

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **LORD® 6144**
Product Use/Class: **Conductive Paste**

LORD Corporation
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Cary, NC 27511-7923 USA

Telephone: 814 868-3180
Non-Transportation Emergency: 814 763-2345
Chemtrec 24 Hr Transportation Emergency No.
800 424-9300 (Outside Continental U.S. 703 527-3887)

EFFECTIVE DATE: 05/29/2025

2. HAZARDS IDENTIFICATION**GHS CLASSIFICATION:**

Acute toxicity Inhalation - Dust and Mist Category 4 - 16.3% of the mixture consists of ingredient(s) of unknown toxicity.
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Skin sensitization Category 1B
Hazardous to the aquatic environment - acute hazard Category 1
Hazardous to the aquatic environment - chronic hazard Category 1

GHS LABEL ELEMENTS:**Symbol(s)****Signal Word**

DANGER

Hazard statements

Harmful if inhaled.
Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

Precautionary statements**Prevention**

Wear protective gloves, eye protection, face protection.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.

Response

Immediately call a POISON CENTER or doctor, physician.
Specific treatment (see supplemental first aid instructions on this label).
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Take off contaminated clothing and wash before reuse.
Collect spillage.

Storage

Refer to Section 7 of this SDS.

Disposal:

Dispose of contents/container in accordance with waste/disposal laws and regulations of your country or particular locality.

Other hazards:

This product contains component(s) which have the following warnings; however based on the GHS classification criteria of your country or locale, the product mixture may be outside the respective category(s).

Acute: Vapor harmful; may affect the brain or nervous system causing dizziness, headache or nausea. May cause central nervous system depression characterized by the following progressive steps: headache, dizziness, staggering gait, confusion, unconsciousness or coma. May be absorbed through the skin in harmful amounts. May cause allergic respiratory reaction. May be harmful if swallowed. Ingestion is not an expected route of entry in industrial or commercial uses.

Chronic: This product contains silver; localized argyria may occur from silver particles imbedded in skin during handling. IARC has designated Gamma butyrolactone to be in Group 3 - inadequate evidence for carcinogenicity in humans, and limited evidence in experimental animals.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients above the threshold concentration

Chemical Name	CAS Number	Range
Silver	7440-22-4	70 - 75 %
Epoxy resin	1675-54-3	10 - 15 %
Gamma butyrolactone	96-48-0	10 - 15 %
Imidazole	PROPRIETARY	1 - 5 %

Any "PROPRIETARY" component(s) in the above table is considered trade secret, thus the specific chemical and its exact concentration is being withheld.

Epoxy resin (1675-54-3) can also be represented by CAS 25068-38-6.

4. FIRST AID MEASURES

FIRST AID - EYE CONTACT: Flush eyes immediately with large amount of water for at least 15 minutes holding eyelids open while flushing. Get prompt medical attention.

FIRST AID - SKIN CONTACT: Flush contaminated skin with large amounts of water while removing contaminated clothing. Wash affected skin areas with soap and water. Get medical attention if symptoms occur.

FIRST AID - INHALATION: Move person to fresh air. Restore and support continued breathing. If breathing is difficult, give oxygen. Get immediate medical attention.

FIRST AID - INGESTION: If swallowed, do not induce vomiting. Call a physician or poison control center immediately for further instructions. Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing.

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Carbon Dioxide, Dry chemical, Foam, Water fog

UNSUITABLE EXTINGUISHING MEDIA: Not determined for this product.

SPECIFIC HAZARDS POSSIBLY ARISING FROM THE CHEMICAL: Keep container tightly closed. Closed containers may rupture when exposed to extreme heat. Use water spray to keep fire exposed containers cool. During a fire, irritating and/or toxic gases and particulate may be generated by thermal decomposition or combustion.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS: Wear full firefighting protective clothing, including self contained breathing apparatus. Water spray may be ineffective. If water is used, fog nozzles are preferable.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Avoid breathing vapors. Use self-contained breathing equipment. Avoid contact.

ENVIRONMENTAL PRECAUTIONS: Do not contaminate bodies of water, waterways, or ditches, with chemical or used container.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP: Keep non-essential personnel away from spill area. Avoid breathing vapors. Use self-contained breathing equipment. Notify appropriate authorities if necessary. Before attempting cleanup, refer to hazard caution information in other sections of this safety data sheet. Contain and remove with inert absorbent material. Avoid contact.

7. HANDLING AND STORAGE

HANDLING: Keep closure tight and container upright to prevent leakage. Wash thoroughly after handling. Avoid breathing of vapor or spray mists. Use with adequate ventilation.

STORAGE: Store only in well-ventilated areas. Keep container closed when not in use.

INCOMPATIBILITY: Strong acids, bases, and strong oxidizers.; Reaction of the imidazole in this product with peroxides may result in violent decomposition of peroxide possibly creating an explosion.; Peroxides and oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT EXPOSURE LIMIT

<u>Chemical Name</u>	<u>ACGIH TLV-TWA</u>	<u>ACGIH TLV-STEL</u>	<u>OSHA PEL-TWA</u>	<u>OSHA PEL-CEILING</u>	<u>Skin</u>
Silver	0.1 mg/m3	N.E.	0.01 mg/m3	N.E.	Not applicable
Epoxy resin	N.E.	N.E.	N.E.	N.E.	Not applicable
Gamma butyrolactone	N.E.	N.E.	N.E.	N.E.	Not applicable
Imidazole	N.E.	N.E.	N.E.	N.E.	Not applicable

N.A. - Not Applicable, N.E. - Not Established, S - Skin Designation

ENGINEERING CONTROLS: Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits.

PERSONAL PROTECTION MEASURES/EQUIPMENT:

Respiratory protection: Use a NIOSH approved chemical/mechanical filter respirator designed to remove a combination of particulates and organic vapor if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air-supplied respirator. For respirator use observe OSHA regulations (29CFR 1910.134) or use in accordance with applicable laws and regulations of your country or particular locality.

Skin protection: Use neoprene, nitrile, or rubber gloves to prevent skin contact. The most suitable glove should be chosen in consultation with the glove supplier/manufacture, who can provide information about the breakthrough time of the glove material.

Eye protection: Use safety eyewear including safety glasses with side shields and chemical goggles where splashing may occur.

Other protective equipment: Use disposable or impervious clothing if work clothing contamination is likely. Remove and wash contaminated clothing before reuse.

Hygienic practices: Wash hands before eating, smoking, or using toilet facility. Do not smoke in any chemical handling or storage area. Food or beverages should not be consumed anywhere this product is handled or stored. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical values, not to be used for specification purposes.

Odor:	Characteristic	Vapor Pressure:	N.D.
Appearance:	Silver	Vapor density:	Heavier than Air
Physical state:	Paste	Lower explosion limit:	N.A.
Flash point:	≥ 201 °F, 93 °C Pensky-Martens Closed Cup	Upper explosive limit:	N.A.
Boiling range:	205 °C	Evaporation rate:	Slower than n-butyl-acetate
Autoignition temperature:	N.D.	Density:	3.15 g/cm ³ (26.24 lb/gal)
Decomposition temperature:	N.D.	Viscosity, dynamic:	≥6 mPa.s @ 25 °C
Odor threshold:	N.D.	Viscosity, kinematic:	≥2 mm ² /s @ 25 °C
Solubility in H₂O:	Insoluble	Volatile by weight:	12.15 %
pH:	N.A.	Volatile by volume:	34.21 %
Freeze point:	N.D.	VOC Calculated:	3.19 lb/gal, 382 g/l
Coefficient of water/oil distribution:	N.D.		

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

10. STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION: Hazardous polymerisation will not occur under normal conditions.

STABILITY: Product is stable under normal storage conditions.

CONDITIONS TO AVOID: High temperatures.

INCOMPATIBILITY: Strong acids, bases, and strong oxidizers.; Reaction of the imidazole in this product with peroxides may result in violent decomposition of peroxide possibly creating an explosion.; Peroxides and oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Silver fume, Carbon monoxide, carbon dioxide, oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

EXPOSURE PATH: Refer to section 2 of this SDS.

SYMPTOMS: Refer to section 2 of this SDS.

TOXICITY MEASURES:

Chemical Name	LD50/LC50
Silver	Oral LD50: Rat > 2,000 mg/kg Dermal LD50: Rat > 2,000 mg/kg GHS LC50 (vapour): Rat > 55 mg/l /4 h GHS LC50 (dust and mist): Rat > 5.16 mg/l /4 h
Epoxy resin	Oral LD50: Rat 11300 µL/kg Dermal LD50: Rabbit 20,000 mg/kg
Gamma butyrolactone	Oral LD50: Rat 1,540 mg/kg Dermal LD50: Rabbit > 5,640 mg/kg Inhalation LC50: Rat > 5,100 mg/m ³ /4 h
Imidazole	N.D.

Germ cell mutagenicity: No classification proposed

Carcinogenicity: No classification proposed

Reproductive toxicity: No classification proposed

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

Chemical Name	Ecotoxicity
Silver	<u>Fish:</u> Pimephales promelas (fathead minnow) 0.0012 mg/148 h flow-through <u>Invertebrates:</u> Daphnia magna (Water flea) 0.00022 mg/148 h Static
Epoxy resin	<u>Fish:</u> Oncorhynchus mykiss 1.75 mg/196 h <u>Invertebrates:</u> Daphnia magna 2.8 mg/148 h
Gamma butyrolactone	<u>Fish:</u> Lepomis macrochirus 56 mg/196 h Static <u>Invertebrates:</u> Daphnia magna Straus > 500 mg/148 h <u>Plants:</u> Desmodemus subspicatus 360 mg/172 h Desmodemus subspicatus 79 mg/196 h
Imidazole	N.D.

PERSISTENCE AND DEGRADABILITY: Not determined for this product.

BIOACCUMULATIVE: Not determined for this product.

MOBILITY IN SOIL: Not determined for this product.

OTHER ADVERSE EFFECTS: Not determined for this product.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Disposal should be done in accordance with Federal (40CFR Part 261), state and local environmental control regulations. If waste is determined to be hazardous, use licensed hazardous waste transporter and disposal facility.

14. TRANSPORT INFORMATION

US DOT Road

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Hazard class: 9
Secondary hazard class: None
UN/NA Number: 3082
Packing group: III
Emergency Response Guide Number: 171

For US DOT non-bulk road shipments this material may be classified as NOT REGULATED. For the most accurate shipping information, refer to your transportation/compliance department regarding changes in package size, mode of shipment or other regulatory descriptors.

IATA Cargo

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s.
Hazard class: 9
Secondary hazard class: None
UN number: 3082
Packing group: III
EmS: 9L

IMDG

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s.
Hazard class: 9
Secondary hazard class: None
UN number: 3082
Packing group: III
EmS: F-A; S-F

The listed transportation classification applies to non-bulk shipments. It does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors. For the most accurate shipping information, refer to your transportation/compliance department.

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: AS FOLLOWS:

SARA SECTION 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372.:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Weight percent less than</u>
Silver	7440-22-4	75.0 %

TOXIC SUBSTANCES CONTROL ACT:

INVENTORY STATUS

The chemical substances in this product are on the active TSCA Section 8 Inventory or exempt.

EXPORT NOTIFICATION

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None

16. OTHER INFORMATION

Under HazCom 2012 it is optional to continue using the HMIS rating system. It is important to ensure employees have been trained to recognize the different numeric ratings associated with the HazCom 2012 and HMIS schemes.

HMIS RATINGS - HEALTH: 2* FLAMMABILITY: 1 PHYSICAL HAZARD: 0

* - Indicates a chronic hazard; see Section 2

Revision: Section 1, Section 2, Section 3, Section 9, Section 11, Section 12, Section 14

Effective Date: 05/29/2025

DISCLAIMER

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.