

GC Electronics
1801 Morgan Street
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Product Name: Conductive Epoxy, Part A

MSDS Number: 117A
Revision Date: 6/26/06
Supersedes Date: 11/1/00

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: Adhesive
Product Name: **Conductive Epoxy, Part A**
Part Number(s): **19-2092**

Emergency Contact: **Chemtrec**
Phone: **(800) 424-9300**

Section 1 – Identification of Product

Common Name: Conductive Epoxy, Part A
Chemical Composition: Mixture
Chemical Family: Epoxy Resin
Product Type: Adhesive
HMIS Ratings:

Least	0
Slight	1
Moderate	2
High	3
Extreme	4
Gloves, Safety Glasses B	

Health – 2
Fire – 1
Reactivity – 0
Personal Protection – B

Section 2 – Hazardous Ingredients

Hazardous Ingredients:	CAS Number	Osha Pel	ACGIH TLV
Bisphenol – A Type Epoxy Resin	25068-38-6	NE	NE
Butyl Glycidyl Ether	2426-08-6	25 ppm	25ppm
Silver	7440-22-4	0.01 mg/m ³	0.1 mg/m ³

Section 3 – Physical Data

Flash Point (PMCC)	>200F
Percent Volatile:	0
Vapor Pressure:	<1mm Hg
Boiling Point:	>400°F
Solubility in Water:	Negligible
Vapor Density:	>Air
Evaporation Rate:	Nil
Appearance & Odor:	Black Liquid, Mild Epoxy Odor
Specific Gravity:	3.9

Section 4 – Fire and Explosion Hazard Data

Extinguishing Media: Dry chemical, foam, carbon dioxide, water fog.
Unusual Fire & Explosion Hazards: Keep containers tightly closed. Water may be used to cool unruptured containers.
Special Fire Fighting Procedures: Full protective equipment including self-contained breathing apparatus should be used. Water spray may be used to cool fire-exposed containers to prevent pressure buildup and possible autoignition or rupture.

Section 5 – Health Hazard Data

Primary Routes of Exposure Dermal/Eye Inhalation Ingestion
Medical Conditions Prone to Aggravation by Exposure: Preexisting disorder of the skin and/or eyes
Eye Contact: Contains ingredients, which are irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.
Skin Contact: Contains materials, which cause moderate skin irritation. This product may cause skin sensitization or allergic reactions which may be severe with certain people. Symptoms include rash, itching, hives and swelling of extremities. Prolonged or repeated exposure may cause a defatting or drynig
Inhalation: Unlikely at room temperature due to low volatility. However, heating can generate vapors that may cause respiratory irritation.
Ingestion: Product is harmful if swallowed.
Chronic Health Effects: The Bispheno-A epoxy (DGEBA) resin this product contains has been shown to be mutagenic in some microbial tests, but failed to show mutagenicity in others. The significance of this is unknown. Chromosomal abberations were observed in cultured rat liver cells. Two year bioassys on mice exposed by the dermal route to DGEBA resin gave only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.

Butyl glycidyl ether may induce mutagenic changes in laboratory test animals. This has not been related to human exposures. However, good ventilation and industrial hygiene practices should be followed when handling products containing this ingredient.

Emergency & First Aid Procedures
Inhalation: Move person to fresh air. Restore breathing. Treat symptomatically. Consult a physician.
Eyes: Flush with water for at least 15 minutes. Take to a physician for medical treatment.
Skin: Wash affected areas with soap and water. Remove contaminated clothing. Consult a physician if irritation persists.
Ingestion: Drink plenty of water to dilute. Do not induce vomiting. Give medical attention immediately. Never give anything by mouth to an unconscious person.

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Product Name: Conductive Epoxy, Part A

MSDS Number: 117A
Revision Date: 6/26/06
Supersedes Date: 11/1/00

Section 10-Regulatory Information

DOT Proper Shipping Name:	Not Regulated
Hazard Class or Division:	N/A
Packing Group Number:	N/A
Required Label:	None
UN Number:	N/A
Description:	Epoxy Resin
TSCA Status:	All components of this product are listed on, or exempted from the requirement to be listed on, the TSCA inventory.

Proposition 65 Substances (components known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Water and Toxic Enforcement Act of 1986":

None

Chronic Health Effects:

The Bispheno-A epoxy (DGEBA) resin this product contains has been shown to be mutagenic in some microbial tests, but failed to show mutagenicity in others. The significance of this is unknown. Chromosomal aberrations were observed in cultured rat liver cells. Two year bioassays on mice exposed by the dermal route to DGEBA resin gave only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.

Butyl glycidyl ether may induce mutagenic changes in laboratory test animals. This has not been related to human exposures. However, good ventilation and industrial hygiene practices should be followed when handling products containing this ingredient.

Disclaimer

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Product Name: Conductive Epoxy, Part B

MSDS Number: 117B
Revision Date: 6/26/06
Supersedes Date: 11/1/00

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: Adhesive
Product Name: **Conductive Epoxy, Part B**
Part Number(s): **19-2092**

Emergency Contact: **Chemtrec**
Phone (24 hours): **(800) 424-9300**

Section 1 - Identification of Product

Common Name: Conductive Epoxy (Part B)

Chemical Composition: Mixture

Chemical Family: Epoxy Resin

Product Type: Adhesive

*HMIS Ratings:

Health 3

Fire 1

Reactivity 0

Personal Protection B

Least 0

Slight 1

Moderate 2

High 3

Extreme 4

Gloves, Safety Glasses B

Section 2 - Hazardous Ingredients

Hazardous Ingredients:	CAS#	Osha Pel	ACGIH TLV
Polyoxyalkyleneamine	9046-10-0	NA	NA
N-Amino Ethyl Piperazine	140-31-8	NA	NA
Nonyl Phenol	84852-15-3	NE	NE
Polyamide Resin	NA	NA	NA
Silver	7440-22-4	0.01mg/m ³	0.1mg/ m ³

Section 3 - Physical Data

Flash Point (PMCC) >200°F
Percent Volatile by Vol.: 0
Boiling Point: >200°F
Vapor Density: >Air
Appearance: Liquid
Odor: Mild Amine
Vapor Pressure: <1mm Hg
Solubility in Water: Partial
Evaporation Rate: Nil
Specific Gravity: 3.9

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Section 4 - Fire & Explosion Hazard Data

Extinguishing Media: Dry chemical, foam, carbon dioxide, water fog
Unusual Fire and Explosion Hazards: Keep containers tightly closed. Water may be used to cool unruptured containers.
Special Fire Fighting Procedures: Full protective equipment including self-contained breathing apparatus should be used. Water spray may be used to cool fire exposed container to prevent pressure build-up and possible autoignition or rupture.

Section 5 - Health Hazard Data

Effects of Over Exposure:
Acute Skin: Primarily redness and irritation.
Chronic Skin: May cause skin sensitization.
Acute Inhalation: Symptoms may include burning sensation, coughing, and shortness of breath.
Medical Conditions Prone to Aggravation by Exposure: Chronic diseases of the skin.
Primary Routes of Exposure: Dermal Inhalation Ingestion
Emergency and First Aid Procedures: Move person to fresh air. Restore breathing. Treat symptomatically. Consult a physician.
Eye Contact: Flush eyes with water for at least 15 minutes. Take to a physician for medical treatment.
Skin Contact: Wash affected areas with soap and water. Remove contaminated clothing. Consult a physician if irritation persists.
Ingestion: Drink one or two glasses of milk or water. Do not induce vomiting. Give medical attention immediately. Never give anything by mouth to an unconscious person.

Section 6 - Reactivity Data

Stability: _4stable _unstable
Hazardous Polymerization: _will occur _4will nor occur
Condition to Avoid: High temperatures, high humidity.
Materials to Avoid: Strong oxidizing agents, ammonia, acids, epoxy resins in uncontrolled conditions.

Section 7 - Spill or Leak Procedures

Steps to be taken in case material is spilled: Contain and remove with absorbent material. Avoid contact.
Waste Disposal Method: Disposal should be done in accordance with Federal (40 CFR Part 261), State and local regulations. Before attempting clean-up, refer to hazard caution information in other sections of the MSDS form. Use only licensed hazardous waste disposal companies..

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Section 8 - Special Protection Information

Respiratory Protection:	Avoid breathing vapors/mists. Use approved chemical/mechanical filters designed to remove a combination of particulates and organic vapors in open and restricted areas when ventilation does not meet the requirements of 29 CFR 1910.134. Use approved airline type respirators or hoods in confined area.
Ventilation:	Sufficient ventilation in pattern and volume to keep the air contaminant concentration below applicable exposure limits. All application areas should be ventilated in accordance with OSHA regulation 29 CFR 1910.134.
Protective Gloves:	Use neoprene or other impervious gloves to prevent skin contact.
Eye Protection:	Use safety glasses with side shields as minimum protection.
Other Protective Equipment:	Use protective cream if skin contact is likely. Remove and wash contaminated clothing before reuse. Discard contaminated shoes.
Hygienic Practices:	Wash hands before eating, smoking or using toilet facilities. Do not smoke in chemical handling and storage area. Food or beverages should not be consumed anywhere near where this product is handled or stored.

Section 9 – Special Precautions
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Handling and Storage:	Do not store near heat or open flame.
Other:	Empty container should not be reused.

Section 10 - Regulatory Information
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DOT Proper Shipping Name:	Polyamines, liquid, corrosive, N.O.S. (N-aminoethyl piperazine, Nonyl Phenol)
Hazard Class or Division:	8
Packing Group Number:	III
Required Label:	Corrosive
Identification Number:	2735
Description:	Epoxy Resin (Hardener)

Note: This product contains nonyl phenol., which is a marine pollutant under 49 CFR 172.101, Appendix B.

TSCA Status:	All components of this product are listed on, or exempted from the requirement to be listed on, the TSCA Inventory.
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Proposition 65 Substances (components known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Water and Toxic Enforcement Act of 1986":

None

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