

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **THERMOSET® HARDENER NO. 71**
Product Use/Class: **Encapsulant**

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: 06/23/2025

2. HAZARDS IDENTIFICATION**GHS CLASSIFICATION:**

Acute toxicity Oral Category 4 - 35.0% of the mixture consists of ingredient(s) of unknown toxicity.
Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1
Skin sensitization Category 1
Carcinogenicity Category 1B
Reproductive toxicity Category 1B
Specific target organ systemic toxicity (repeated exposure) Category 2 Kidney, Liver
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 swallowed.
Causes severe skin burns and eye damage.
Causes serious eye damage.
May cause an allergic skin reaction.
May cause cancer.
May damage fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure. (Kidney, Liver)
Very toxic to aquatic life.
Very toxic 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.
Wear protective gloves.
Use personal protective equipment as required.

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Do not breathe dust, fume, 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

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 (or hair): Remove, take off immediately all contaminated clothing. Rinse skin with water, shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Wash contaminated clothing before reuse.
Collect spillage.

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: 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 severely irritating to the nose, throat and respiratory tract. Eye contact may cause severe eye damage, including vision disturbances, corneal damage, and blindness.

Chronic: May cause long-term lung damage. May cause conjunctivitis or other adverse eye effects. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. IARC has designated styrene to be in Group 2B - possibly carcinogenic to humans. Overexposure to styrene has been suggested as a cause of the following effects in humans, and may aggravate pre-existing disorders of these organs: central nervous system effects, mild effects on color vision, effects on hearing, respiratory tract damage. The following additional effects have been associated with overexposure to styrene in lab animals: reversible kidney effects, liver damage, testis damage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients above the threshold concentration

Chemical Name	CAS Number	Range
Polystyrene	9003-53-6	30 - 35 %
Polyoxypropylenediamine	9046-10-0	20 - 25 %
Amine compound	PROPRIETARY	20 - 25 %
4-Nonyl phenol	84852-15-3	10 - 15 %
Ortho-nonylphenol	91672-41-2	1 - 5 %
Dinonylphenol	1323-65-5	1 - 5 %
Styrene	100-42-5	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: 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. 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 self-contained breathing equipment.

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. Avoid breathing vapors. Use self-contained breathing equipment. 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 acids, bases, and strong oxidizers.

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>
Polystyrene	N.E.	N.E.	N.E.	N.E.	Not applicable
Polyoxypropylenediamine	N.E.	N.E.	N.E.	N.E.	Not applicable
Amine compound	N.E.	N.E.	N.E.	N.E.	Not applicable
4-Nonyl phenol	N.E.	N.E.	N.E.	N.E.	Not applicable
Ortho-nonylphenol	N.E.	N.E.	N.E.	N.E.	Not applicable
Dinonylphenol	N.E.	N.E.	N.E.	N.E.	Not applicable
Styrene	10 ppm	20 ppm	100 ppm	200 ppm	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 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. 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: 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.

Odor:	Ammonia	Vapor Pressure:	N.D.
Appearance:	Amber	Vapor density:	Heavier than Air
Physical state:	Liquid	Lower explosion limit:	1.1 %(V)
Flash point:	≥ 201 °F, 93 °C	Upper explosive limit:	6.1 %(V)
	Pensky-Martens Closed		
	Cup		
Boiling range:	N.A.	Evaporation rate:	N.A.
Autoignition temperature:	N.D.	Density:	0.99 g/cm ³ (8.25 lb/gal)
Decomposition temperature:	N.D.	Viscosity, dynamic:	≥125 mPa.s @ 25 °C
Odor threshold:	N.D.	Viscosity, kinematic:	≥126 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: High temperatures.

INCOMPATIBILITY: Strong acids, bases, and strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, organic or inorganic nitrogen compounds including traces of hydrogen cyanide., Formaldehyde.

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
Polystyrene	N.D.
Polyoxypropylenediamine	Oral LD50: Rat 242 mg/kg Dermal LD50: Rabbit 2,980 mg/kg
Amine compound	Oral LD50: Rat 4,290 mg/kg Dermal LD50: Rabbit 2500 µL/kg Dermal LD50: Rabbit 2,525 mg/kg
4-Nonyl phenol	Oral LD50: Rat 1,300 mg/kg Dermal LD50: Rabbit 2,000 mg/kg
Ortho-nonylphenol	N.D.
Dinonylphenol	N.D.
Styrene	Oral LD50: Rat 1,000 mg/kg Dermal LD50: Rat > 2,000 mg/kg Inhalation LC50: Rat 11.7 mg/l /4 h

Germ cell mutagenicity: No classification proposed

Carcinogenicity: Category 1B - May cause cancer.

Components contributing to classification: Styrene.

Reproductive toxicity: Category 1B - May damage fertility or the unborn child.

Components contributing to classification: Polystyrene, 4-Nonyl phenol, Ortho-nonylphenol, Dinonylphenol, Styrene.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

Chemical Name	Ecotoxicity
Polystyrene	N.D.
Polyoxypropylenediamine	N.D.
Amine compound	N.D.
4-Nonyl phenol	<u>Fish:</u> Pimephales promelas 0.135 mg/196 h flow-through Lepomis macrochirus 0.1351 mg/196 h flow-through <u>Invertebrates:</u> Daphnia magna 0.14 mg/148 h <u>Plants:</u> Pseudokirchneriella subcapitata 0.36 - 0.48 mg/196 h Static Pseudokirchneriella subcapitata 0.16 - 0.72 mg/172 h Static Desmodesmus subspicatus 1.3 mg/172 h
Ortho-nonylphenol	N.D.
Dinonylphenol	N.D.
Styrene	<u>Fish:</u> Pimephales promelas 3.24 - 4.99 mg/196 h flow-through Lepomis macrochirus 19.03 - 33.53 mg/196 h Static Pimephales promelas 6.75 - 14.5 mg/196 h Static Poecilia reticulata 58.75 - 95.32 mg/196 h Static <u>Invertebrates:</u> Daphnia magna 3.3 - 7.4 mg/148 h Daphnia magna 1.01 mg/121 d semi-static <u>Plants:</u> Pseudokirchneriella subcapitata 1.4 mg/172 h Pseudokirchneriella subcapitata 0.72 mg/196 h Pseudokirchneriella subcapitata 0.46 - 4.3 mg/172 h Static Pseudokirchneriella subcapitata 0.15 - 3.2 mg/196 h Static

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: Amines, liquid, corrosive, n.o.s.
Hazard class: 8
Secondary hazard class: None
UN/NA Number: 2735
Packing group: III
Emergency Response Guide Number: 153

IATA Cargo

Proper shipping name: Amines, liquid, corrosive, n.o.s.
Hazard class: 8
Secondary hazard class: None
UN number: 2735
Packing group: III
EmS: 8L

IMDG

Proper shipping name: Amines, liquid, corrosive, n.o.s.
Hazard class: 8
Secondary hazard class: None
UN number: 2735
Packing group: III
EmS: F-A; S-B

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>
4-Nonyl phenol	84852-15-3	15.0 %
Ortho-nonylphenol	91672-41-2	5.0 %
Styrene	100-42-5	0.9 %

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:

<u>Chemical Name</u>	<u>CAS Number</u>
4-Nonyl phenol	84852-15-3
Ortho-nonylphenol	91672-41-2

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: 0

* - Indicates a chronic hazard; see Section 2

Revision: Section 2, Section 11, Section 12

Effective Date: 06/23/2025

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.