



Spray-on Bedliners - Garage Floors - Patios & Decks - Commercial Floors & more!

Phone: 631.678.6898 - 631.615.4838

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MATERIAL SAFETY DATA SHEET Granitex™ Activator

Vortex Sprayliners, Inc
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Preparer: John Kott

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Effective Date: December 12, 2004

Trade Secret*

Product Name: Granitex Resin Base

Section — 1— Hazardous Material

Chemical	CAS	%
Homopolymer of HDI	28182-81-2	essentially 100%
OSHA:	Not established	
ACGIH:	Not established	
Hexamethylene Diisocyanate	(Hf I) 822-06-0	
OSHA:	Not established	
ACGIH:	.0005 ppm TWA	

*Monomer content is less than 0.1% based on resin solids at the time of manufacture. We also recommend a ceiling level of 0.02 ppm.

Section — 2— Hazards

Identification: Emergency: Overview

Color: Clear/Pale Yellow Form: Liquid Odor: Negligible
May cause lung damage. May cause eye, skin and respiratory tract irritation. May cause allergic respiratory reaction. Harmful if inhaled. May cause allergic skin reaction. Closed container may explode under extreme heat or when contaminated with water. Toxic gases/fumes are given off during burning or thermal decomposition.

Potential Health Effects:

Route of Entry: Inhalation, skin contact, eye contact.

Acute Inhalation: HDI vapors or mist at concentrations above the TLV or MGL can irritate the mucous membranes in the nose, throat and lungs causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function. Persons with pre-existing, nonspecific bronchial hyper reactivity can respond to concentrations below the TLV or MGL with similar as well as an asthma attack. Exposure well above TLV or MGL may experience bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Flu-like symptoms have also been reported.



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Chronic Inhalation: Repeated overexposures or a single large dose, certain individuals **will** develop isocyanate sensitization which will cause them to react to a later exposure to isocyanate at levels below the TLV or MGL. These symptoms, which include chest tightness, wheezing, coughing, shortness of breath or asthma attack, could be immediate or delayed up to several hours after exposure. Sensitization may be either temporary or permanent.

Acute skin contact: Isocyanates react with the skin protein and moisture and can cause irritation. Symptoms of skin irritation may be reddening, swelling, rash, scaling or blistering.

Chronic skin contact: Prolonged contact with the isocyanate can cause reddening, swelling, rash, scaling or blistering.

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

Chronic eye contact: May result in comel (clouding of eye surface).

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

Chronic ingestion: None found.

Carcinogenicity: NTP — not listed; TRAC — not listed; OSHA — not regulated.

Section — 3 — First Aid Measures

Eyes: Flush with clean, lukewarm water for at least 15 minutes, while lifting up the eyelids. Contact physician.

Skin: Remove contaminated clothing. Wash affected areas thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse. If irritation persists, contact physician.

Inhalation: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Contact physician.

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 or convulsing person. Consult physician.



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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.

Section — 4 — Fire Fighting Measures

Flash Point: Greater than 200F (93°C)

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

Section — 5 — Accidental Release Measures

Spill or leak procedures. Evacuate nonessential personnel. Remove all sources of ignition and ventilate the area. Notify appropriate authorities if necessary. Use vermiculite 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 amount of decontamination solution. Remove containers to a safe place, cover loosely and allow to stand for 24 — 48 hours. Wash down spill area with decontamination solution. Decontamination solutions: nonionic surfactant Union Carbide's Tergitol TMN-10(20%) and water (80%); concentrated ammonia (3-8%), detergent (2%) and water (90 — 95%).

Section — 6 — Handling and Storage

Storage Temperature (mm/max):

-30F (-34°C)/122F (50°C)

Shelf Life:

6 months at 77F (25°C) after receipt by customer

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

Section — 7 — Personal Protection

Precautions must be taken so that persons handling this product do not allow contact with the eyes or skin. In spray operations, protection must be afforded against exposure to both vapor and spray mist.

Skin Protection Requirements: Permeation resistant gloves. Cover exposed skin area with clothing.

Ventilation Requirements: Good industrial hygiene practice dictates that proper ventilation and respiratory protection for workers is mandated. (See respiratory requirements.) Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.



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Respirator Requirements: A respirator that is recommended or approved for use in isocyanate containing environments (air purifying or fresh air supplied) may be necessary for spray application or other situation such as high temperature use. A supplied air respirator (either positive pressure or continuous flow type) is recommended. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Spray Applications: During spray applications, some form of respiratory protection should be worn. During the spray application of organic solvent containing coatings systems, the use of supplied air respirator is mandatory when ONE or MORE of the following conditions exists:

- the airborne isocyanate concentration are not known: or
- the airborne isocyanate monomer concentrations exceed 0.05 ppm (10 times the TLV): or
- the airborne polyisocyanate concentrations exceed 5 mg/m³ averaged over 8 hours or 10 mg/m³ averaged over 15 minutes 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 (combination organic vapor and particulate) respirator, 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 all the following conditions are met:

- the airborne isocyanate monomer concentrations are known to be below 0.05 ppm; and
- the airborne polyisocyanate concentrations are known to be 5 mg/m³ averaged over 8 hours or 10 mg/m³ averaged over 15 minutes and at least one solvent has a published odor threshold; and
- at least one airborne solvent concentration exceeds its odor threshold and that solvent's odor threshold is lower than its TLV.

Under any other circumstances, during a spray application of a coating system not containing organic solvents, good practice dictates that when isocyanate based coatings are sprayed or applied at least an air purifying respirator should be worn.

Non-Spray Operations: During non-spray operations such as mixing, batch mixing, brush or roller application etc. at elevated temperatures, it is possible to be exposed to airborne isocyanate vapors. Therefore, when the coatings system contains solvents and will be applied in a non-spray manner, a supplied air pressure or continuous flow type respirator is mandatory when ONE or MORE of the following conditions exist:

- the airborne isocyanate concentration are not known; or



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- the airborne isocyanate monomer concentrations exceed 0.05 ppm (10 times the TLV);
or
- the airborne polyisocyanate concentrations exceed 5 mgm³ averaged over 8 hours or 10 mg/m³ averaged over 15 minutes 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).

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- the airborne isocyanate monomer concentrations are known to be below 0.05 ppm; and
- the airborne polyisocyanate concentrations are known to be 5 mg/m³ averaged over 8 hours or 10 mg/m³ averaged over 15 minutes and at least one solvent has a published odor threshold; and
- at least one airborne solvent concentration exceeds its odor threshold and that solvent's odor threshold is lower than its TLV.

During a non-spray operation using a solvent free mixture of Granitex™ Glaze a supplied air respirator is mandatory when ONE or MORE of the following conditions exist:

- the airborne isocyanate concentration are not known; or
- the airborne isocyanate monomer concentrations exceed 0.05 ppm (10 times the TLV);
or
- the airborne polyisocyanate concentrations exceed 5 mgm³ averaged over 8 hours or 10 mg/m³ averaged over 15 minutes 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).

Section — 8 — Physical and Chemical Properties

Physical Form: Liquid

Color: Clear/Pale Yellow

Odor: Negligible

Molecular Weight: Approx. 500

Boiling Point: 382F (94°C)

Solubility in Water: Resin is insoluble — reacts slowly with water to liberate CO₂ gas Bulk

Density: 9.25 lb/gal

% Volatile by Weight: Negligible Vapor Pressure

Section — 9 — 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 400F (24°C) may cause polymerization.



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Incompatibilities: Water, amines, strong bases, alcohols, metal compounds and surface active materials.

Instability Conditions: Unknown

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

Section — 10 — Disposal Considerations

Waste Disposal Method: Waste must be disposed of in accordance with federal, state and local environmental regulations. Incineration is the preferred method.

Section — 11 — Transportation

Technical Shipping Name: Polyisocyanate

Freight Class Bulk: Isocyanate

Freight Class Package: Chemicals, NOI (Isocyanate) DOT:

Non-regulated

***TRADE SECRET:**

***Trade Secret:** (Also see Section I. Federal Register Vol 48 No 228 Nov. 25, 1983. Rules and Regulations)

OSHA has given special consideration to chemical information that the chemical manufacturer or distributor considers to be a trade secret (29 CFR 1910.1200(4) Products for which trade secrecy has been claimed must be accompanied by a material safety data sheet. The manufacturer must also specify on the MSDS that the chemical's identity is a trade secret



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MATERIAL SAFETY DATA SHEET

Granitex™ Resin Base

Vortex Sprayliners, Inc
27161 Burbank Street
Foothill Ranch, CA 92610
Preparer: John Kott
Effective Date: December 12, 2004 Trade Secret*
Product Name: Granitex Resin Base

Emergency Contact: 949-770-2316
24 Hour Phone: 949-500-8881
24 Hour Phone: 949-292-7991

Section — 1— Hazardous Material

Chemical	CAS	% w/w
Aspartic Ester (Specific chemical identity is withheld as a trade secret)*		90
OSHA:	Not established	
ACGIH:	Not established	
Aldimine (Specific chemical identity is withheld as a trade secret)*		6.5-7.5
OSHA:	Not established	
ACGIH:	Not established	
Oxirane, 2, 2'-(1, 4, -butanediylbis(oxymethylene))		2.5-3.5
Bis-Butanediol Diglycidyl Ether	2425-79-8	
OSHA:	Not established	
ACGIH:	Not established	

Section — 2— Physical Data

Boiling Point: Not established	Physical Form: Liquid
Vapor Pressure: Not established	Bulk Density: 9 lb/gal
Sal. In water: Resin is insoluble	Specific Gravity: 1.13
% Volatile by Weight: Negligible	Appearance: Amber
Vapor Pressure: Not established	Odor: Slight

Section — 3— Fire Hazard

Flash Point: 220F (94°)
Method Used: Dry chemical, foam, carbon dioxide and water.
Special fire fighting procedures: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. Ammonia may be released when heated in air.



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Section — 4 — Human Health Data

Route of entry: Inhalation, skin contact, eye contact.

Acute effects of exposure: Aliphatic diamines, as a class of chemicals are corrosive to the eyes and skin, however, based on the animal toxicity data for a similar product, we would not expect this material to be corrosive.

Chronic effects of exposure: Skin sensitization may result from prolonged or repeated skin contact.

Carcinogenicity: NTP — not listed TARP — not listed OSHA — not listed

Medical conditions: Aggravated by exposure: May aggravate an existing dermatitis or other allergic reaction.

Exposure Limits: Not established for this product.

Section — 5 — Emergency and First Aid Procedures

Eyes: Flush with clean, lukewarm water for at least 15 minutes, while lifting eyelids. Obtain medical attention.

Skin: Flush skin with soap and water while removing contaminated clothing and shoes. Wash skin with soap and water. Obtain medical attention.

Inhalation: Remove patient to fresh air if breathing becomes difficult. If breathing has stopped, administer artificial respiration. Administer oxygen if necessary. Consult physician.

Ingestion: DO NOT INDUCE VOMITING! Give 2 cups water for dilution. Do not give anything by mouth to an unconscious or convulsing person. Consult physician immediately.

Section — 6 — Protection

Eye protection requirements: Liquid chemical goggles or full face shield. Contact lenses should not be worn.

Skin protection: Permeation resistant gloves to be worn while spraying.

Section — 7 — Reactivity Data

Stability: Stable

Hazardous Polymerization: Will not occur

Incompatibilities: Oxidizing materials



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Section — 8 — Spill or Leak Procedures

Remove all sources of ignition and ventilate the area. Equip cleanup crew with appropriate protective equipment. Dyke or impound spilled material and control further spillage if feasible. Notify appropriate authorities if necessary. Cover spill with sawdust, vermiculite or other absorbent material. Collect material in open containers. Remove containers to safe place and cover.

Waste Disposal Method: Waste material must be disposed of in accordance with federal, state and local environmental control regulations. Empty containers must be handled with care due to product residue.

Section — 9 — Handling and Storage

Storage Temperature: Ambient temperature

Shelf Life: Not established

Special Sensitivity: Material is hygroscopic and may absorb small amounts of atmospheric moisture.

Handling and Storage: Containers should be tightly sealed to prevent contamination with foreign materials and moisture. Keep away from heat, sparks and open flame.

Section — 10 — Shipping Information

Freight Class Bulk: Chemicals, NOI, NMFC 60000 Freight Class

Package: Chemicals, NOI (NMFC 6000) DOT: Non-regulated

Ocean: Non-regulated

IATA: Non-regulated

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