



Revision Number: 002.1

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	3880 Adhesive Electrically Conductive	IDH number:	195701
Product type:	Conductive Epoxy	Item number:	30077
		Region:	United States
Company address:	Contact information:		
Henkel Corporation	Telephone: 860.571.5100		
One Henkel Way	MEDICAL EMERGENCY Phone: Poison Control Center		
Rocky Hill, Connecticut 06067	1-877-671-4608 (toll free) or 1-303-592-1711		
	TRANSPORT EMERGENCY Phone: CHEMTREC		
	1-800-424-9300 (toll free) or 1-703-527-3887		
	Internet: www.henkelna.com		

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state:	Paste	HEALTH:	*2
Color:	Silver	FLAMMABILITY:	1
Odor:	Faint	PHYSICAL HAZARD:	1
		Personal Protection:	See MSDS Section 8

WARNING: CAUSES EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects

Inhalation:	May cause respiratory tract irritation.
Skin contact:	Causes skin irritation. May cause allergic skin reaction. Prolonged or repeated contact can result in discoloration of the skin. Argyria (a non-toxic, cosmetic blue-gray discoloration of the skin and mucous membranes that is irreversible).
Eye contact:	Causes eye irritation.
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Existing conditions aggravated by exposure: Eye, skin and respiratory disorders.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Silver	7440-22-4	30 - 60
Epichlorohydrin-4,4'-isopropylidene diphenol resin	25068-38-6	10 - 30
Epoxy resin	Proprietary	10 - 30
Aliphatic polyepoxide	Proprietary	1 - 5
Polyamide hardener	Proprietary	1 - 5
Aliphatic amine	Unknown	1 - 5
Diethylene glycol monoethyl ether acetate	112-15-2	1 - 5
Resin	Proprietary	1 - 5

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms develop and persist, get medical attention.
Skin contact:	Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. If symptoms develop and persist, get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion:	DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	> 93 °C (> 199.4 °F)
Autoignition temperature:	Not available
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Unusual fire or explosion hazards:	Personnel in vicinity and downwind should be evacuated. Burning produces obnoxious and toxic fumes. In case of fire, keep containers cool with water spray. Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.
Hazardous combustion products:	Oxides of carbon. Oxides of nitrogen. Aldehydes. Phenolics. Ammonia. Irritating organic fragments.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways.
Clean-up methods:	Remove all sources of ignition. Ensure adequate ventilation. Wear appropriate personal protective equipment. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up spilled material and place in a closed container for disposal.

7. HANDLING AND STORAGE

Handling:	Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Do not taste or swallow. Use only with adequate ventilation. Keep container closed.
Storage:	For safe storage, store between 0 °C (32°F) and 27 °C (80.6 °F) Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Keep away from heat, spark and flame.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Silver	0.1 mg/m ³ TWA Dust and fume.	0.01 mg/m ³ TWA (as Ag)	None	None
Epichlorohydrin-4,4'-isopropylidene diphenol resin	None	None	None	None
Epoxy resin	None	None	None	None
Aliphatic polyepoxide	None	None	None	None
Polyamide hardener	None	None	None	None
Aliphatic amine	None	None	None	None
Diethylene glycol monoethyl ether acetate	None	None	None	None
Resin	None	None	None	None

Engineering controls:

Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits.

Respiratory protection:

Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection:

Safety goggles or safety glasses with side shields.

Skin protection:

Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Paste
Color:	Silver
Odor:	Faint
Odor threshold:	Not available
pH:	Not available
Vapor pressure:	Not available
Boiling point/range:	> 300 °F (> 148.9 °C) none
Melting point/ range:	Not available
Specific gravity:	2.44
Vapor density:	Not available
Flash point:	> 93 °C (> 199.4 °F)
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Autoignition temperature:	Not available
Evaporation rate:	Not available
Solubility in water:	Not available
Partition coefficient (n-octanol/water):	Not available
VOC content:	< 1 %; < 10 g/l Estimated

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and use.
Hazardous reactions:	None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.
Hazardous decomposition products:	Oxides of carbon. Oxides of nitrogen. Aldehydes. Phenolics. Ammonia. Irritating organic fragments.
Incompatible materials:	Oxidizing agents. Acids. Bases. Amines. Peroxides. Sodium hypochlorite. Reactive metals.
Conditions to avoid:	Keep away from heat, ignition sources and incompatible materials. Avoid temperatures above 26°C (80°F).

11. TOXICOLOGICAL INFORMATION

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Silver	No	No	No
Epichlorohydrin-4,4'-isopropylidene diphenol resin	No	No	No
Epoxy resin	No	No	No
Aliphatic polyepoxide	No	No	No
Polyamide hardener	No	No	No
Aliphatic amine	No	No	No
Diethylene glycol monoethyl ether acetate	No	No	No
Resin	No	No	No

Hazardous components	Health Effects/Target Organs
Silver	Allergen, Eyes, Irritant, Respiratory, Skin
Epichlorohydrin-4,4'-isopropylidene diphenol resin	Allergen, Irritant
Epoxy resin	Irritant, Allergen
Aliphatic polyepoxide	No Data
Polyamide hardener	No Records
Aliphatic amine	No Data
Diethylene glycol monoethyl ether acetate	Central nervous system, Irritant, Kidney
Resin	No Data

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Silver D0011.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name:	Environmentally hazardous substances, liquid, n.o.s.
Hazard class or division:	9
Identification number:	UN 3082
Packing group:	III
DOT Reportable quantity:	Silver

International Air Transportation (ICAO/IATA)

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A diglycidyl ether, Bisphenol F diglycidyl ether)
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

Water Transportation (IMO/IMDG)

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol A diglycidyl ether, Bisphenol F diglycidyl ether)
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
Marine pollutant: Bisphenol A diglycidyl ether, Bisphenol F diglycidyl ether

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification: None above reporting de minimus
CERCLA/SARA Section 302 EHS: None above reporting de minimus
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Silver (CAS# 7440-22-4). Diethylene glycol monoethyl ether acetate (CAS# 112-15-2).
CERCLA Reportable quantity: Silver (CAS# 7440-22-4) 1,000 lbs. (454 kg)
California Proposition 65: This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDL Status: One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.
WHMIS hazard class: D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format. 2, 4, 5, 6, 7, 8, 10, 14, 15

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