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1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	LOCTITE EDAG 478SS E&C known as	IDH number:	1225002
	ELECTRODAG478SS		
Product type:	Coating	Region:	United States
Restriction of Use:	None identified	Contact information:	
Company address:		Telephone:	1.888.9.HENKEL (1.888.943.6535)
Henkel Electronic Materials LLC		MEDICAL EMERGENCY Phone:	Poison Control Center
14000 Jamboree Road		1-877-671-4608 (toll free) or 1-303-592-1711	
Irvine, CA 92606		TRANSPORT EMERGENCY Phone:	CHEMTREC
		1-800-424-9300 (toll free) or 1-703-527-3887	
		Internet:	www.henkel.com/electronics

2. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

DANGER: CAUSES SKIN IRRITATION.
CAUSES SERIOUS EYE DAMAGE.
MAY CAUSE RESPIRATORY IRRITATION.
MAY CAUSE DROWSINESS OR DIZZINESS.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
SERIOUS EYE DAMAGE	1
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3

PICTOGRAM(S)**Precautionary Statements**

Prevention:	Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye and face protection. Wear protective gloves.
Response:	IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison control center or physician. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse.
Storage:	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal:	Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Silver	7440-22-4	30 - 60
Diethylene glycol monoethyl ether acetate	112-15-2	10 - 30
Silver >= 99,9 % Ag as powder (< 1 mm) - classified for environment	7440-22-4	5 - 10

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. 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.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Ingestion:	Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
Symptoms:	See Section 11.

5. FIRE FIGHTING MEASURES

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. In case of fire, keep containers cool with water spray.
Unusual fire or explosion hazards:	Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.
Hazardous combustion products:	Oxides of carbon. Toxic and irritating vapors.

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. Isolate area. Keep unnecessary personnel away. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Store in a closed container until ready for disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

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. Refer to Section 8.

Storage:

Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use. For safe storage, store between 5.0 °C (41°F) and 30.0 °C (86°F). Store in a cool, dry, well-ventilated area. Keep away from heat, spark and flame. Keep container closed. Temperatures between + 5 °C and + 30 °C. Outside temperature limits, the properties of the product will change. Store in original container until ready to use. Keep out of reach of children and away from food and drink. Ground and bond metal containers for liquid transfer to avoid static sparks. Protect from direct sunlight.

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 Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Silver	0.1 mg/m ³ TWA Dust and fume.	0.01 mg/m ³ PEL (as Ag)	None	None
Diethylene glycol monoethyl ether acetate	None	None	None	None
Silver >= 99,9 % Ag as powder (< 1 mm) - classified for environment	0.1 mg/m ³ TWA Dust and fume.	0.01 mg/m ³ PEL (as Ag)	None	None

Engineering controls:

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection:

Use a NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.

Eye/face protection:

Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

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:	Liquid
Color:	Silver
Odor:	Characteristic
Odor threshold:	Not available.
pH:	Not available.
Vapor pressure:	0.3 mm hg
Boiling point/range:	Not available.
Melting point/ range:	Not available.
Specific gravity:	2.589
Vapor density:	Not available.
Flash point:	110 °C (230°F) Tagliabue closed cup
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Evaporation rate:	Not available.
Solubility in water:	Slightly soluble
Partition coefficient (n-octanol/water):	Not available.
VOC content:	660 g/l
Viscosity:	20,000 mPa.s

Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: None under normal processing.

Hazardous decomposition products: Oxides of carbon. Hydrocarbons. Irritating organic vapours.

Incompatible materials: Strong oxidizing agents. Strong reducing agents.

Reactivity: Not available.

Conditions to avoid: High temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects/Symptoms

Inhalation: May cause respiratory tract irritation. May cause central nervous system effects with nausea, dizziness and headache.

Skin contact: May cause skin irritation. Argyria (a non-toxic, cosmetic blue-gray discoloration of the skin and mucous membranes that is irreversible).

Eye contact: Contact with this product may cause severe eye damage.

Ingestion: May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Silver	Oral LD50 (RAT) > 5,000 mg/kg Dermal LD50 (RAT) > 2,000 mg/kg	Allergen, Eyes, Irritant, Respiratory, Skin
Diethylene glycol monoethyl ether acetate	Oral LD50 (RABBIT) = 4.4 g/kg Oral LD50 (RAT) = 11 g/kg	Central nervous system, Irritant, Kidney
Silver >= 99,9 % Ag as powder (< 1 mm) - classified for environment	Oral LD50 (RAT) > 5,000 mg/kg Dermal LD50 (RAT) > 2,000 mg/kg	Allergen, Eyes, Irritant, Respiratory, Skin

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Silver	No	No	No
Diethylene glycol monoethyl ether acetate	No	No	No
Silver >= 99,9 % Ag as powder (< 1 mm) - classified for environment	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

Hazardous waste number: Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. D011: Silver (Check TCLP Level).

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

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

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

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 minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 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 to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDL 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.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

Prepared by: Timothy Pratt, Regulatory Affairs Specialist

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