



Material Safety Data Sheet

GatorHyde EcoSpar Component A

MANUFACTURER

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1- Product Identity

Product Code: 2003
Product Name: GatorHyde EcoSpar **Component A**
Chemical Name: 1,6-Hexamethylene Diisocyanate Based Polyisocyanate
Chemical Formula: Not Applicable (Product is a mixture)
Chemical Family: Aliphatic Polyisocyanate

2- Hazardous Ingredients

Chemical Name	CAS #	%	OSHA PEL	ACGIH	TWA
Homopolymer of HDI based Polyisocyanate	28182-81-2	60 Approx	Not Established	Not estab.	0.5 mg/m ³
Hexamethylene Diisocyanate	822-06-0	*	None estab.	.005 ppm	
Benzene, 1-chloro-4-(trifluoromethyl)	98-56-6	40%	None estab.	None estab.	

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

Human Effects and Symptoms of Overexposure:

Acute Inhalation: HDI vapors or mist at concentrations above the TLV 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 pre-existing, nonspecific bronchial hyperactivity can respond to concentrations below the TLV with similar symptoms as well as an asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms can be delayed up to several hours after exposure.

Chronic Inhalation: As a result of previous repeated overexposures or in a single large dose, certain individuals 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, which can include chest tightness, wheezing, cough, shortness of breath or asthma 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. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

Acute Skin Contact: 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.

Chronic Skin Contact: Prolonged 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.

Acute Eye Contact: Liquid aerosols or vapors are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. However, damage is usually reversible.

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

Acute Ingestion: Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting, and diarrhea.

Chronic Ingestion: None Found

Carcinogenicity: Neither HDI nor polymeric HDI are listed by the NTP, IARC, or regulated by OSHA as carcinogens.

NTP: Not Listed

IARC Not Listed

OSHA Not Regulated

Medical Conditions Aggravated by Exposure: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperactivity, skin allergies, eczema).

4- First Aid Measures

First Aid for Eyes: Flush with copious amounts of water, preferably lukewarm water for at least 15 minutes, holding eyelids open all the time. Refer individual to a physician or ophthalmologist for immediate follow-up.

First Aid for Skin: Remove contaminated clothing. Wash affected skin 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 after the area is washed.

First Aid for Inhalation: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration if needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Consult physician if this should occur.

First Aid for Ingestion: Do not induce vomiting! Give 1 to 2 cups of milk or water to drink. Do not give anything by mouth to an unconscious person. Consult physician.

5- Fire Fighting Measures

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

Extinguishing Media: Dry chemical; carbon dioxide; foam; water spray for large fires.

Special Fire Fighting Procedures: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. During a fire, HDI vapors and other irritating highly toxic gases may be generated by thermal decomposition or combustion. At temperature greater than 400°F, polymeric HDI can polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire exposed containers.

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): 25°F to 113°F

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 the 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 of between different types of diisocyanates.

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.

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