

**GC Electronics**  
1801 Morgan Street  
Rockford, IL 61102  
Phone: (815) 968-9661  
Fax: (815) 968-9731  
www.gcelectronics.com

**Product Name: Epoxy Glue, Part A**

MSDS Number: 133A  
Revision Date: 7/7/06  
Supersedes Date: 8/2/00

## MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: Adhesive  
Product Name: **Epoxy Glue, Part A Resin**  
Part Number(s): **10-347**

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

### Section 1 – Identification of Product

Chemical Composition: Mixture  
Chemical Family: Epoxy Resin

HMIS RATINGS		Least	0
Health	2	Slight	1
Flammability	1	Moderate	2
Reactivity	0	High	3
Personal Protection	B	Extreme	4
		Gloves, Safety Glasses	B

### Section 2 – Hazardous Ingredients

Name	CAS #	OSHA PEL	ACGIH TLV
Bisphenol-A Type Epoxy Resin	25068-38-6	NE	NE
Butyl Glycidyl Ether	2426-08-6	25 ppm	25 ppm
Amorphous Silicon Dioxide	67762-90-7	20 mppcf	NA
Calcium Carbonate	1317-65-3	10 mg/m <sup>3</sup>	NA
Carbon Black	1333-86-4	3.5 mg/m <sup>3</sup>	3.5 mg/m <sup>3</sup>

\* Exact identity withheld as a trade secret.

### Section 3 – Physical Data

Flash Point (pmcc): > 200°F  
Boiling Point: > 400°F  
Vapor Density: > Air  
% Volatile by Vol.: 0  
Specific Gravity: 1.26  
Evaporation Rate: Nil  
Solubility in Water: Negligible

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Vapor Pressure: < 1 mm Hg  
Appearance and Odor: Gray paste, mild epoxy odor

**Section 4 – Fire and Explosion Hazard Data**

Extinguishing Media: Water fog, carbon dioxide, foam or dry chemical.  
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 auto-ignition or rupture.  
Unusual Fire & Explosion Hazards: Keep containers tightly closed. Water may be used to cool unruptured containers.

**Section 5 – Health Hazard Data**

Medical conditions prone to aggravation by exposure: Preexisting disorders of the skin and/or eyes.  
Primary Routes of Exposure: 4 Dermal/Eye    4 Inhalation    — Ingestion

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 drying action to skin.

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 Bisphenol-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.

Emergency First Aid Procedures:  
Inhalation: Move person to fresh air. Restore breathing. Treat symptomatically. Consult a physician.  
Eyes: Flush eyes with water for at least 15 minutes. Take to a physician for medical treatment.

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**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.

**Section 6 – Reactivity Data**

**Stability:** 4 Stable                      \_\_\_ Unstable  
**Hazardous Polymerization:** 4 Will Not Occur                      \_\_\_ Will Occur  
**Conditions to Avoid:** High temperatures, high humidity.  
**Materials to Avoid:** Strong oxidizing agents, acids

**Section 7 – Spill or Leak Procedures**

**Spills:** 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.

**Section 8 – Special Protection Information**

**Respiratory Protection:** Use approved chemical/mechanical filters designed to remove a combination of particulates and organic vapors in open and restricted area when ventilation does not meet the requirements of 29 CFR 1910.134. Use approved airline type respirators or hoods in confined areas.  
**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 any chemical handling and storage area. Food or beverage should not be consumed anywhere near where this product is handled or stored.

**Section 9 – Special Pre cautions**

**Handling and Storage:** Do not store near heat or open flame.  
**Other:** Empty container should not be reused.

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**Product Name: Epoxy Glue, Part A**

MSDS Number: 133A  
Revision Date: 7/7/06  
Supersedes Date: 8/2/00

**Section 10 – Regulatory Information**

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

NA=Not Available

na=not applicable

NE = Not Established

ND = Not Determined

mppcf = million parts/ft<sup>3</sup>

mg/M<sup>3</sup> = milligrams per cubic meter

**Disclaimer**

GC Electronics believes that the information contained herein is accurate and reliable as of the date of this material safety data sheet, but no representation guarantee or warranty, express or implied, is made as to the accuracy, reliability, or completeness of the information. Persons receiving this information are encouraged to make their own determination as to the information's suitability and completeness for their particular application. **NO INFORMATION CONTAINED HEREIN CONSTITUTES A PRODUCT WARRANTY OF ANY KIND, WHETHER EXPRESS OR IMPLIED; AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED BY GC ELECTRONICS.**

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**Product Name: Epoxy Glue, Part B**  
MSDS Number: 133B  
Revision Date: 7/7/06  
Supersedes Date: 8/2/00

## MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: Adhesive  
Product Name: **Epoxy Glue, Part B Hardener**  
Part Number(s): **10-347**

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

### Section 1 – Identification of Product

Chemical Composition: Mixture  
Chemical Family: Polyamine Blend

#### HMIS RATINGS

Health	2	Least	0
Flammability	1	Slight	1
Reactivity	0	Moderate	2
Personal Protection	B	High	3
		Extreme	4
		Gloves, Safety Glasses	B

### Section 2 – Hazardous Ingredients

Name	CAS #	OSHA PEL	ACGIH TLV
Polyamide Resin*	68082-29-1	NA	NE
Calcium Carbonate	1317-65-3	10 mg/m <sup>3</sup>	NA
Amorphous Silicon Dioxide	67762-90-7	20 mppcf	NA
Triethylenetetramine	112-24-3	NE	NE

\* Exact identity withheld as a trade secret.

### Section 3 – Physical Data

Flash Point (pmcc): >200°F  
Boiling Point: >200°F  
Vapor Density: > Air  
Specific Gravity: 1.25  
Evaporation Rate: Nil  
Solubility in Water: Partial  
Vapor Pressure: < 1 mm Hg  
Appearance and Odor: Off white paste, mild amine odor  
% Volatile by Vol. 0

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MSDS Number: 133B  
Revision Date: 7/7/06  
Supersedes Date: 8/2/00

**Section 4 – Fire and Explosion Hazard Data**

Extinguishing Media: Water fog, carbon dioxide, foam or dry chemical.  
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 auto-ignition or rupture.  
Unusual Fire & Explosion Hazards: Keep containers tightly closed. Water may be used to cool unruptured containers.

**Section 5 – Health Hazard Data**

Effects of Overexposure  
Acute: Skin Primarily redness and irritation.  
Chronic: 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: 4 Dermal \_\_\_ Inhalation \_\_\_ Ingestion

Emergency First Aid Procedures:  
Inhalation: Move person to fresh air. Restore breathing. Treat symptomatically. Consult a physician.  
Eyes: Flush eyes 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 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: 4 Stable \_\_\_ Unstable  
Hazardous Polymerization: 4 Will Not Occur \_\_\_ Will Occur  
Conditions to Avoid: High temperatures, high humidity.  
Materials to Avoid: Strong oxidizing agents, acids, epoxy resins in uncontrolled conditions

**Section 7 – Spill or Leak Procedures**

Spills: 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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<b>Section 8 – Special Protection Information</b>
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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 areas.
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 any chemical handling and storage area. Food or beverage should not be consumed anywhere near where this product is handled or stored.

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

<b>Section 10 – Regulatory Information</b>
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DOT Proper Shipping Name:	Not Regulated
Hazard Class or Division:	NA
Packing Group Number:	NA
Required Label:	None
Identification Number:	NA
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

NA=Not Available  
 na=not applicable

NE=Not Established  
 ND=Not Determined

mppcf=million parts/ft<sup>3</sup>  
 mg/M<sup>3</sup>=milligrams per cubic meter

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