240** 2 fl. oz. Bottle



### Flux Remover and Cleaner II

Convenient, fast and easy to use. Removes all types of organic flux. Pinpoint applicator supplied. Non ODC.

**Part No. 22-271** 16 oz. Aerosol



### Etch Resist Lacquer

For touch-up or modification of resist patterns before etching. Fast drying, easy to apply on PC boards. Bottle is supplied with small brush attached to cap.

**Part No. 22-244** 1/2 fl. oz. Bottle



### Small Printed Circuit Repair Kit

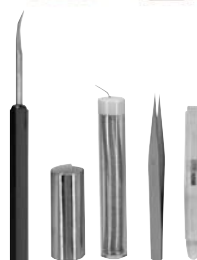
For repair and servicing of printed circuits

Kit contains:

- 1—Solder Aid Tool Part No. 9093
- 1—Low-Melt Solder Part No. 9132
- 1—PC Repair Foil
- 1—Print Kote Part No. 22-203
- 1—Print Kote Solvent Part No. 22-209
- 1—Fiberglass Eraser
- 1—Tweezers Part No. 7948
- Asst. Solder Washers (Fluxed)

**Part No. 22-682**

N.S.N. 3439-00-986-2582  
N.S.N. 5999-00-755-1808



## PRINTED CIRCUIT BOARD REPAIR (Cont.)



### Pure Copper Circuit Tape

6-foot roll of self-adhesive pure copper tape for quick repairs or circuit modification. Adheres readily to PC boards and similar surfaces; solders readily. Flexible enough to be used around corners, between PC boards, between board and chassis, etc. Extremely low resistance (.002" thick). Supplied on 1" I.D. core.

**Part No. 22-507** 1/16" Wide

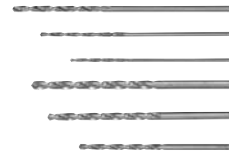
**Part No. 22-509** 1/8" Wide



### Micro Inspection Magnifier

Superb tool for the close inspection and trouble shooting of micro-circuits and PC boards. Provides 2X magnification from 2-1/2" dia. precision-ground glass that swings a full 360° with positive-lock swivel adjustments.

**Part No. 22-386**



### Drill Bit Sets

For drilling component lead wire holes in phenolic and glass epoxy PC boards. Made of high speed tool steel for long life.

**Part No. 22-275** Set Contains:  
No. 66 Bit .0330" Dia.  
No. 60 Bit .0440" Dia.  
No. 1/16 Bit .0625" Dia.

**Part No. 22-276** Set Contains:  
No. 31 Bit .1200" Dia.  
No. 27 Bit .1400" Dia.  
No. 3/32 Bit .0938" Dia.

## OLD TO NEW PRODUCT CROSS REFERENCE

### All New Chemical Products

Old Part No.	New Part No.	Page No.	Description	Change
10-324	10-327	42	General Purpose Plastic Cement II-2 oz.	Environmental Reformulation
10-352	10-354	42	Rubber-to-Metal Cement-2 oz.	Environmental Reformulation
10-984	10-985	39	Reach-All Pen Oiler-1/2 oz.	Environmental Reformulation
10-5302	19-5302	38	VCR/Magnetic Head Cleaner-2 oz.	Environmental Reformulation
10-7517	19-7518	37	Static-Free High Strength Flux Remover-12 oz.	Environmental Reformulation
10-7521	19-7522	37	Static-Free High Strength Flux Remover-18 oz.	Environmental Reformulation
19-228	10-229	37	Flux Remover & Cleaner II-16 oz.	Environmental Reformulation
19-328-22	19-272	32,37	Flux Solx3-16 oz.	Environmental Reformulation
19-624	19-913	32,36	Big Bath3 Contact Cleaner-16 oz.	Environmental Reformulation
19-700	19-701	35	GC Natural Citrus Cleaner-12 oz.	Environmental Reformulation
19-746	19-747	49	GC Wipes	Size and Texture
19-820	19-826	38	Anti-Oxidant Grease-1 oz.	Environmental Reformulation
19-901	19-912	32,36	Big Bath3 Contact Cleaner-12 oz.	Environmental Reformulation
19-902	19-903	32,36	Big Bath3 Contact Cleaner & Degreaser-12 oz.	Environmental Reformulation
19-902-SF	19-907	32,36	Big Bath3 Contact Cleaner & Degreaser Anti-Static-16 oz.	Environmental Reformulation
19-903	19-906	32,36	Big Bath3 Contact Cleaner & Degreaser-16 oz.	Environmental Reformulation
19-903-6	19-905	32,36	Big Bath3 Contact Cleaner & Degreaser-12 oz.	Environmental Reformulation
19-903-SF	19-907	32,36	Big Bath3 Contact Cleaner & Degreaser Anti-Static-16 oz.	Environmental Reformulation
19-2903-3	19-905	32,36	Big Bath3 Contact Cleaner & Degreaser-12 oz.	Environmental Reformulation
19-2903-8	19-906	32,36	Big Bath3 Contact Cleaner & Degreaser-16 oz.	Environmental Reformulation
19-8669	19-802	32,36	GC NPB3 Cleaner & Degreaser-16 oz.	Environmental Reformulation
22-201	22-023	45	Silver Print II Conductive Paint-1/2 oz.	Environmental Reformulation
22-202	22-024	45	Silver Print II Conductive Paint-1 oz.	Environmental Reformulation
22-245	22-045	45	Print Kote Conformal Coating-11 oz.	New Size/Environmental Reformulation
22-270	22-271	37	Flux Remover & Cleaner II-16 oz.	New Size/Environmental Reformulation