

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **THERMOSET® UR-312 HARDENER**
Product Use/Class: **Encapsulant, Part B**

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: 09/13/2024

2. HAZARDS IDENTIFICATION**GHS CLASSIFICATION:**

Acute toxicity Inhalation - Dust and Mist Category 4 - 81.4% of the mixture consists of ingredient(s) of unknown toxicity.
Acute toxicity Inhalation - Vapour Category 4 - 81.4% of the mixture consists of ingredient(s) of unknown toxicity.
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A
Skin sensitization Category 1
Respiratory sensitization Category 1
Carcinogenicity Category 2
Specific target organ systemic toxicity (repeated exposure) Category 2
Hazardous to the aquatic environment - acute hazard Category 3
Hazardous to the aquatic environment - chronic hazard Category 3

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

DANGER

Hazard statements

Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life.
Harmful to aquatic life with long lasting effects.

Precautionary statements**Prevention**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

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Wear protective gloves, eye protection, face protection.
Use personal protective equipment as required.
In case of inadequate ventilation wear respiratory protection.
Do not breathe dust, fume, 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

Call a POISON CENTER or doctor, physician if you feel unwell.
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 experiencing respiratory symptoms: Call a POISON CENTER or doctor, physician.
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.
Take off contaminated clothing and wash before reuse.

Storage

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: May be harmful if swallowed. Ingestion is not an expected route of entry in industrial or commercial uses.

Chronic: May cause long-term lung damage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients above the threshold concentration

Chemical Name	CAS Number	Range
Diundecyl phthalate	PROPRIETARY	80 - 85 %
4,4'-Diphenylmethane diisocyanate	101-68-8	10 - 15 %
Aromatic isocyanate	PROPRIETARY	1 - 5 %
1,1,3-Tris(2-Me-4-hydroxy-5-tert-butylphenyl)butane	1843-03-4	0.1 - 0.9 %

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

UNSUITABLE EXTINGUISHING MEDIA: Do not use water jet as this may spread the fire.

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. 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 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 this safety data sheet. 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. Avoid breathing of vapor or spray mists. Do not handle until all safety precautions have been read and understood. Empty containers should not be re-used. Use with adequate ventilation.

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

INCOMPATIBILITY: Strong oxidizers, acids, bases, water.; This product may react with any materials containing active hydrogens, such as water, alcohol, ammonia, amines, alkalies and acids. The reactions may be accelerated at temperatures higher than 122F (50C) resulting in a great release of CO₂, and hence a risk of pressure build-up in confined areas and formation of an insoluble solid precipitate.

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>
Diundecyl phthalate	N.E.	N.E.	N.E.	N.E.	Not applicable
4,4'-Diphenylmethane diisocyanate	0.005 ppm	N.E.	N.E.	0.2 mg/m ³ 0.02 ppm	Not applicable
Aromatic isocyanate	N.E.	N.E.	N.E.	0.2 mg/m ³	Not applicable
1,1,3-Tris(2-Me-4-hydroxy-5-tert-butylphenyl)butane	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: This product contains isocyanates which have poor odor warning properties. If occupational exposure limits are exceeded, a NIOSH approved supplied-air respirator is required. 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/manufacturer, 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. Use long-sleeved shirt to minimize skin exposure.

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.

Odor:	Slight	Vapor Pressure:	N.D.
Appearance:	Amber	Vapor density:	Heavier than Air
Physical state:	Liquid	Lower explosion limit:	N.A.
Flash point:	≥ 201 °F, 93 °C Setaflash Closed Cup	Upper explosive limit:	N.A.
Boiling range:	N.A.	Evaporation rate:	N.A.
Autoignition temperature:	N.D.	Density:	0.99 g/cm ³ (8.20 lb/gal)
Decomposition temperature:	N.D.	Viscosity, dynamic:	≥75 mPa.s @ 25 °C
Odor threshold:	N.D.	Viscosity, kinematic:	≥76 mm ² /s @ 25 °C
Solubility in H₂O:	Insoluble	Volatile by weight:	0.00 %
pH:	N.A.	Volatile by volume:	0.00 %
Freeze point:	N.D.	VOC Calculated:	0 lb/gal, 0 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: Moisture; High temperatures.; Unwanted, rapid and potentially hazardous polymerization may occur upon reaction with water at high temperatures or in the presence of alkalies, tertiary amines, and metal compounds.

INCOMPATIBILITY: Strong oxidizers, acids, bases, water.; This product may react with any materials containing active hydrogens, such as water, alcohol, ammonia, amines, alkalies and acids. The reactions may be accelerated at temperatures higher than 122F (50C) resulting in a great release of CO₂, and hence a risk of pressure build-up in confined areas and formation of an insoluble solid precipitate.

HAZARDOUS DECOMPOSITION PRODUCTS: Does not decompose when used and stored as recommended., Monomeric isocyanate, traces of hydrogen cyanide, nitrogen dioxide., Carbon monoxide, carbon dioxide.

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
Diundecyl phthalate	Oral LD50: Rat > 15,800 mg/kg Dermal LD50: Rabbit > 7.9 g/kg Inhalation LC50: Rat > 1.8 mg/l /6 h
4,4'-Diphenylmethane diisocyanate	Oral LD50: Rat 31,600 mg/kg

	Dermal LD50: rabbit > 5,000 mg/kg GHS LC50 (vapour): Acute toxicity point estimate 11 mg/l /4 h GHS LC50 (dust and mist): Acute toxicity point estimate 1.5 mg/l /4 h
Aromatic isocyanate	N.D.
1,1,3-Tris(2-Me-4-hydroxy-5-tert-butylphenyl)butane	Oral LD50: Rat 14,000 mg/kg Dermal LD50: Rat > 2,000 mg/kg

Germ cell mutagenicity: No classification proposed

Carcinogenicity: Category 2 - Suspected of causing cancer.

Components contributing to classification: 4,4'-Diphenylmethane diisocyanate. Aromatic isocyanate. Methyloxirane polymer with oxirane, ether with 1,.

Reproductive toxicity: No classification proposed

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

Chemical Name	Ecotoxicity
Diundecyl phthalate	<u>Invertebrates:</u> Daphnia magna 15 mg/148 h
4,4'-Diphenylmethane diisocyanate	<u>Fish:</u> Species > 1,000 mg/196 h <u>Invertebrates:</u> Daphnia magna > 1,000 mg/148 h
Aromatic isocyanate	N.D.
1,1,3-Tris(2-Me-4-hydroxy-5-tert-butylphenyl)butane	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

This product is NOT REGULATED for non-bulk shipments. For the most accurate shipping information, refer to your transportation/compliance department regarding changes in package size, mode of shipment or other regulatory descriptors.

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.:

Chemical Name	CAS Number	Weight percent less than
4,4'-Diphenylmethane diisocyanate	101-68-8	15.0 %

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: 3* FLAMMABILITY: 1 PHYSICAL HAZARD: 1

* - Indicates a chronic hazard; see Section 2

Revision: Section 1, Section 2, Section 11

Effective Date: 09/13/2024

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.