



Material Safety Data Sheet

GatorHyde PolySpar LP-1 Component A

MANUFACTURER
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Revised: November 2005 – new address
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1- PRODUCT IDENTITY

Product Code: 1288
Product Name: GatorHyde PolySpar LP-1 **Component A**
Chemical Name: 1,6-Hexamethylene Diisocyanate -, polyisocyanate
Chemical Formula: Not Applicable (Product is a mixture)
Chemical Family: Aliphatic Polyisocyanate

2- HAZARDOUS INGREDIENTS

Chemical Name	CAS #	%	OSHA PEL	ACGIH TLV
Hexane, 1,6-diisocyanate homopolymer	28182-81-2	100 Approx.	None estab.	Not Estab.
Hexane, 1,6- Diisocyanate	822-06-0	0.5	None estab.	0.005 ppmTWA

Monomer content is less than 0.2% based on resin solids at the time of manufacture. Manufacturers guide line is 0.02 ppm.

The recommended MGL for HDI based Polyisocyanate is 0.5 mg/m³ (TWA averaged over 8 hrs.) and 1.0 mg/m³ Short Term Exposure (STEL-averaged over 15 minutes.)

3- HAZARDS IDENTIFICATION

Emergency Overview: Color: Clear/Pale Yellow Form: Liquid Odor: Negligible

Potential Health Effects:

Route(s) of Entry: Skin Contact, Inhalation, Eye Contact

Signs and Symptoms of Acute Exposure:

Skin: Isocyanates react with skin protein and moisture and can cause irritation. Symptoms of skin irritation may be reddening, swelling, rash, scaling or blistering. Some persons may develop skin sensitization from skin contact. Cured material is difficult to remove.

Inhalation: HDI vapors or mist at concentrations above the TLV or MGL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction.) Persons with a pre-existing, non specific bronchial hyper-reactivity can respond to concentrations below the TLV or MGL with similar symptoms as well as an asthma attack. Exposure well above the TLV or MGL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hyper-sensitive pneumonitis, with flu like symptoms (e.g. fever, chills) has also been reported.

Eye: Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.

Ingestion: Can result in irritation and possible corrosive action in the mouth, stomach tissue and digestive tract.

Chronic Health Effects:

Chronic Inhalation: As a result of previous repeated over exposures 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 or MGL. These symptoms, which include: chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are 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 over exposure 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.

Chronic Skin Contact: Prolonged contact with the isocyanate can cause reddening, swelling, rash, scaling or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material or even as a result of vapor-only exposure.

Chronic Eye Contact: May result in corneal opacity (clouding of the eye surface).

Chronic Ingestion: None Found.

Medical Conditions Aggravated by Exposure: Asthma and other respiratory disorders (bronchitis, emphysema, hyper-reactivity), skin allergies, eczema.

Exposure Limits: Not established for product as a whole. The recommended manufacturer guideline level (MGL) for HDI based Polyisocyanates is: 0.5 mg/m³ (TWA-averaged over 8 hours) and 1.0 mg/m³; short term exposure (STEL - averaged over 15 minutes). Monomer content < 0.2% based on resin solids at the time of manufacture. It is recommended a ceiling level of 0.02 ppm.

4- FIRST AID MEASURES

Inhalation: If overcome by exposure, remove victim to fresh air immediately. In the event that an individual inhales enough vapor to lose consciousness, the person should be moved to fresh air at once and a physician should be called immediately. Give oxygen or artificial respiration as needed. Call a physician.

Eye: In case of eye contact, immediately rinse with clean water for 20-30 minutes. Continue to rinse eye with clean water for 20-30 minutes, retracting eyelids often. Seek medical attention if discomfort persists.

Skin: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash clothing before wearing again. Seek medical attention if discomfort persists.

Ingestion: Ingestion unlikely. However, if ingested, **Do not induce vomiting**. Give 1 to 2 cups milk or water to drink. Obtain emergency medical attention.

Note to Physician: Eyes; Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation frequently. Work place vapors could produce reversible corneal epithelial edema impairing vision. Skin; This product is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Ingestion; treat symptomatically. There is no specific antidote. Inducing vomiting is contra indicated because of the irritating nature of the product. Inhalation; This product is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material must be removed from any further exposure to any isocyanate.

5- FIRE FIGHTING MEASURES

Flash Point: >200°F (93°C) Pinsky-Martens closed cup (ASTM D-93)

Auto-Ignition Temperatures: 860°F (460°C)

Extinguishing Media: Dry chemical; carbon dioxide; foam; water spray for large fires. Water to be used only in large quantities due to reactivity.

Special Fire Fighting Procedures: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. Fight fire from a safe distance and protected location. Extinguish all ignition sources. During a fire, HDI vapors and other irritating highly toxic gases may be generated by thermal decomposition or combustion. Closed container may explode when exposed to extreme heat or burst when contaminated with water (CO₂ evolved).

6- ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment, including respiratory equipment during clean-up. Cover spill with sawdust, vermiculite, Fuller's earth or other absorbent material. Pour decontamination solution over spill area and allow to react for at least 10 minutes. Collect material in open containers and add further amounts of decontamination solutions. Decontamination solutions: nonionic surfactant Union Carbide's Tergitol TMN-10 (20%) and water (80%); concentrated ammonia (3-8%); detergent (2%) and water (90-95%).

7- HANDLING AND STORAGE

Storage Temperature (Min/Max): 30°F to 113°F (45°C)

Shelf Life: Six Months at 77°F

Special Sensitivity: If container is exposed to high heat, it can be pressurized and possibly rupture. HDI reacts slowly with water to form CO₂ gas. This gas can cause sealed containers to expand and possibly rupture.

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Handling/Storage Precautions: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. At maximum storage temperatures noted, material may slowly polymerize without hazard. Ideal storage temperature range for ease of handling is 50°F-81°F. Avoid contact with skin and eyes. Do not breathe aerosols or vapors. Employee education and training in the safe use and handling of this compound are required under the OSHA Hazard Communication Standard.

8- PERSONAL PROTECTION

Eye Protection Requirements: Contact lenses must not be worn. Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to splashing/spraying liquid, airborne particles, or vapor. Both chemical splash goggles and face shield must be worn.

Skin Protection Requirements: 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.

Respirator Requirements: Concentrations greater than the TLV can occur when HDI is sprayed or heated in a poorly ventilated area. A respirator fitted with activated charcoal is always recommended while spray applying this product. In some cases a supplied air apparatus (either positive pressure or continuous flow-type) should be used.

Ventilation Requirements: Local exhaust should be used to maintain levels below the TLV whenever HDI is processed, heated or spray applied. Consult the ACGIH Industrial Ventilation guidelines for adequate ventilation.

Engineering controls: Local exhaust in addition to general room ventilation may be required to meet exposure limits.

Other Hygienic Practices: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Recommended Work Practices: Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse.

9- PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Liquid
Color:	Clear, pale yellow
Odor:	Negligible
Boiling Point:	382°F (194°C)
Melting/Freezing Point:	Not Estab.
Sol. In Water:	Resin is insoluble (reacts to liberate CO ₂ gas)
Specific Gravity:	~ 1.14 g/cc, @ (20°C / 68°F)
Bulk Density:	9.5 lbs./gal.
% Volatile by Weight:	Negligible
Vapor Pressure:	~0.000075 mm Hg, @ (20°C / 68°F), (based on Polyisocyanate)

10- STABILITY AND REACTIVITY

Stability: Stable under normal conditions

Hazardous Polymerization May occur. Contact with moisture or other materials which react with isocyanates or temperatures above 400°F (204°C) may cause polymerization.

Incompatibilities: Reacts with water, releasing CO₂. Reacts with amines, strong bases, alcohols, metal compounds, and surface active agents.

Instability Conditions: None known

Decomposition Products: By high heat and fire: carbon dioxide, carbon monoxide, oxides of nitrogen, HCN, HDI.

11- TOXICOLOGICAL INFORMATION

Toxicity Data For: HDI homopolymer materials except where indicated.

Acute Toxicity: Oral LD50- Greater than 10,000 mg/kg (rat)
 Dermal LD50- Greater 5000 (rabbit)
 Inhalation LC50-rats ranges from 137 to 1150 mg/m³.

Eye Effects: Severe Irritant capable of corneal injury (56.4/110 24hrs.)

Skin Effects: Moderate Irritant. Primary dermal score (3.4/8.0 rabbit)

Sensitization: HDI has been shown to produce dermal sensitization in laboratory animals. Evidence of respiratory sensitization has also been observed in guinea pigs. In addition, there is evidence of cross-sensitization between different types of diisocyanates.

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Sub Chronic Toxicity: In a combined chronic inhalation toxicity/oncogenicity study, rats were exposed to an aerosol of HDI for six hours per day, 5 days per week for one or two years. The exposure concentrations were 0, 0.2, 1.0, and 6.0 mg/m³. Microscopic examination of tissues revealed the effects of irritation to the nasal cavity and lungs in animals exposed to 14 mg/m³. The No Observable Effect Level (NOEL) was 4.3 mg/m³.

12- ECOLOGICAL INFORMATION

Ecotoxicity: No Data Available Environmental Fate: No Data Available

13- DISPOSAL CONSIDERATIONS

Waste Disposal Method: Waste must be disposed of according to federal, state and local laws. Incineration is the preferred method.

Empty Container Precautions: Empty containers must be handled with care due to product residue. Decontaminate container prior to disposal. Empty decontaminated containers should be crushed to prevent reuse. Do not heat or cut empty container with an electric or gas torch.

14- TRANSPORTATION INFORMATION

Technical Shipping Name: Polyisocyanate
 Freight Class Bulk: Isocyanate
 Freight Class Package: Chemicals, NOI (Isocyanate), NMFC 60000
 Product Label: Product label established
 DOT (Hazard Class): Non-Regulated
 IMO/IMDG Code (Ocean): Non-Regulated
 ICAO/IATA (Air): Non-Regulated

HARMONIZED SYSTEM TARIFF #: **HS# 3911.90.9050**

15- REGULATORY INFORMATION

OSHA: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA: On TSCA inventory
 CERCLA Reportable Quantity: None

SARA Title III:

Section 302: Extremely Hazardous Substances: None
 Section 311/312: Hazard Categories: Immediate health hazard, delayed health hazard, reactive hazard
 Section 313: Toxic Chemicals: None

RCRA Status: HDI is not listed as a hazardous waste if discarded in its purchased form. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Homopolymer of HDI CAS # 28182-81-2 Essentially 100% PA3, NJ4

NJ4 = New Jersey Other—included in 5 predominant ingredients > 1%

PA3 = Pennsylvania Non-hazardous present at 3% or greater.

California Proposition 65: To the best of our knowledge, this product contains no levels of listed substances, which the state of California has found to cause cancer, birth defects or other reproductive effects.

Massachusetts Substances List (MSL) - Extraordinarily hazardous substances on the MSL-EHL must be identified when present in materials at levels greater than state specified criterion. To the best of our knowledge, this product contains no substances at a level which could require reporting under the statute.

16- OTHER INFORMATION

NFPA 704M Ratings: Health Flammability Reactivity Other
 2 1 1

HMIS Ratings: Health Flammability Reactivity
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0=Minimal; 1=slight; 2=Moderate; 3=serious; 4=Severe *Indicates a chronic health hazard Revised: July 2009
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