



Material Safety Data Sheet

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1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 07170CMU

Product Name: CATALYST FOR WATER REDUCIBLE
URETHANE, MIL-DTL-64159B, TYPE II, PART B

Hentzen Coatings, Inc.

6937 West Mill Road, Milwaukee, WI 53218-1225

Company Phone Number: 1-414-353-4200

Emergency Telephone: ChemTrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview

Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates

COMBUSTIBLE LIQUID AND VAPOR

Potential Health Effects

Principle Routes of Exposure

Inhalation, Skin Contact, Eye Contact

Acute Toxicity

Eyes

Prolonged contact may result in chemical burns to the eyes. Blindness may occur. May cause irritation.

Skin

Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Severe skin irritant. Repeated or prolonged contact. Causes severe irritation and or burns. May cause irritation.

Inhalation

May cause allergic respiratory reaction. May cause irritation of respiratory tract. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. Exposure well above the exposure limits may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in the lungs). As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms could be immediate or delayed up to several hours after exposure and could include chest tightness, wheezing, cough or asthmatic attack. Anesthetic. Isocyanates may cause acute irritation and/or sensitization of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition. Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates. Chronic overexposure to isocyanates has also been reported to cause lung damage, including decrease in lung function, which may be permanent.

Ingestion

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration may cause pulmonary edema and pneumonitis. Ingestion may cause irritation to mucous membranes.

Chronic Toxicity

No known effect based on information supplied.

Aggravated Medical Conditions

None known.

Environmental hazard

See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

There are no known carcinogenic chemicals in this product

CATALYST FOR WATER REDUCIBLE URETHANE, MIL-DTL-64159B, TYPE II, PART B

This product contains substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990. See Section 15 for list of HAPS.

Hazardous Components

Chemical Name	CAS-No	Weight	ACGIH TLV	OSHA PEL
HOMOPOLYMER OF HEXAMETHYLENE DIISOCYANATE	28182-81-2	60% - 70%	-	-
HEXAMETHYLENE DIISOCYANATE	822-06-0	0% - 5%	TWA: 0.005 ppm	-

4. FIRST AID MEASURES

General advice	If symptoms persist, call a physician.
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin Contact	Wash off immediately with soap and plenty of water. Consult a physician is necessary. For severe exposure, remove clothing and use safety shower. Seek medical attention.
Inhalation	Immediate medical attention is not required. If symptoms persist, call a physician. Move to fresh air in case of accidental inhalation of vapors or decomposition products. Asthmatic type symptoms can be immediate or deferred up to several hours.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician. Do NOT induce vomiting.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Combustible liquid
Flash Point	160 °F / 71 °C
Flammability Limits in Air	
Upper	1.85 %
Lower	0.16 %
Suitable Extinguishing Media	Use: Dry Chemical. Carbon dioxide (CO ₂). Water spray. Alcohol-resistant foam.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	Yes.
Specific hazards arising from the chemical	Keep product and empty container away from heat and sources of ignition. Risk of ignition. Containers may explode when heated or if contaminated with water.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
HMIS	Health Hazard 2 Flammability 2 Physical Hazard 1 Personal protection X

6. ACCIDENTAL RELEASE MEASURES

CATALYST FOR WATER REDUCIBLE URETHANE, MIL-DTL-64159B, TYPE II, PART B

Personal Precautions	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Pay attention to flashback. Take precautionary measures against static discharges. Avoid breathing vapors or mists. Ventilate the area. Use personal protective equipment. Remove all sources of ignition.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.
Methods for Containment	Decontaminate floor with decontamination solution letting stand for at least 15 minutes. Soak up with inert absorbent material.
Methods for Cleaning Up	With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Do not contaminate ponds, waterways or ditches with chemical or used container. Dam up. Pick up and transfer to properly labeled containers. Take precautionary measures against static discharges. Soak up with inert absorbent material.
Other information	DECONTAMINATION SOLUTION: Concentrated ammonia (3 - 8%), detergent (2%) and water (90 - 95%), a solution of Union Carbide's Tergitol TMN-10 (20%) and water (80%) or a solution of 50% isopropanol, 45% water, and 5% concentrated ammonia solution(% by weight).

7. HANDLING AND STORAGE

Advice on Safe Handling	Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Use only in area provided with appropriate exhaust ventilation. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from heat, sparks and open flame. No smoking. Wear personal protective equipment. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use bonding and grounding when transferring materials. Use non-sparking tools and equipment.
Technical Measures/Storage Conditions	Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. Protect the container from moisture. If moisture enters the container, do not reseal, pressure can build-up and cause container to burst. Keep away from heat and sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL
HEXAMETHYLENE DIISOCYANATE	TWA: 0.005 ppm	-

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering Measures

Air sampling should be done to measure airborne concentrations of the monomer of Hexamethylene Diisocyanate (HDI), the HDI polyisocyanate and organic solvents. Good industrial hygiene practice dictates that when isocyanate-containing coatings are spray applied, some form of respiratory protection should be worn. During the spray application of these coatings, the use of a supplied-air respirator (either positive pressure or continuous flow type) is mandatory when one or more of the following conditions exist: the airborne isocyanate concentrations are not known; or the airborne isocyanate concentrations exceed ten times the exposure limits; or no airborne solvent concentration exceeds its odor threshold; or spraying is performed in a confined space. (See OSHA Confined Space Standard 29 CFR 1910.146.) A properly fitted air-purifying respirator (combination organic vapor and particulate), proven by test to be effective in isocyanate-containing spray paint environments, the airborne isocyanate concentrations are known to be below ten times the exposure limits; at least one solvent in the coating has a published odor threshold; and at least one airborne solvent concentration is lower than its TLV but higher than its odor threshold. The odor of the solvent will then alert the respirator wearer to any breakdown of the respirator filters. FOR NON-SPRAY OPERATIONS: the same precautions, a local exhaust hood should be used to remove fumes during the welding or cutting operation, a fresh air supplied respirator should be worn during welding or cutting. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations. Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.

Personal Protective Equipment**Eye/Face Protection**

Tightly fitting safety goggles.

Skin and Body Protection

Solvent-resistant gloves. Handle in accordance with good industrial hygiene and safety practice. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse.

Respiratory Protection

Maintain adequate ventilation. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State @20°C	Liquid	Appearance	Clear
Odor	Solvent.	Flash Point	160 °F / 71 °C
Boiling Point	378 °F / 192 °C	Specific Gravity	1.07
Weight per Gallon (lbs/gal):	8.94		
Flammability Limits in Air			
Upper	1.85 %		
Lower	0.16 %		

10. STABILITY AND REACTIVITY**Stability**

Stable under recommended storage conditions.

Incompatible Products

Water, epoxy catalysts, alcohols, glycol ethers, bases, metal complexes, and other active materials.

Conditions to Avoid

Heat, flames and sparks.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO₂).

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information The product itself has not been tested.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
HOMOPOLYMER OF HEXAMETHYLENE DIISOCYANATE	-	-	18500 mg/m ³ (Rat) 1 h
HEXAMETHYLENE DIISOCYANATE	710 mg/kg (Rat)	570 mg/kg (Rabbit)	0.15 mg/L (Rat) 4 h 0.29 mg/L (Rat) 1 h

Chronic Toxicity

Product Information The product itself has not been tested.

Legend:

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
HEXAMETHYLENE DIISOCYANATE	-	26.1: 96 h Brachydanio rerio mg/L LC50 static	-	-

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

MEX Not regulated

ICAO Not regulated

ICAO/IATA Not regulated

IMDG/IMO Not regulated

RID Not regulated

ADR/RID Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Chemical Name	CAS-No	Weight	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
HEXAMETHYLENE DIISOCYANATE	822-06-0	0.15437	Present	-	-	-

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
HEXAMETHYLENE DIISOCYANATE	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

International Regulations

Mexico - Grade

Moderate risk, Grade 2

16. OTHER INFORMATION

DISCLAIMER

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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