Acrylic Lacquer Conformal Coating

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 spraying, liquid can be thinned using M.G. Thinner Cleaner. Thin up to one half part thinner to one part coating. Also available in a micro tip pen format.

- Clear tough protective coating
- Protects against static discharge
- service temperature limits: 105°C
- solids by volume: 18%
- solids by weight: 25%
- viscosity: 50-55, 20-25 Sec.s NBR.
- Easy to repair
- Remove with M.G. Chemicals cat# 8310 Conformal Coating Stripper
- Clean up with M.G. Chemicals cat# 435 Conformal Coating Thinner Cleaner

Specifications

Standards	IPC-TM-650 (dielectric withstand test) IPC-CC-830 (humidity withstand test)	
Specification	**Test Method**	**Result**
Viscosity		50-55, 20-25 Sec.s NBR
Dielectric Strength		1500 V/mil
Dielectric Constant	ASTM-D-150-98	3.25
Dissipation Factor	ASTM-D-150-98	0.022
Volume Resistivity	ASTM-D-257-99	8.72 x 10^{15} ohm · cm
Surface Resistivity	ASTM-D-257-99	>2.8 x 10^{17} ohm · cm
Moisture Resistance	IPC-TM-650, method 2.6.3.4	PASS (1500 VDC)
Dielectric Withstanding Voltage	IPC-TM-650, method 2.6.7.1	PASS (1500 VDC)
Service Temperature Limit		105 °C (221 °F)
Tack free time		10 minutes at 20 °C (68°F)
Recoat time		2 minutes at 20 °C (68°F

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Full cure	24 hours at 20 °C (68°F)
Solids by volume	18%
Solids by weight	25%

Available Sizes

Catalog Number	Sizes Available	Description
419B-55ML	55ml (2 oz)	Bottle
419B-340G	340g (12 oz)	Aerosol
419B-1L	1L (1 quart)	Liquid
419B-4L	4L (1 gal)	Liquid
419B-20L	20L (5.3 gal)	Liquid

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Material Safety Data Sheet

Section 1: Product Identification

MSDS Code: 419B - aerosol **Name: Acrylic Lacquer Conformal Coating**

Related Part Numbers: 419B-340G

Use: Protective coating for pc boards.

Section 2: Hazardous Ingredients

CAS#	Chemical Name	Percentage by weight	ACGIH TWA	Osha Pel	Osha Stel
811-97-2	1,1,1,2 - tetrafluoroethane	30 – 60	1000ppm	N/e	N/e
67-64-1	2-propanone	10 - 30	750ppm	1000ppm	1000ppm
108-88-3	Toluene	7 - 13	50ppm	100ppm	150ppm
64-17-5	Ethyl alcohol	7 – 13	200ppm	200ppm	250ppm
141-78-6	Ethyl acetate	1 – 5	400ppm	400ppm	N/e
108-65-6	1-methoxy-2 propanone acetate	1 – 5	N/e	N/e	N/e
110-43-0	2-heptanone	1 – 5	50ppm	100ppm	N/e
110-19-0	2-methylpropyl ester acetic acid	1 – 5	150ppm	150ppm	N/e
67-63-0	2-propanol	0.1 – 1	400ppm	400ppm	500ppm

Section 3: Hazards Identification

WHMIS Codes: A, B5, D2A

NFPA Ratings: Health 1 Flammability 3 Reactivity 0

HMIS Ratings: Health 1 Flammability 3 Reactivity 0

Eyes: Liquid in contact with eyes may cause permanent eye damage.

Skin: May cause skin irritation with pain and stinging, especially if skin is abraded.

Inhalation: Solvents may cause respiratory tract irritation, headaches, and possible dizziness.

Ingestion: May cause respiratory and digestive tract irritation.

Chronic: Prolonged and repeated exposure may cause dermatitis, defatting of the skin, liver and kidney damage, and adverse central nervous system effects.

Section 4: First Aid Measure

Eyes: Remove contact lenses. Flush with water or saline for 20 minutes. Get medical aid.

Skin: Wash skin with large quantities of soap and water. Get medical aid if symptoms persist.

Inhalation: Immediately remove from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

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Ingestion: Do not induce vomiting. If conscious, give 1-2 glasses of water. Get medical aid.

Section 5: Fire Fighting Measures

Autoignition Temperature:	465°C	**Flash Point:**	-18°C	**LEL / UEL:**	1 / 36

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

General Information: Will burn if involved in a fire. Containers may explode in the heat of a fire. Flash back along vapor trail is possible.

Section 6: Accidental Release Measures

Spill Procedure: Remove all sources of ignition. Provide adequate ventilation. Wear appropriate personal protection. Sprinkle absorbent compound onto spill, then sweep into a plastic or metal container. Wipe up further residue with paper towel and place in container. Wash spill area with soap and water.

Section 7: Handling and Storage

Handling: Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Do not ingest or inhale. Do not expose container to heat or flame.

Storage: Keep away from sources of ignition. Store in a cool, dry, well-ventilated area, away from incompatible substances. Keep from freezing.

Section 8: Exposure Controls

Routes of entry: Eyes, ingestion, inhalation, and skin.

Ventilation: Use adequate general or local exhaust ventilation to keep airborne concentrations below exposure limits.

Personal Protection: Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Use a NIOSH approved respirator when necessary.

Section 9: Physical and Chemical Properties

Physical State:	Aerosol	**Odor:**	Ethereal	**Solubility:**	Partial	**Evaporation Rate:**	Fast		
Boiling Point:	N/a	**Specific Gravity:**	0.85	**Vapor Pressure:**	48PSI @21°C	**Vapor Density:**	4.1 (Air=1)	**pH:**	N/a

Section 10: Stability and Reactivity

Stability: Stable at normal temperatures and pressures.

Conditions to avoid: Temperatures over 40°C, ignition sources, and incompatible substances.

Incompatibilities: Alkali and alkaline earth metals, powdered aluminum, zinc, magnesium, and beryllium, strong oxidizers, hydrogen peroxide, Lewis or mineral acids.

Polymerization: Will not occur.

Decomposition: Halogens, halogen acids, possibly carbonyl halides, carbon dioxide, and carbon monoxide, nitrogen oxides

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Section 11: Toxicological Information

Sensitization: (effects of repeated exposure)	Prolonged or repeated skin contact may cause dermatitis.
Carcinogenicity: (risk of cancer)	No
Teratogenicity: (risk of malformation in an unborn fetus)	No
Reproductive Toxicity: (risk of sterility)	Toluene is listed under **California Proposition 65** under chemicals known to cause reproductive toxicity.
Mutangenicity: (risk of heritable genetic effects)	No

Lethal Exposure Concentrations: **Ingestion (LD50):** 7400 mg/kg (rat) **Inhalation (LC50):** 16000 ppm/4h (rat) **Skin (LD50):** N/e

Section 12: Ecological Information

General Information: Avoid runoff into storms and sewers, which lead into waterways. Water runoff can cause environmental damage.

Environmental Impact Data: (percentage by weight)

CFC: 0 **HFC:** 45 **Cl.Solv:** 0 **VOC:** 41 **HCFC:** 0 **ODP:** 0

Section 13: Disposal Information

General Information: Dispose of in accordance with all local, provincial, state, and federal regulations. Water runoff can cause environmental damage.

Section 14: Transportation Information

Ground:

Consumer Commodity, ORM-D

Air:

Shipper must be trained and certified. Refer to IATA regulations. Must be shipped through a dangerous goods consultant.

Sea:

Limited quantity, UN#1950, Class 2.1. Shipper must be trained and certified. Refer to IMDG regulations.

Section 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

SARA (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)

None of the chemicals in this product have a reportable quantity.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45

This product contains the following chemicals subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372: Methanol (CAS #67-56-1, <1% by weight).

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

CAA (Clean Air Act, USA)

This product does not contain any class 1-ozone depletors.

This product does not contain any class 2-ozone depletors.

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