USA Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **CoolTherm® UR-2000 HARDENER**
Product Use/Class: **Thermal Interface Mtl. 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: 02/03/2025

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Acute toxicity Inhalation - VapourCategory 4 - 3.9% of the mixture consists of ingredient(s) of unknown toxicity.
Skin sensitization Category 1
Respiratory sensitization Category 1
Hazardous to the aquatic environment - acute hazard Category 2
Hazardous to the aquatic environment - chronic hazard Category 2

GHS LABEL ELEMENTS:

Symbol(s)

Signal Word

DANGER

Hazard statements

Harmful if inhaled.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

Wear protective gloves.
In case of inadequate ventilation wear respiratory protection.
Avoid breathing dust/fume/gas/mist/vapors/spray.
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.
Wash contaminated clothing 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: May be harmful if absorbed through skin. May cause mild eye and skin irritation. Possible irritation of the respiratory system can occur causing a variety of symptoms such as dryness of the throat, tightness of the chest, and shortness of breath. May cause lung damage. 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. IARC has designated carbon black as Group 2B - inadequate evidence for carcinogenicity in humans, but sufficient evidence in experimental animals. In 2006 IARC reaffirmed its 1995 finding that there is "inadequate evidence" from human health studies to assess whether carbon black causes cancer in humans. Further, epidemiological evidence from well-conducted investigations has shown no causative link between carbon black exposure and the risk of malignant or non-malignant respiratory disease in humans.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients above the threshold concentration

Chemical Name	CAS Number	Range
Aliphatic polyisocyanate	PROPRIETARY	10 - 15 %
Titanium dioxide	13463-67-7	5 - 10 %
Triphenyl phosphate compound	68937-40-6	1 - 5 %
Methylene bis (4-cyclohexylisocyanate)	5124-30-1	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.

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. 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 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

Chemical Name	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	Skin
Aliphatic polyisocyanate	N.E.	N.E.	N.E.	N.E.	Not applicable
Titanium dioxide	N.E.	N.E.	N.E.	N.E.	Not applicable
Triphenyl phosphate compound	N.E.	N.E.	N.E.	N.E.	Not applicable
Methylene bis (4-cyclohexylisocyanate)	0.005 ppm	N.E.	N.E.	N.E.	S

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 Sweet	**Vapor Pressure:**	N.D.
Appearance:	White	**Vapor density:**	Heavier than Air
Physical state:	Paste	**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:**	Slower than n-butyl-acetate
Autoignition temperature:	N.D.	**Density:**	2.81 g/cm3 (23.40 lb/gal)
Decomposition temperature:	N.D.	**Viscosity, dynamic:**	≥161,000 mPa.s @ 25 °C
Odor threshold:	N.D.	**Viscosity, kinematic:**	≥57,295 mm2/s @ 25 °C
Solubility in H2O:	Insoluble	**Volatile by weight:**	0.20 %
pH:	N.A.	**Volatile by volume:**	0.57 %
Freeze point:	N.D.	**VOC Calculated:**	0.05 lb/gal, 5 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., Metal oxides, Oxides of phosphorus

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
Aliphatic polyisocyanate	Oral LD50: Rat > 2,500 mg/kg Dermal LD50: Rat > 2,000 mg/kg GHS LC50 (vapour): Acute toxicity point estimate 11 mg/l GHS LC50 (dust and mist): Acute toxicity point estimate 1.5 mg/l
Titanium dioxide	Oral LD50: Rat > 5,000 mg/kg Oral LD50: Rat > 2,000 mg/kg Dermal LD50: rabbit > 5,000 mg/kg GHS LC50 (dust and mist): Rat > 6.82 mg/l /4 h
Triphenyl phosphate compound	Oral LD50: rat 5,000 mg/kg

	Oral LD50: Rat > 5 g/kg Dermal LD50: rabbit > 2,000 mg/kg GHS LC50 (dust and mist): rat 400 mg/m3/6 h
Methylene bis (4-cyclohexylisocyanate)	Oral LD50: Rat 9,900 mg/kg Dermal LD50: Rat > 7,000 mg/kg GHS LC50 (dust and mist): Acute toxicity point estimate 55 mg/l /4 h Inhalation LC50: Rat 434 mg/m3 /4 h

Germ cell mutagenicity: No classification proposed

Carcinogenicity: No classification proposed

Reproductive toxicity: No classification proposed

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

Chemical Name	Ecotoxicity
Aliphatic polyisocyanate	Fish: Danio rerio (zebra fish) > 100 mg/l96 h
Titanium dioxide	Fish: Oncorhynchus mykiss > 100 mg/l96 h Invertebrates: Daphnia magna > 100 mg/l48 h
Triphenyl phosphate compound	Invertebrates: Daphnia magna (Water flea) 0.202 mg/l48 h Plants: Scenedesmus capricornutum (fresh water algae) 3 mg/l96 h
Methylene bis (4-cyclohexylisocyanate)	Fish: Brachydanio rerio 1.2 mg/l96 h Static Brachydanio rerio 1.2 - 2.76 mg/l96 h

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, solid, n.o.s.
Hazard Class: 9
Secondary hazard: None
UN/NA Number: 3077
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, solid, n.o.s.
Hazard Class: 9
Hazard class: None
UN number: 3077
Packing group: III
EmS: 9L

IMDG

Proper shipping name:	Environmentally hazardous substance, solid, n.o.s.
Hazard Class:	9
Hazard class:	None
UN number:	3077
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.:

Chemical Name	CAS Number	Weight percent less than
Methylene bis (4-cyclohexylisocyanate)	5124-30-1	5.0 %

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: 1

* - Indicates a chronic hazard; see Section 2

Revision: Section 3, Section 8, Section 11, Section 12

Effective Date: 02/03/2025

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.