1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: LORD 304-1
Product Use/Class: Epoxy Adhesive, Part 1 of 2

LORD Corporation
111 LORD Drive
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: 06/12/2018

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION:
- Flammable liquids Category 4
- Skin corrosion/irritation Category 2
- Serious eye damage/eye irritation Category 2A
- Skin sensitization Category 1
- Germ cell mutagenicity Category 2
- Carcinogenicity Category 2
- Reproductive toxicity Category 2
- Specific target organ systemic toxicity (single exposure) Respiratory system Category 1
- Specific target organ systemic toxicity (repeated exposure) Testes Category 2
- Specific target organ systemic toxicity (repeated exposure) Respiratory system Category 1
- Hazardous to the aquatic environment - acute hazard Category 3
- Hazardous to the aquatic environment - chronic hazard Category 2

GHS LABEL ELEMENTS:
Symbol(s)

Signal Word
DANGER

Hazard Statements
- Combustible liquid.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause an allergic skin reaction.
- Suspected of causing genetic defects.
- Suspected of causing cancer.
- Suspected of damaging fertility or the unborn child.
- Causes damage to organs.(Respiratory system)
- May cause damage to organs through prolonged or repeated exposure.(Testes)
- Causes damage to organs through prolonged or repeated exposure.(Respiratory system)
- Harmful to aquatic life.
- Toxic to aquatic life with long lasting effects.

Precautionary Statements
Prevention
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.

Response
In case of fire: refer to section 5 of SDS for extinguishing media.
Get medical advice/attention if you feel unwell.
IF exposed: Call a POISON CENTER or doctor/physician.
Specific treatment (see supplemental first aid instructions on this label).
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Collect spillage.

Storage
Store in a well-ventilated place. Keep cool.
Store locked up.

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: Combustible liquid and vapor. May be absorbed through the skin in harmful amounts. Significant overexposure to n-butyl glycidyl ether by the inhalation route is unlikely under most ambient conditions due to its low volatility. However, vapors, aerosols, and mists may be formed during some applications such as heating or applications of uncured material on large surface areas. May be harmful if swallowed. Ingestion is not an expected route of entry in industrial or commercial uses.
Chronic: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy resin</td>
<td>PROPRIETARY</td>
<td>55 - 60 %</td>
</tr>
<tr>
<td>N-Butyl glycidyl ether</td>
<td>2426-08-6</td>
<td>5 - 10 %</td>
</tr>
</tbody>
</table>

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

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, Alcohol
UNSUITABLE EXTINGUISHING MEDIA: Not determined for this product.

SPECIFIC HAZARDS POSSIBLY ARISING FROM THE CHEMICAL: Combustible liquid and vapor. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks, open flame, and other sources of ignition. 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 (SCBA). If water is used, fog nozzles are preferable.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES: Avoid contact. Avoid breathing vapors. Use appropriate respiratory protection for large spills or spills in confined area.

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 a safe distance away from the spill area. Notify appropriate authorities if necessary. Avoid contact. Before attempting cleanup, refer to hazard caution information in other sections of the SDS form. Scoop spilled material into an appropriate container for proper disposal. (If necessary, use inert absorbent material to aid in containing the spill).

7. HANDLING AND STORAGE

HANDLING: Keep closure tight and container upright to prevent leakage. Avoid skin and eye contact. Wash thoroughly after handling. Do not handle until all safety precautions have been read and understood. Empty containers should not be reused. Use with adequate ventilation.

STORAGE: Do not store or use near heat, sparks, or open flame. Store only in well-ventilated areas. Keep container closed when not in use. Refer to OSHA 29CFR Part 1910.106 "Flammable and Combustible Liquids" for specific storage requirements.

INCOMPATIBILITY: Amines, acids, water, hydroxyl, or active hydrogen compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT EXPOSURE LIMIT

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV-TWA</th>
<th>ACGIH TLV-STEEL</th>
<th>OSHA PEL-TWA</th>
<th>OSHA PEL-CEILING</th>
<th>Skin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy resin</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.A.</td>
</tr>
<tr>
<td>N-Butyl glycidyl ether</td>
<td>3 ppm</td>
<td>N.E.</td>
<td>270 mg/m3</td>
<td>50 ppm</td>
<td>S</td>
</tr>
</tbody>
</table>

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 air-purifying organic vapor respirator 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.

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. 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.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODOR</td>
<td>Mild</td>
</tr>
<tr>
<td>APPEARANCE</td>
<td>Gray</td>
</tr>
<tr>
<td>PHYSICAL STATE</td>
<td>Paste</td>
</tr>
<tr>
<td>FLASH POINT</td>
<td>185 °F, 85 °C</td>
</tr>
<tr>
<td>BOILING RANGE</td>
<td>100 - 169 °C</td>
</tr>
<tr>
<td>AUTOIGNITION TEMPERATURE</td>
<td>N.D.</td>
</tr>
<tr>
<td>DECOMPOSITION TEMPERATURE</td>
<td>N.D.</td>
</tr>
<tr>
<td>ODOR THRESHOLD</td>
<td>N.D.</td>
</tr>
<tr>
<td>SOLUBILITY IN H2O</td>
<td>Insoluble</td>
</tr>
<tr>
<td>pH</td>
<td>N.A.</td>
</tr>
<tr>
<td>FREEZE POINT</td>
<td>N.D.</td>
</tr>
<tr>
<td>COEFFICIENT OF WATER/OIL DENSITY</td>
<td>N.D.</td>
</tr>
<tr>
<td>VAPOR PRESSURE</td>
<td>N.D.</td>
</tr>
<tr>
<td>VAPOR DENSITY</td>
<td>Heavier than Air</td>
</tr>
<tr>
<td>VAPOR DENSITY</td>
<td>N.D.</td>
</tr>
<tr>
<td>LOWER EXPLOSIVE LIMIT</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>UPPER EXPLOSIVE LIMIT</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>EVAPORATION RATE</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>DENSITY</td>
<td>1.37 g/cm³ - 11.43 lb/gal</td>
</tr>
<tr>
<td>VISCOSITY, DYNAMIC</td>
<td>N.D.</td>
</tr>
<tr>
<td>VISCOSITY, KINEMATIC</td>
<td>N.D.</td>
</tr>
<tr>
<td>VOLATILE BY WEIGHT</td>
<td>0.74 %</td>
</tr>
<tr>
<td>VOLATILE BY VOLUME</td>
<td>1.01 %</td>
</tr>
<tr>
<td>VOC CALCULATED</td>
<td>0 lb/gal, 0 g/l</td>
</tr>
</tbody>
</table>

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

10. STABILITY AND REACTIVITY

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

STABILITY: Product is stable under normal storage conditions.

CONDITIONS TO AVOID: High temperatures.

INCOMPATIBILITY: Amines, acids, water, hydroxyl, or active hydrogen compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, aldehydes, Oxides of aluminum

11. TOXICOLOGICAL INFORMATION

EXPOSURE PATH: Refer to section 2 of this SDS.

SYMPTOMS: Refer to section 2 of this SDS.

TOXICITY MEASURES:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy resin</td>
<td>Oral LD50: Rat 11,400 mg/kg</td>
</tr>
<tr>
<td>N-Butyl glycidyl ether</td>
<td>Oral LD50: Rat 2,050 mg/kg, Dermal LD50: Rat 2,150 mg/kg, Inhalation LC50: Rat 2,590 ppm/4 h</td>
</tr>
</tbody>
</table>

Germ cell mutagenicity: Category 2 - Suspected of causing genetic defects. Components contributing to classification: N-Butyl glycidyl ether.

Carcinogenicity: Category 2 - Suspected of causing cancer.
Components contributing to classification: Aluminum powder. N-Butyl glycidyl ether.

**Reproductive toxicity:** Category 2 - Suspected of damaging fertility or the unborn child.
Components contributing to classification: N-Butyl glycidyl ether.

### 12. ECOLOGICAL INFORMATION

**ECOTOXICITY:**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Ecotoxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy resin</td>
<td>N.D.</td>
</tr>
<tr>
<td>N-Butyl glycidyl ether</td>
<td>N.D.</td>
</tr>
</tbody>
</table>

**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 substances, liquid, n.o.s.
- **Hazard Class:** 9
- **SECONDARY HAZARD:** 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
- **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
- **HAZARD CLASS:** None
- **UN-NUMBER:** 3082
- **PACKING GROUP:** III
- **EMS:** F-A

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.:
None

TOXIC SUBSTANCES CONTROL ACT:

INVENTORY STATUS
The chemical substances in this product are on the TSCA Section 8 Inventory.

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: 2  PHYSICAL HAZARD: 0
* - Indicates a chronic hazard; see Section 2

Revision: Section 2, Section 11, Section 12

Effective Date: 06/12/2018

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.