

Material Safety Data Sheet

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Section 1: Product Identification

MSDS Code: 8331 - Part B Name: Epoxy - Electrically Conductive Adhesive

Related Part Numbers: 8331-14G; 8331-454G

Use: Electrically conductive adhesive.

Section 2: Hazardous Ingredients

CAS#	Chemical Name	Percentage by weight	ACGIH TWA	Osha Pel	Osha Stel
140-31-8	1-(2-aminoethyl)-piperazine	2 - 5	N/e	N/e	N/e
84852-15-3	Nonyl phenol	20-30	N/e	N/e	N/e
9046-10-0	Poly [oxy (methyl-1, 2-ethanediyl)]	3 - 8	N/e	N/e	N/e
68411-71-2	Reaction product with diglycidyl ether of bisphenol A	1.0	N/e	N/e	N/e
80-05-7	4,4 isopropylidenediphenol	0.1-1.0	N/e	N/e	N/e
111-40-0	Diethylenetriamine	1.0	1ppm	N/e	N/e
7440-22-4	Silver	40 - 70	0.1 mg/m ³	0.01 mg/m ³	N/e

Section 3: Hazards Identification

WHMIS Codes: D2A, D2B, E

NFPA Ratings: Health 3 Flammability 1 Reactivity 1

HMIS Ratings: Health 3 Flammability 1 Reactivity 1

Eyes: Direct contact will cause severe burns and may cause permanent damage, including blindness.

Skin: Contact may cause skin irritation. May cause an allergic reaction of the skin.

Inhalation: Harmful if inhaled. May cause severe irritation to the respiratory tract.

Ingestion: Harmful if swallowed. Moderately toxic. Swallowing may burn mouth, throat and stomach.

Chronic: Repeated skin contact may cause dermatitis. Inhalation or ingestion of silver compounds may cause argyria (permanent blue-gray discoloration of the eyes, skin, mucous membranes, and internal organs). At high concentrations inhalation of fumes may cause metal fume fever and may cause central nervous system depression. Material is harmful and may cause chemical pneumonia and lung damage or fatal if liquid is aspirated into the lungs

Section 4: First Aid Measure

Eyes: Remove contact lenses (if worn) and flush eyes with large quantities of clean water for at least 20 minutes. Get immediate medical attention.

Skin: Thoroughly wash skin with soap. Remove contaminated clothing and wash before reuse. Solvents should not be used to clean hands or skin because they increase the penetration of the material into the skin. Get medical aid if symptoms persist.



- Inhalation:** Remove from exposure area to fresh air immediately. If not breathing give artificial respiration. If breathing is difficult give oxygen by trained personnel. Get immediate medical attention if symptoms persist.
- Ingestion:** Do not induce vomiting. If conscious rinse mouth and give 1-2 glasses of water. Get medical attention.

Section 5: Fire Fighting Measures

Auto ignition Temperature:	N/e	Flash Point:	>93°C	LEL / UEL:	N/e
Extinguishing Media:	Use carbon dioxide, foam, and dry chemical or water fog.				
General Information:	Hazardous combustion may produce carbon monoxide, carbon dioxide, irritating or toxic vapors and gases, oxides of nitrogen and ammonia.				

Section 6: Accidental Release Measures

- Spill Procedure:** Remove all sources of ignition. Provide adequate ventilation. Wear appropriate personal protection. Wipe up with paper towel and place in container. Wash spill area with soap and water.

Section 7: Handling and Storage

- Handling:** Wash hands thoroughly after handling. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Do not ingest or inhale. Do not expose full or empty container to heat or flame.
- Storage:** Keep away from sources of ignition. Store less than 26°C (80°F) in a dry, well-ventilated area, away from incompatible substances.

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 such as, at least, latex gloves). Use a NIOSH approved respirator when necessary.

Section 9: Physical and Chemical Properties

Physical State:	Liquid	Odor:	Amine	Solubility:	None	Evaporation Rate:	N/e		
Boiling Point:	N/e	Specific Gravity:	2.20	Vapor Pressure:	N/e	Vapor Density:	>1 (Air=1)	pH:	N/a

Section 10: Stability and Reactivity

- Stability:** Stable at normal temperatures and pressures.
- Conditions to avoid:** Contamination by those materials referred to under Incompatibility. Avoid temperatures above 26°C (80°F).
- Incompatibilities:** Strong oxidizers, bases, acids, peroxides, chlorates and permanganates.
- Polymerization:** Hazardous polymerization will not occur.
- Decomposition:** Carbon dioxide, carbon monoxide, hydrocarbons, ammonia, and oxides of nitrogen

Section 11: Toxicological Information

Sensitization: (effects of repeated exposure)	This product is a skin sensitizer.		
Carcinogenicity: (risk of cancer)	This material does not contain 0.1% or more of any chemical listed by IARC, NTP or OSHA as a carcinogen.		
Teratogenicity: (risk of malformation in an unborn fetus)	No		
Reproductive Toxicity: (risk of sterility)	No		
Mutagenicity: (risk of heritable genetic effects)	No		
Lethal Exposure Concentrations:	Ingestion (LD50): N/e	Inhalation (LC50): N/e	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: 0 Cl.Solv: 0 VOC: 0 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:

Non regulated

Air:

Non regulated

Sea:

Non regulated

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)

4,4'-isopropylidenediphenol CAS# 80-05-7 0.1-1.0% and Silver CAS#7440-22-4 40 – 70% is listed under section 313 as toxic Material.

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

This product contains 4,4'-isopropylidenediphenol CAS# 80-05-7 0.1-1.0% and Silver CAS#7440-22-4 40 – 70% chemicals subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

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.



This product does not contain any chemicals listed as hazardous air pollutants.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, May 1, 1997 revision, USA)

This product does not contain any chemicals listed.

Health Canada

Labeling and containers used in this product are listed in compliance with Consumer Chemicals and Container regulations.

Environment Canada

Chemicals in this product are listed on the Domestic Substances List in the Canadian Environmental Protection Act

This product does not contain any ozone depleting substances.

Industry and Science Canada

Labeling, product identity, net quantity declaration, minimum printing type size heights, and packaging of this product is in compliance with the Consumer Packaging and Labeling Act and Regulations. This product is not slack filled in accordance to chapter 4 prohibitions.

RoHS (The restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2004).

This product is RoHS compliant.

Section 16: Other Information

Definitions: N/a = not applicable, n/e = not established

Disclaimer: This material safety data sheet is provided as an information resource only. M.G. Chemicals believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.