



Revision Number: 004.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Emerson & Cuming CF3350-002, 10	IDH number: 1200588
Product type: Conductive dry film product	Item number: 1200588
	Region: United States
Company address: Henkel Electronic Materials LLC 14000 Jamboree Road Irvine, CA 92606	Contact information: Telephone: 1.888.9.HENKEL (1.888.943.6535) MEDICAL EMERGENCY Phone: Poison Control Center 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: Film, Solid	HEALTH: *2
Color: Gray	FLAMMABILITY: 1
Odor: Slight	PHYSICAL HAZARD: 0
	Personal Protection: See MSDS Section 8
WARNING: MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. REPEATED OR PROLONGED CONTACT MAY CAUSE ALLERGIC SKIN REACTION.	

Relevant routes of exposure: Skin

Potential Health Effects

Inhalation:	Low vapor pressure makes inhalation unlikely at standard temperatures and pressures. Inhalation of processing fumes may be harmful.
Skin contact:	Prolonged or repeated skin contact may cause irritation, skin sensitization and argyria (a non-toxic, cosmetic blue-gray discoloration of the skin and mucous membranes that is irreversible).
Eye contact:	Fumes released during thermal processing may cause eye irritation.
Ingestion:	Not expected under normal conditions of use. May irritate mouth, throat, and stomach if swallowed.

Existing conditions aggravated by exposure: May cause allergic skin reaction in individuals with pre-existing skin sensitization.

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	60 - 100
Modified epoxy resin	Proprietary	5 - 10
Epoxy resin	Proprietary	5 - 10
Epoxy resin	Proprietary	1 - 5
4,4'-Isopropylidenediphenol	80-05-7	0.1 - 1

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If symptoms develop and persist, get medical attention.
Skin contact:	Wash with soap and water. If a person feels unwell or symptoms of skin irritation appear, consult a physician.
Eye contact:	In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.
Ingestion:	DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If symptoms develop and persist, get medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	Product is a solid.
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. Cartridge respirators do not provide adequate protection for fire fighters or exotherm mitigation.
Unusual fire or explosion hazards:	May liberate large quantities of dense, foul-smelling smoke which may contain unidentified toxic gasses.
Hazardous combustion products:	Oxides of carbon and nitrogen, aldehydes, acids and undetermined organics.

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:	Sweep up or gather material and place in appropriate container for disposal.

7. HANDLING AND STORAGE

Handling:	Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling.
Storage:	Store in a cool, dry area.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

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
Modified epoxy resin	None	None	None	None
Epoxy resin	None	None	None	None
Epoxy resin	None	None	None	None
4,4'-Isopropylidenediphenol	None	None	None	None

Engineering controls:	Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination.
Respiratory protection:	Use a NIOSH approved respirator if ventilation is inadequate.
Eye/face protection:	Safety goggles or safety glasses with side shields.
Skin protection:	Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Film, Solid
Color:	Gray
Odor:	Slight
Odor threshold:	Not available.
pH:	Not available.
Vapor pressure:	Not available.
Boiling point/range:	Not available.
Melting point/ range:	Not determined
Specific gravity:	3.9
Vapor density:	Not available.
Flash point:	Product is a solid.
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Evaporation rate:	Not determined
Solubility in water:	Insoluble
Partition coefficient (n-octanol/water):	Not determined
VOC content:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Oxides of carbon and nitrogen, aldehydes, acids and undetermined organics.
Incompatible materials:	Keep away from strong oxidizing agents, strong Lewis or mineral acids.
Conditions to avoid:	None known

11. TOXICOLOGICAL INFORMATION

Acute dermal product toxicity:	Prolonged or repeated skin contact with silver and its salts may cause a blue-gray discoloration of the skin and mucous membranes that is irreversible (Argyria).
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Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Silver	No	No	No
Modified epoxy resin	No	No	No
Epoxy resin	No	No	No
Epoxy resin	No	No	No
4,4'-Isopropylidenediphenol	No	No	No

Hazardous components	Health Effects/Target Organs
Silver	Allergen, Eyes, Irritant, Respiratory, Skin
Modified epoxy resin	Irritant, Allergen
Epoxy resin	Irritant, Allergen
Epoxy resin	Allergen, Irritant
4,4'-Isopropylidenediphenol	Allergen, Blood, Irritant, Kidney, Reproductive, Spleen

12. ECOLOGICAL INFORMATION

Ecological information: Harmful to aquatic organisms.

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: This product contains a component or components identified as hazardous under 40 CFR 261.24. D011: Silver (Check TCLP Level).

14. TRANSPORT INFORMATION

The shipping classification in this section are for bulk packaging only. Shipping classification may be different for non-bulk packaging as exceptions may apply. Refer to shipping documents for package specific transportation classification.

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

Proper shipping name: Environmentally hazardous substances, solid, n.o.s.
Hazard class or division: 9
Identification number: UN 3077
Packing group: III
DOT Reportable quantity: Silver

International Air Transportation (ICAO/IATA)

Proper shipping name: Environmentally hazardous substance, solid, n.o.s.
Hazard class or division: 9
Identification number: UN 3077
Packing group: III

Water Transportation (IMO/IMDG)

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard class or division: 9
Identification number: UN 3077
Packing group: III

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).
CERCLA Reportable quantity: Silver (CAS# 7440-22-4) 1,000 lbs. (454 kg)
California Proposition 65: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: Contains one or more components listed on the Non-Domestic Substances List. All other components are listed on or are exempt from listing on the Domestic Substances List. Components listed on the NDSL must be tracked by all Canadian Importers of Record as required by Environment Canada. They may be imported into Canada in limited quantities. Please contact Regulatory Affairs for additional details.
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: 2,6,11,13,14,15

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