

Poly-Thane #2 High Solids Hardener SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: Poly-Thane #2 High Solids Hardener

Recommended use: Floor Surfacing

Manufacturer Name: Dur-A-Flex, Inc.
95 Goodwin Street
East Hartford, CT 06108

Telephone number: 860-528-9838

Emergency phone number: 1-800- 424-9300 (CHEMTREC)

Date of Preparation: December 12, 2014

2. HAZARD(S) IDENTIFICATION

This product is one part of a 2 part product. Read and understand the hazard information on the SDS for Poly-Thane #2 High Solids Resin before using this product.

Classification:

Physical	Health
Not Hazardous	Acute Toxicity Category 3 – Inhalation Skin Sensitization Category 1 Respiratory Sensitization Category 1 Specific Target Organ Toxicity – Single Exposure Category 3 (Respiratory Irritation)

Labeling:

Danger!



Hazard statement(s)

Toxic if inhaled.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.

Precautionary statement(s)

Avoid breathing mist, vapors and spray.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.
In case of inadequate ventilation wear respiratory protection.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical attention.

Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Homopolymer of Hexamethylene Diisocyanate	28182-81-2	80-100%
Hexamethylene-1,6-Diisocyanate	822-06-0	<0.4%

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Immediately remove to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get immediate medical attention. Asthma-like symptoms may develop immediately or delayed up to several hours.

Skin contact: Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. If rash or irritation develops, get medical attention. Launder clothing before re-use.

Eye contact: Immediately flush with large quantities of water for several minutes, holding the eyelids apart. Get medical attention if irritation develops.

Ingestion: If conscious, rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. Do not induce vomiting. Get medical attention.

Most important symptoms/effects, acute and delayed: May be irritating to eyes, skin and respiratory system. May cause allergic skin and respiratory reaction. If an allergic respiratory reaction occurs, get immediate medical attention. Symptoms may be delayed. Individuals sensitized to isocyanates may have a life-threatening allergic reaction.

Indication of immediate medical attention and special treatment, if necessary: If skin or respiratory sensitization occurs, get immediate medical attention. Symptoms may be delayed for several hours after exposure. Respiratory sensitization may be life threatening.

Notes to Physicians: If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision. This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Inducing vomiting is contraindicated because of the irritating nature of the compound. There is no specific antidote for ingestions. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate. Treatment is essentially symptomatic.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use foam, carbon dioxide and dry chemical. Use water spray for large fires. Cool fire exposed containers with water.

Specific hazards arising from the chemical: This product reacts with water producing heat and gases. Reaction may be violent. Closed containers may rupture when exposed to extreme heat or contaminated with water. Combustion may produce isocyanate vapors and other irritating, highly toxic gases. Exposure to heated diisocyanates can be extremely dangerous.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Do not allow run-off from fire fighting to enter drains or water courses. Decontaminate equipment and protective clothing before reuse.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing as described in Section 8. Isolate the area and prevent access. Ventilate and remove ignition sources.

Methods and materials for containment and cleaning up: Contain and collect with an inert absorbent. Neutralize with a decontamination solution made up of 80% water and 20% non-ionic surfactant (such as Plurafac SL-60 or Tergitol TMN-10) or 90% water and 3-8% ammonium hydroxide or concentrated ammonia and 2% detergent. Wait 15 minutes. Collect into an open-head metal container. Repeat until the surface is completely decontaminated. Cover loosely with lid and allow container to vent for 72 hours to allow carbon dioxide to escape.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not breathe vapors or mists. Use only with adequate ventilation. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties are not adequate to prevent overexposure from inhalation. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating.

Conditions for safe storage, including any incompatibilities: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Protect from physical damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Homopolymer of Hexamethylene Diisocyanate	0.5 mg/m ³ TWA Manufacturer 1.0 mg/m ³ STEL Manufacturer
Hexamethylene-1,6-Diisocyanate	0.005 ppm TWA ACGIH TLV 0.02 ppm Ceiling Manufacturer

Appropriate engineering controls: Use with adequate general or local exhaust ventilation to maintain exposures below the occupational exposure limits.

Individual protection measures, such as personal protective equipment:

Respiratory protection: If the exposure limits are exceeded or if exposure levels are unknown, a NIOSH approved positive pressure air supplied respirator with a full facepiece or air supplied hood should be used.

In some situations where exposure levels are known to be below 10 times the exposure limit an air purifying respirator (organic vapor with particulate prefilter) can be used. A change schedule for cartridges is required. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Wear impervious gloves such as butyl rubber.

Eye protection: Chemical safety goggles recommended.

Other: Impervious clothing as needed to prevent contact. A safety shower and eye wash should be available in the immediate work area.

Medical Surveillance: A pre-placement physical should be given to all employees that will work with isocyanates. Employees with a prior isocyanate sensitization should be excluded from working with this product. A history of adult asthma, eczema and respiratory allergies are possible reasons for excluding or restricting the employee from working with this product. A comprehensive annual medical surveillance program should be instituted for all employees who work with isocyanates. Once a worker has been diagnosed as sensitized, no further exposure can be permitted.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Clear, light yellow liquid

Odor: Odorless

Odor threshold: 0.01 (HDI)	pH: Not applicable
Melting Point/Freezing Point: Not available	Boiling Point: Decomposes
Flash point: 336.2°F / 169°C	Evaporation rate: Not available
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not applicable	UEL: Not applicable
Vapor pressure: <0.1 Hg @ 20°C	Vapor density: Not available
Relative density: 1.13	Solubility(is): Insoluble in Water
Partition coefficient: n-Octanol/water: Not available	Auto-ignition temperature: 840.2°F / 449°C
Decomposition temperature: 276.8°F (136°C)	Viscosity: Not available

10. STABILITY AND REACTIVITY

Reactivity: Contact with water or excessive temperatures may cause polymerization.

Chemical stability: Stable. Heating above 194°F (90°C) can result in the release of slight amounts of monomeric hexamethylene diisocyanate.

Possibility of hazardous reactions: Contact moisture or other material that react with isocyanates and temperatures >350°F (177°C) may cause polymerization.

Conditions to avoid: Avoid contact with heat, sparks and flames. Protect from freezing.

Incompatible materials: Avoid contact with water, oxidizing agents, alcohols, amines, bases and copper alloys.

Hazardous decomposition products: Thermal decomposition may produce carbon and nitrogen oxides, hydrogen cyanide, isocyanates, and isocyanic acid.

11. TOXICOLOGICAL INFORMATION

Inhalation: Inhalation of vapors or mists may cause mucous membrane and respiratory irritation.

Homopolymer of hexamethylene diisocyanate has been shown to cause respiratory sensitization. Symptoms

include dryness of the throat, tightness of chest and difficulty in breathing. Symptoms may be delayed for several hours after exposure. This product can produce asthmatic sensitization upon a single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. The allergic respiratory reaction may be life threatening.

Ingestion: Swallowing may cause gastrointestinal irritation abdominal pain, nausea, vomiting and diarrhea.

Skin contact: Skin contact may cause irritation with redness, itching and swelling. May cause allergic skin reaction. Animal tests have indicated that respiratory sensitization can result from skin contact with isocyanates.

Eye contact: May cause mild irritation with redness, tearing, stinging and swelling.

Chronic effects from short- and long-term exposure: Prolonged exposure to diisocyanates or polyisocyanates may cause chronic irritation, decreased lung function and lung damage and conjunctivitis.

Reproductive Toxicity: This product is not expected to cause adverse reproductive or developmental effects.

Sensitization: Hexamethylene-1,6-diisocyanate has been shown to cause sensitization in a guinea pig maximization test.

Mutagenicity: Homopolymer of hexamethylene diisocyanate was negative the in the AMES test (with/without metabolic activation).

Carcinogenicity: None of the other components are listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values: Product acute toxicity estimate (ATE): Oral: 250,000 mg/kg, Dermal >5000 mg/kg, Inhalation 0.581 mg/L

Homopolymer of hexamethylene diisocyanate: Oral rat LD50 >5,000 mg/kg; Inhalation rat LC50 0.581 mg/L/4 hr; Dermal rabbit LD50 >5,000 mg/kg.

Hexamethylene-1,6-Diisocyanate: Oral rat LD50 746 mg/kg, Inhalation rat LC50 0.124 mg/L/4 hr, Dermal rabbit LD50 >7000 mg/kg.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Homopolymer of hexamethylene diisocyanate: 96 hr LC0 Brachydanio rerio >100 mg/L; 48 hr EC0 daphnia magna >100 mg/L; 72 hr EC50 Scenedesmus subspicatus >1,000 mg/L

Hexamethylene-1,6-Diisocyanate: 96 hr LC0 Danio rerio >82.8 mg/L, 48 hr EC0 daphnia magna >89.4 mg/L, 72 hr EC50 Desmodesmus subspicatus > 77.4 mg/L

Persistence and degradability: Homopolymer of hexamethylene diisocyanate and hexamethylene-1,6-diisocyanate are not readily biodegradable.

Bioaccumulative potential: Not expected to bioaccumulate.

Mobility in soil: No data available.

Other adverse effects: This product reacts with water forming CO₂ and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants or by water soluble solvents.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations. Incineration is the preferred method.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated	None	None	None
TDG	None	Not Regulated	None	None	None
IMDG	None	Not Regulated	None	None	None
IATA	None	Not Regulated	None	None	None

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions:

15. REGULATORY INFORMATION

CERCLA: This product has a Reportable Quantity (RQ) of 10,000 lbs. (based on the RQ for Hexamethylene-1,6-Diisocyanate of 100 lbs). Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health, Chronic Health

SARA 313 Information: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Hexamethylene-1,6-Diisocyanate 822-06-0 <0.3%

California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): None

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

Canadian CEPA: All of the ingredients in this product are listed on the Canadian DSL.

Canadian WHMIS Classification: Class D Subdivision 1 A (Very Toxic Material Causing Immediate and Serious Toxic Effects.), Class D Division 2 Subdivision A (Very Toxic Material Causing other Toxic Effects), Class D Division 2 Subdivision B (Toxic Material Causing other Toxic Effects)

This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 3 Flammability = 1 Instability = 1
HMIS Rating: Health = 3* Flammability = 1 Physical Hazard = 1

SDS Revision History: All sections revised – Converted to GHS format.

Date of preparation: December 12, 2014

Date of last revision: New SDS

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND USE.