

07-25-01

GREEN MOUNTAIN INTERNATIONAL, LLC

235 PIGEON ST.

WAYNESVILLE, NC 28786

Emergency Spill, Leak, Fire, Exposure or Accident: Chemtrec – 800-424-9300**Green Mountain International, LLC**

800-942-5151 US/Canada ♦ 828-456-9970 International

Section I – General

Trade Name: Mountain Grout
Formula Trade Name: "I.S.P." A
Chemical Family: Polyisocyanate
Chemical Name: Diphenylmethane Diisocyanate Polymer Mixture
Synonyms: MDI, ISO, "A" Component
CAS Number: Mixture
TSCA Status: On Inventory

Section II – Hazardous Ingredients

	CAS#	Approx. %	Current TLV/TWA
Polymethylene Polyphenyl Isocyanate	009016-87-9	100	NE
4,4 Diphenylmethane Diisocyanate (MDI)	000101-68-8	ca50	.005ppm

* *Ingredients not precisely identified are not hazardous*

NE = Not Established

Section III – Hazardous Summary

This material is designed and intended to be pumped, not sprayed. MDI becomes more hazardous when atomized (sprayed). The following data is derived from tests performed when the material is sprayed and should be considered, but may not apply to pumping operations as recommended by the manufacturer.

Potential Health Effects: At room temperature, MDI vapors are minimal due to low vapor pressure. However, heating, foaming or otherwise dispersing (drumming, venting or pumping) operations may generate more vapor or aerosol concentrations of isocyanate. Excessive exposure may cause irritation of the eyes, upper respiratory tract and lungs. Severe overexposure may lead to pulmonary edema. Respiratory sensitization with asthma-like symptoms may occur in susceptible individuals. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Symptoms may include coughing, dryness of the throat, headache, nausea, difficulty breathing and a feeling of tightness in the chest. Effects may be delayed for several hours after exposure. Impaired lung function (decreased ventilator capacity) has been associated with overexposure to isocyanates.

PERSONS WITH KNOWN RESPIRATORY OR ALLERGY PROBLEMS MUST NOT BE EXPOSED TO THIS PRODUCT.

Skin: May cause allergic skin reaction in susceptible individuals. Prolonged or repeated contact may cause skin irritation. May stain the skin.

Eyes: As a liquid or dust, may cause irritation, inflammation and/or damage to sensitive eye tissue. Symptoms include watering or discomfort of eyes. Corneal injury is unlikely.

Ingestion: This is not considered a common route of exposure and single dose toxicity is low. Can result in irritation and corrosive action in mouth, stomach tissue and digestive tract.

Threshold Limit Value (ACGIH): TLV is .005 PPM TWA

Permissible Exposure Limit (OSHA): PEL is .02 PPM

Section IV – Emergency & First Aid Procedures

Eyes: Flush with clean water at low pressure for at least 15 minutes, occasionally lifting eyelids. CONSULT A PHYSICIAN IMMEDIATELY.

Skin: Remove contaminated clothing. Wash exposed area with warm soapy water thoroughly. Some organic materials such as corn oil or propylene glycol are effective in decontaminating MDI from the skin when applied immediately. Contaminated clothing should be properly laundered.

Inhalation: Remove patient from area of exposure to safe area. If not breathing, give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. Consult a physician immediately.

Ingestion: If swallowed, drink 1 to 2 glasses of water or milk. Do not induce vomiting due to the irritating nature of this compound. If gastrointestinal symptoms develop, consult medical personnel. **Never give anything by mouth to an unconscious person.**

*** NOTE TO PHYSICIAN: No specific antidote. Symptomatic and supportive care as needed. Treatment based on judgment of physician in response to reactions of the patient. The manifestations of respiratory symptoms, including pulmonary edema, resulting from acute exposure, may be delayed. Following severe exposure, medical follow-up should be monitored for at least 48 hours.**

Section V – Fire & Explosion Data

Flash Point: 425°F 218°C (COC)

Extinguishing Media: Dry chemical extinguishers such as monoammonium phosphate, potassium sulfate, and potassium chloride. Additionally, carbon dioxide, high expansion (proteinic) chemical foam, and water spray for large fires. If water is used, use large amounts, as the reaction between hot isocyanates and water can be vigorous. Use self-contained breathing apparatus and body covering (protective clothing).

Unusual Fire and Explosion Hazards: At temperatures over 400°F, polymeric MDI can polymerize and decompose which will cause pressure to build up in closed containers. Explosive rupture is possible. Water contamination will produce carbon dioxide. Do not reseal contaminated containers as pressure buildup may rupture them. Downwind personnel must be evacuated.

Fire Degradation Products: Toxic fumes are released in fire situations. Isocyanate vapor and mist, carbon dioxide, carbon monoxide, nitrogen oxides and traces of hydrogen cyanide.

Protective Equipment: Wear positive pressure self-contained breathing apparatus with full-face piece and full protective clothing.

Section VI– Spill or Leak Procedures

Emergency Spill, Leak, Fire, Exposure or Accident: Call Chemtrec at 800-424-9300.

CERCLA Reportable Quantity: 4,4' Diphenylmethane Diisocyanate = 5,000 lbs.

Minor Spills: Contain the spilled material and then cover with a loose, absorbent material such as oil dry, vermiculite, sawdust, or Fuller's Earth. Shovel waste material into proper waste containers. DO NOT make pressure tight. Transport to a well-ventilated area and treat with a neutralizing solution consisting of a mixture of water and 3-8% concentrated ammonium hydroxide or 5-10% sodium carbonate. Add about 10 parts of neutralizer per part of isocyanate with mixing. Allow to stand 48 hours letting evolved CO₂ escape.

Major Spills: Call Green Mountain Int'l LLC immediately @ (800) 942-5151. If it is a transportation spill, notify CHEMTREC @ (800) 424-9300. Evacuate and ventilate spill area. Dike spill to prevent entry into the environment. Wear full protective equipment, including respiratory protection, during clean up.

Clean Up: Decontaminate area using water/ammonia solution with 1-2% added detergent, letting it stand over effected area for at least 10 minutes. Cover mops, brooms, etc. used for this with plastic and dispose of properly often by incineration.

Waste Disposal Methods: Waste material may be incinerated at proper facilities or disposed of under local, state and federal regulations controlling environmental protection.

Section VII – Storage and Handling

Storage Temperature (min/max): 60° and 100° F (15° and 38° C)

Average Shelf Life: 1 year from date of manufacturing.

Special Sensitivity (heat, light, and moisture): This product is reactive with water. Containers should be tightly sealed to prevent moisture contamination. A nitrogen blanket should be used for bulk storage. Store at a temperature of 60° F - 100° F. Protect from freezing. Should freezing occur, the material must be thawed thoroughly and mixed until uniform. Opened containers must be handled properly to prevent moisture contamination.

Precautions in Handling & Storage: If contamination of the MDI is suspected, DO NOT reseal container because of possible rupture due to pressure buildup. Always slowly vent container when opening to relieve any pressure buildup. Use personal protective equipment when transferring material to or from drums, totes or other containers. Use only with adequate ventilation to ensure that the occupational exposure limit is not exceeded. Do not smoke or use naked lights, open flames, space heaters or other ignition sources near pouring or frothing operations.

Section VIII – Employee Protection Recommendations/Exposure Control

Exposure: Use with adequate ventilation to keep airborne isocyanate level below TLV or 0.005 ppm, TWA and PEL 0.02 ppm ceiling. These control limits do not apply to previously sensitized individuals or to individuals with existing respiratory disease, such as bronchitis, emphysema or asthma. Respiratory protection may be needed where material is heated, sprayed or used in a confined space. **PERSONS WITH KNOWN RESPIRATORY OR ALLERGIC PROBLEMS MUST NOT BE EXPOSED TO THIS PRODUCT.**

Eyes: Liquid chemical goggles or full-face shield. No contact lenses should be worn.

Skin: Wear clothing and gloves impervious to MDI under conditions of use. Materials may include butyl rubber, nitrile rubber, neoprene and Saranex[®] coated Tyvek[®].

Respiratory: Because of the low vapor pressure of isocyanates, local exhaust ventilation is usually sufficient to keep vapors below the TLV at room temperatures. Exceptions are when the material is heated or sprayed. If airborne concentrations exceed or are expected to exceed the TLV, use a MSHA/NIOSH approved positive pressure, self-contained breathing apparatus.

Ventilation: Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. Spills or other emergencies may require more forceful ventilation means.

Other: Safety showers and eye wash stations should be provided in all work areas. All employees should be properly trained.

Section IX – Physical Data

Appearance:	Viscous Liquid
Color:	Amber to Brown
Odor:	Pungent
Boiling Point:	Decomposes over 400°F, 204°C
Viscosity @ 25° C:	200 cps
Vapor Pressure @ 25°C:	<0.0001
Specific Gravity:	1.23
Solubility in Water:	Reacts

Section X – Stability and Reactivity Data

Stability: Stable under recommended storage conditions

Polymerization: May occur with incompatible reactants, especially strong bases, water or temperatures over 320° F (160° C). Temperatures over 110° F (43° C) accelerate the reaction with water.

Incompatibility (Materials to avoid): Water, acids, bases, metal compounds, and surface-active materials. Avoid water as it reacts to form heat, CO₂ and insoluble urea. The combined effect of the CO₂ and heat can produce enough pressure to rupture a closed container. Some reactions are violent in the presence of the above-mentioned materials.

Hazardous Decomposition Products: Isocyanate vapor and mist, carbon dioxide, carbon monoxide, nitrogen oxides and traces of hydrogen cyanide.

Section XI – Toxicological Information

Polymeric MDI: Oral LD50 (rat) > 5,000 mg/kg
Dermal LD50 (rabbit) > 5,000 mg/kg
Inhalation LC50 (rat) = 490 mg/M³ (4 hours exposure to respirable aerosol)

Carcinogenicity: The ingredients of this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

Mutagenicity: There is no substantial evidence of mutagenic potential.

Reproductive Effects: No adverse reproductive effects are anticipated.

Teratogenicity and Fetotoxicity: No birth defects were seen in two independent animal studies.

Section XII – Shipping Information

Technical Shipping Name: 4,4' Diphenylmethane Diisocyanate

DOT (Domestic Surface) Hazard Classification: NOT REGULATED (in pails, drums or totes).

IMO (Ocean): NOT REGULATED

IATA/ICAO (Air): NOT REGULATED

Transportation Emergency Telephone Number: 1-800-424-9300 (Chemtrec)

Section XIII – Regulatory Information

OSHA Status: This product is classified as hazardous under the criteria of the Federal OSHA Hazard Communications Standard 29 CFR 1910.1200.

TSCA Status: On the TSCA Inventory.

CERCLA Reportable Quantity: 4,4' Diphenylmethane Diisocyanate = 5,000 lbs.

RCRA Status: MDI is not a hazardous waste. However, under RCRA, it is the responsibility of the user of products to determine, at any time of disposal, whether a product meets any of the criteria for hazardous waste.

This product does not contain, nor is it manufactured with ozone depleting substances.

**THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD).
Read MSDS and Safety/Handling Sheet before use.**

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, expressed or implied, and we assume no responsibility for any loss damage, or expense, direct or indirect or consequential, arising out of their use.

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