

M A T E R I A L S A F E T Y D A T A S H E E T

Date Printed: 6/16/2010

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Product Code: 16932CMU

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

Hentzen Coatings, Inc., 6937 W. Mill Road, Milwaukee, WI 53218-1225

Chemtrec 24-hour Emergency Phone: 800-424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

(See top of page)

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Component/Exposure Limits | CAS# | % by Wt. |
|--|------------|----------|
| HOMOPOLYMER OF HEXAMETHYLENE DIISOCYANATE | 28182-81-2 | 75.51 |
| ACGIH TLV/TWA - Not Established | | |
| OSHA PEL - Not Established | | |
| OTHER LIMITS: MRF'S TWA=0.5 MG/M3, STEL= 1.0 MG/M3 | | |
| 2-ETHYL HEXYL ACETATE | 103-09-3 | 24.33 |
| ACGIH TLV/TWA - Not Established | | |
| OSHA PEL - Not Established | | |
| HEXAMETHYLENE DIISOCYANATE MONOMER | 822-06-0 | .15 |
| ACGIH TLV/TWA - 0.005 PPM, 0.034MG/M3 | | |
| OSHA PEL - NOT ESTABLISHED | | |
| OTHER LIMITS: | | |
| NIOSH REL/TWA: 0.005PPM, 0.035MG/M3 | | |
| NIOSH REL/STEL/CEIL: 0.2PPM, 0.14MG/M3* | | |
| * FOR 10 MIN. | | |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Harmful if inhaled. May cause the following effects:
Nose, throat and respiratory tract irritation. Allergic respiratory reaction.
May cause lung damage. Eye and skin irritation. Allergic skin reaction.

FLAMMABLE LIQUID

Keep away from heat, sparks, and flame.
Vapors may cause flash fire.
Toxic gases/fumes are given off during burning or thermal decomposition.

EYE CONTACT:

Acute eye contact with liquid, aerosols and vapors can be irritating causing tearing, reddening and swelling accompanied by a stinging and/or a feeling like that of fine dust in the eyes. If left untreated, corneal damage can occur and injury is slow to heal. Irritating. Will injure eye tissue if not removed promptly.

SKIN CONTACT:

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Isocyanates react with skin protein and moisture and can cause irritation. Symptoms of skin irritation may be reddening, rash, swelling, scaling or blistering. Some persons may develop skin sensitization from skin contact. If material is allowed to dry on the skin, it is very difficult to remove. Repeated or prolonged skin contact with solvents can cause defatting of the of the skin which can develop into dermatitis.

PRIMARY ROUTES OF ENTRY:

Dermal and inhalation.

INGESTION:

Can result in irritation and possible corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea. Vomiting may cause aspiration of the solvent resulting in chemical pneumonitis.

INHALATION:

Acute inhalation of the vapors or mist of isocyanate compounds above the recommended exposure limits can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing a runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with pre-existing, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits with similar symptoms as well as an asthma attack. Exposure well above the exposure limits may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in the lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (fever, chills) has also been reported. Overexposure to solvent vapors may cause dryness of the throat, tightness of the chest, headache, nausea, fatigue and loss of appetite.

Anesthetic. Can cause irritation of the respiratory tract or acute nervous system depression characterized by the following progressive steps if severe overexposure is continued: headache, dizziness, staggering gait, confusion or unconsciousness.

CHRONIC INFORMATION:

See Section 11.

CARCINOGENICITY:

See Section 11.

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MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:

Asthma and other respiratory ailments; skin allergies and eczema; chemical sensitization.

4. FIRST AID MEASURES

EYE CONTACT:

Flush immediately with low pressure lukewarm running water for at least 15 minutes while lifting eyelids. Take to a physician for treatment.

SKIN CONTACT:

Remove contaminated clothing immediately. Wash affected areas thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation develops or persists.

INGESTION:

Do not induce vomiting.

NOTE TO PHYSICIANS: Symptoms may not appear for several hours. Keep under medical supervision for at least 48 hours.

INHALATION:

Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. Consult physician.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION PROPERTIES:

FLASH POINT (deg.F):

160

METHOD:

Tag Closed Cup

FLAMMABLE LIMITS % :

Lower limit: 0.7

Upper limit: 8.1

AUTOIGNITION TEMPERATURE:

N/A

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EXTINGUISHING MEDIA:

Use Carbon Dioxide, dry chemical or alcohol foam.

FIREFIGHTING PROCEDURES AND EQUIPMENT:

Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flames. Closed container may explode when exposed to extreme heat or burst when contaminated with water (Carbon Dioxide released).

Do not apply to hot surfaces. Never use welding or cutting torch on or near product container (even empty) because product (even residue) can ignite explosively.

Full protective equipment including self-contained breathing apparatus should be worn.

During a fire, irritating and highly toxic gases (See Section 10, Incompatibilities data) and smoke are present from the decomposition/combustion products.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED :

Evacuate all non-essential personnel and remove all sources of ignition (flames, hot surfaces, electrical, static and frictional sparks). Ventilate area. Equip clean-up crew with appropriate protective equipment. Avoid breathing vapors. Avoid skin contact. Prevent entry into drains, sewers and waterways. Notify appropriate authorities if necessary.

Cover spill with inert absorbent. Pour liquid decontaminant over spillage. Allow to react for at least 10 minutes.

Collect material in open containers and add further amounts of decontamination solution. Remove containers to safe place and cover loosely. Allow to stand for 24 to 48 hours. Wash down spill area with decontamination solution. Do not allow entry into drains, sewers or waterways.

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

HANDLING:

Precautions must be taken so that persons handling this product do not breathe the vapors or have it contact the eyes or skin. In spray operations, protection must be

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afforded against exposure to both vapor and spray mist. Use grounding and bonding connection when transferring material to prevent static discharge, fire or explosion. Avoid free fall of liquid in excess of a few inches. Use sparkproof tools and explosion proof equipment. Wash thoroughly after handling.

STORAGE:

Do not store above 120 F or below 32 F. Store large quantities in buildings designed to comply with OSHA's 29 CFR 1910.106. Keep away from heat, sparks and open flame. Keep containers tightly closed and protect from moisture contamination. If moisture enters container, pressure can build up due to a reaction that produces Carbon Dioxide which can cause the sealed container to pressurize and burst. Do not reseal container if contamination is suspected.

Emptied containers may retain hazardous residue. Follow all hazard precautions in this data sheet until container is thoroughly cleaned or destroyed. To avoid spontaneous combustion during temporary storage, soak soiled rags and waste immediately after use in a water-filled, closed container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Exhaust ventilation sufficient to keep the airborne concentrations of the isocyanates below their respective exposure limits must be utilized. Exhaust air may need to be cleaned by scrubber or filters to reduce environmental contamination. Curing ovens must be ventilated to prevent emissions into the workplace. If oven off-gases are not vented properly (that is, they are released into the work area), it is possible to be exposed to airborne monomeric Hexamethylene Diisocyanate.

RESPIRATORY PROTECTION:

The Surgeon General requires airline respirators to be used unless air sampling shows exposure to be below OSHA limits. Then, either air-purifying chemical cartridge respirators or airline respirators are required. The same precautions should be used during mixing or any operations where paint fumes would be present. 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

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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, and used in accordance with all recommendations made by the manufacturer, can be used when:

- 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 apply during non-spray operations such as brush or roller application of the coating if done at elevated temperatures (such as heating of the coating for application). During sanding or grinding operations, use a NIOSH approved particulate respirator to remove solid airborne particles of sanding dust. When welding or cutting steel coated with this product, the worker may be exposed to decomposition products (metal fumes, gases or vapors, and/or particulate) which vary depending on the type of process being used to weld or cut and the nature of the base metal. One or more of the following control procedures should be used when a person is welding or cutting coated steel: - A power brush, grinding wheel or chemical stripper should be used to remove the coating from the steel in the area to be cut or welded. Respiratory and eye protection should be used while stripping the paint.

- 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

EYE PROTECTION:

Use safety eyewear with splash guards or side shields. A

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full face shield may be appropriate. Contact lenses should not be worn.

SKIN PROTECTION:

Permeation resistant gloves. Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area protected only by the cream to a minimum.

OTHER PROTECTIVE EQUIPMENT AND GUIDLINES:

Safety showers and eye wash stations should be available. Educate and train employees in the safe use of this product.

MEDICAL SURVEILLANCE:

Medical supervision of all employees who handle or come in contact with this product is recommended. This should include pre-employment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum). Persons with asthma-type conditions, bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:

Liquid.

APPEARANCE:

Clear liquid.

ODOR:

Solvent odor.

VOC (LB/GL) :

2.18 lb/gl

VOC (grams/liter) :

261 g/l

WEIGHT PER GALLON:

8.9422 lb/gl

SPECIFIC GRAVITY:

1.0739

%EXEMPT SOLVENT by WEIGHT:

0

%EXEMPT SOLVENT by VOLUME:

0

BOILING POINT (deg. F) :

378

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WATER SOLUBILITY:

See Section 10.

FREEZING POINT (deg. F):

N/A

10. STABILITY AND REACTIVITY

STABILITY:

Stable under normal conditions.

HAZARDOUS POLYMERIZATION:

Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:

May produce hazardous fumes when heated to decomposition as in welding. Fumes may contain the following:

Carbon Monoxide, Carbon Dioxide, and possible Cyanide, Hexamethylene Diisocyanate.

INCOMPATIBILITIES (MATERIALS TO AVOID):

Contamination with water, epoxy catalysts, alcohols, glycol ethers, bases, metal complexes or other active materials. Once the material has been exposed to any of the above or atmospheric moisture, do not reseal container as hazardous Carbon Dioxide gas could build up in the container resulting in rapid depressurization.

11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:

Hexamethylene Diisocyanate:

LD50 Oral Rat = >5000mg/kg

LC50 Inhalation Rat = 390-453 mg/m3 for 4 hours

RD50 Inhalation Rat = 20.8 mg/m3 for 3 hours

LD50 Dermal Rabbit = >5000 mg/kg

Has not been tested as a whole for acute effects.

CHRONIC EFFECTS:

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. There are

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reports that once sensitized, an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanates has also been reported to cause lung damage, including decrease in lung function, which may be permanent. Sensitization may be either temporary or permanent.

Prolonged skin contact can cause reddening, swelling, rash, scaling, blistering and, in some cases, skin sensitization. Individuals who have skin sensitization can develop these symptoms from contact with liquid or vapors.

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage, liver and kidney damage. Long term overexposure effects are not currently known.

Has not been tested as a whole for chronic effects.

CARCINOGENICITY:

Has not been tested as a whole for carcinogenicity effects.

MUTAGENICITY:

Has not been tested as a whole for mutagenicity effects.

REPRODUCTIVE EFFECTS:

Has not been tested as a whole for reproductive effects.

DEVELOPMENTAL EFFECTS:

Has not been tested as a whole for developmental effects.

12. ECOLOGICAL INFORMATION

ECOLOGICAL EFFECTS:

Do not allow product to reach ground water, water course or sewage system. Danger to drinking water, even in small quantities. Harmful to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:

Recycle, fuel blend or incinerate.

Dispose of in accordance with applicable laws and regulations. It is the responsibility of the owner of the

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waste to dispose of it properly. Laboratory analysis is recommended to profile the waste for proper disposal determination.

Any containers or equipment used should be decontaminated with the solution given in Section 6.

U.S E.P.A WASTE NUMBER AND DESCRIPTION:

Not listed.

HAZARDOUS WASTE CHARACTERISTICS:

None known.

14. TRANSPORT INFORMATION

UN NUMBER:

UN number is not applicable.

DOT PROPER SHIPPING NAME:

Paint

DOT HAZARD CLASS:

Not regulated by current DOT statutes.

DOT LABEL:

Not regulated.

DOT PACKAGING GROUP:

Unregulated

U.S POSTAL SERVICE:

Will not handle.

15. REGULATORY INFORMATION

(Not meant to be all inclusive - selected regulations represented)

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

TSCA STATUS:

All ingredients are listed on the TSCA inventory.

STATE REGULATIONS:

This product may contain chemicals that fall under individual state Right-to-Know regulatory requirements. See Section 2 for material

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listings. For details on regulatory requirements, contact the appropriate agency in your state.

16. OTHER INFORMATION

Date of issue: 6/16/2010

Last Revision Date: 07/17/06

HMIS Information

HEALTH: 2

FLAMMABILITY: 2

REACTIVITY: 1

PERSONAL PROTECTIVE EQUIPMENT: X

DISCLAIMER:

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