

MATERIAL SAFETY DATA SHEET



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Expanding Foam

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Expanding Foam

MANUFACTURER

Geocel, LLC
P.O. Box 398
Elkhart, IN 46515-0398
Emergency Phone: 574-264-0645

24 HR. EMERGENCY TELEPHONE NUMBERS

ChemTel - 800-255-3924

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: DANGER! Extremely flammable liquid and vapor. Vapor may cause flash fire. May cause eye, skin, nose, throat and respiratory tract irritation. May cause an allergic skin reaction. Harmful if inhaled. Contents under pressure, storage temperature should not exceed 120°F (49°C) in order to avoid excessive pressure build up and possible container rupture. Vapor reduces oxygen available for breathing. May cause lung injury. Respiratory sensitizer. May cause central nervous system effects. May cause liver damage. Toxic gases/fumes may be given off during burning.

POTENTIAL HEALTH EFFECTS

EYES: May cause eye irritation. Foam contact can cause physical damage due to adhesive character. Vapors may cause slight temporary corneal injury.

SKIN: May cause localized irritation, reddening or swelling. Prolonged or repeated exposure may lead to sensitization. May cause and allergic reaction. Prolonged skin exposure is unlikely to result in absorption of harmful amounts. Foam will stick to the skin causing irritation upon removal.

INGESTION: May cause irritation of mucous membranes in the mouth and digestive tract. Small amounts swallowed as a result of normal handling are not likely to cause injury; swallowing large amounts may cause injury.

INHALATION: Vapors may irritate mucous membranes with tightness in chest, coughing, or allergic asthma-like sensitivity. Extensive overexposure can lead to respiratory symptoms such as asthma and pulmonary edema. These diseases may be aggravated by prolonged exposure. Excessive exposure may cause irritation to upper respiratory tract and lungs. Overexposure to the hydrocarbon gas mixture may cause lightheadedness, headaches, or lethargy. Persons with cardiac arrhythmia may be at increased risk in severe exposure. In poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Excessive exposure may aggravate pre-existing conditions such as asthma, emphysema, bronchitis, etc.

COMMENTS HEALTH: The primary adverse health effects of this product are related to the individual components that make up the mixture; polymeric isocyanate (pMDI) component and the liquefied petroleum gas (Hydrocarbon, HC) component. These products should be used in a well ventilated area to avoid exceeding the exposure limits of these components (listed in Section 8 of this MSDS). If used indoors, mechanical ventilation or exhaust should be provided during use and until product is cured.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
Urethane Pre-polymer Blend (proprietary non-hazardous)	60 - 100	N/A	
Methylene Disphenyl Isocyanate	5 - 10	101-68-8	202-966-0
Polymeric Isocyanates	5 - 10	9016-87-9	- -
Isobutane	5 - 10	74-28-5	
Dimethyl Ether	5 - 10	115-10-6	- -
Propane	1 - 5	74-98-6	- -

4. FIRST AID MEASURES

EYES: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel.

SKIN: Use a rag to remove liquid from skin and remove contaminated clothing. May cause mild irritation or temporary darkening of skin. Persistent washing with soap and water will eventually remove all residues. If irritation persists, obtain medical attention.

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INGESTION: Drink 1 to 3 glasses of water and seek medical attention. Do not induce vomiting. Never give anything orally to an unconscious person.

INHALATION: If breathing difficulty is experienced, move to area free of exposure. Provide fresh air. If necessary, provide oxygen or artificial respiration by trained personnel and obtain medical attention. Persons receiving significant exposure should be observed for 24-48 hours for signs of respiratory distress.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: -68.9°C (-156°F)

EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, Halon 1211, chemical foam, or water spray (if used in large quantities).

EXPLOSION HAZARDS: Contains flammable propellant. Eliminate ignition sources. High temperatures will raise the pressure in the containers, which may lead to rupturing. Aerosol cans exposed to fire or high temperature can rupture and rocket. Cured foam is organic and, therefore, will burn in the presence of sufficient heat, oxygen and an ignition source. Main hazards associated with burning foam are similar to burning of other organic materials (wood, paper, cotton, etc.) and precautions against exposure should be taken accordingly. Dense smoke is produced when the product is burned. Avoid welding or other "hot work" in the vicinity of exposed cured foam.

FIRE FIGHTING PROCEDURES: Isolate area and deny unnecessary entry. Stay upwind. Water is not recommended unless used in large quantities as a fine spray when other extinguishing agents are not available. Water may spread the fire. Protective equipment: Wear self-contained breathing apparatus to protect against toxic decomposition by-products, including carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen fluoride and traces of hydrogen cyanide. Wear all turn out gear (boots, trousers, gloves, and hood).

SENSITIVE TO STATIC DISCHARGE: Contents can be sensitive to mechanical impact or static discharge.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic decomposition by-products, including carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen fluoride and traces of hydrogen cyanide can be released in instances of fire.

COMMENTS: Vapor released during and immediately after dispensing may ignite explosively if proper ventilation is not employed and vapor build up is allowed to occur. Extinguish or remove all sources of ignition during dispensing, until product becomes tack free or skins over.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Uncured product is very sticky, so carefully remove the bulk of the foam by scraping it up and then immediately remove the residue with a rag and solvent such as polyurethane cleaner, mineral spirits, acetone, paint thinner, etc. Once the product has cured, it can only be removed mechanically by scraping, buffing, etc. Dispose as plastic waste (foam plastic) in accordance with all applicable guidelines and regulations.

Before disposing of containers, relieve container of any remaining foam and pressure. Allow product to fully cure before disposing. never discard in a liquid state.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Containment should include preventing the spill from entering drains, sewers, waterways, groundwater, or soil.

7. HANDLING AND STORAGE

HANDLING: Extremely flammable aerosol compressed gas. Keep away from sources of heat, sparks, and flame. Remove all ignition sources. Turn off all pilot lights. Do not smoke. Wear proper personal protective equipment when using the product. Use only in a well ventilated area.

STORAGE: Store in a cool, dry place. Ideal storage temperature is 60°F to 80°F (15.5°C to 26.6°C). Do not expose aerosol cans to open flame or temperature above 120°F (49°C). Excessive heat can cause premature aging of components resulting in a shorter shelf life. Storage above 90°F (32.2°C) will shorten the shelf life. Storage below 55°F (12.7°C) may affect foam quality if chemicals are not warmed to room temperature before using. Protect containers from physical abuse. Always store containers upright. KEEP AWAY FROM CHILDREN.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m ³	ppm	mg/m ³
Methylene Disphenyl Isocyanate	TWA	.020	.200	0.200	0.051

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields or goggles when handling this material.

SKIN: Avoid contact with skin. Use clothing that protects against dermal exposure. Use chemically resistant gloves.

Nitrile/butadiene rubber, butyl rubber, polyethylene, PVC (vinyl), or neoprene gloves are also effective. Glove selection should

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take into account potential body reaction to certain materials and manufacturer's instructions for use.

RESPIRATORY: Use products only in well ventilated area. If atmospheric levels are expected to exceed the exposure levels, use a NIOSH approved air purifying respirator equipped with an organic vapor cartridge and a particulate filter (N95). If atmospheric levels exceed 10 times the TLV or PEL level for which an air-purifying respirator is effective, use a powered air purifying respirator (PAPR). The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). Use local and general exhaust ventilation to control levels of exposure. The odor and irritancy of this material are inadequate to warn of excessive exposure.

WORK HYGIENIC PRACTICES: Wash hands thoroughly after each use, especially before eating or smoking. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Slight hydrocarbon odor during curing stage.

APPEARANCE: Viscous liquid which foams upon release from container.

BOILING POINT: Liquefied petroleum gas components boil between -28°F to 11°F. Other components boil at temperatures greater than 200°F.

FLASHPOINT AND METHOD: -68.9°C (-156°F)

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

CONDITIONS TO AVOID: High temperatures will raise the pressure in the containers, which may lead to rupturing. Product use is temperature sensitive. Avoid temperatures below 40°F or temperatures above 95°F.

INCOMPATIBLE MATERIALS: Alcohols, strong bases or amines, metal compounds, ammonia, strong oxidizers.

11. TOXICOLOGICAL INFORMATION

ACUTE

DERMAL LD₅₀: > 5000 mg/kg (rabbit)

Notes: For MDI

ORAL LD₅₀: > 5000 mg/kg (rat)

Notes: For MDI

INHALATION LC₅₀: 658 mg/L (rat) 4 h

Notes: For isobutane and propane

EYE EFFECTS: Irritating to the eyes.

SKIN EFFECTS: Irritating to the skin.

CHRONIC: 6.3 mg/m (high level of exposure, 2 years, 6 hrs/day, 5 days/week) lung tumors observed.

REPEATED DOSE EFFECTS: 2 yrs, inhalation, NOAEL .19, (rat, male/female, 6 hrs/day, 5 days/week) Irritation to lungs and nasal cavity.

GENETIC EFFECTS: Inconclusive, in vitro studies were negative/positive, salmonella typhimurium.

12. ECOLOGICAL INFORMATION

COMMENTS: For complete ecological information contact Geocel's Technical Support.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

COMMENTS: Do not dispose product into drains, sewers, waterways, ground water, or soil. Do not incinerate containers. Before disposing of containers, relieve container of any remaining foam and pressure. Allow product to fully cure before disposing. Never discard in a liquid state. Always wear safety glasses or goggles, nitrile gloves, and clothing that protects against dermal exposure when disposing of product. Dispose of empty containers according to applicable federal, state, provincial and local regulations.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Aerosols Flammable 2.1

UN/NA NUMBER: 1950

PACKING GROUP: ORM-D

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OTHER SHIPPING INFORMATION: Generators must consult DOT laws and regulations to ensure the product is being transported appropriately.

ROAD AND RAIL (ADR/RID)

PROPER SHIPPING NAME: Consumer Commodity

UN NUMBER: 1950

PACKING GROUP: ORM-D

AIR (ICAO/IATA)

SHIPPING NAME: Aerosols Flammable 2.1

UN/NA NUMBER: 1950

PACKING GROUP: ORM-D

15. REGULATORY INFORMATION**UNITED STATES****SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

311/312 HAZARD CATEGORIES: This product poses the following physical and health hazard(s) as defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986:

FIRE: Yes **PRESSURE GENERATING:** Yes **REACTIVITY:** Yes **ACUTE:** Yes **CHRONIC:** Yes

313 REPORTABLE INGREDIENTS: This product contains the following chemical(s) subject to reporting under SARA Title III Section 313: CAS #101-68-8 Methylene Disphenyl Isocyanate and CAS #9016-87-9 Polymeric Isocyanates

EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt. %	CAS
Methylene Disphenyl Isocyanate	5 - 10	101-68-8
Polymeric Isocyanates	5 - 10	9016-87-9

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

Chemical Name	Wt. %	CERCLA RQ
Methylene Disphenyl Isocyanate	5 - 10	5,000

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Methylene Disphenyl Isocyanate	101-68-8
Polymeric Isocyanates	9016-87-9
Isobutane	74-28-5
Dimethyl Ether	115-10-6
Propane	74-98-6

TSCA REGULATORY: All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

CLEAN AIR ACT

Chemical Name	Wt. %	CAS
Isobutane	5 - 10	74-28-5
Dimethyl Ether	5 - 10	115-10-6
Propane	1 - 5	74-98-6

REGULATIONS

STATE REGULATIONS: Contains chemicals on Massachusetts, New Jersey and Pennsylvania Right to Know lists.

CALIFORNIA PROPOSITION 65: This product does not contain any chemicals on California's Proposition 65 List.

OSHA HAZARD COMM. RULE: This material is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

COMMENTS This product meets the RoHS guidelines for electronic components and hardware. We certify the following substances are not intentionally introduced to this product: barium, beryllium, cadmium, chromium, cobalt, copper, hexavalent chromium, lead, manganese, mercury, nickel, polybrominated biphenyls, polybrominated diphenyl ethers, selenium, silver, thallium, titanium, zinc.

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16. OTHER INFORMATION

PREPARED BY: Technical Staff

REVISION SUMMARY: This MSDS replaces the 01/29/2010 MSDS. Revised: **Section 2:** EMERGENCY OVERVIEW - IMMEDIATE CONCERNS. **Section 3:** Wt.%. **Section 4:** EYES, INHALATION. **Section 5:** COMMENTS, EXPLOSION HAZARDS, FIRE FIGHTING EQUIPMENT, FIRE FIGHTING PROCEDURES, FLAME PROPAGATION OR BURNING RATE OF SOLIDS, FLASHPOINT AND METHOD, HAZARDOUS DECOMPOSITION PRODUCTS, OTHER CONSIDERATIONS, SENSITIVE TO STATIC DISCHARGE, SENSITIVITY TO IMPACT. **Section 6:** LARGE SPILL, RELEASE NOTES, WATER SPILL. **Section 7:** HANDLING. **Section 8:** PERSONAL PROTECTIVE EQUIPMENT (RESPIRATORY). **Section 9:** BOILING POINT, SOLUBILITY IN WATER, SPECIFIC GRAVITY, VAPOR PRESSURE, (VOC). **Section 10:** CONDITIONS TO AVOID, INCOMPATIBLE MATERIALS. **Section 11:** ACUTE (DERMAL LD₅₀ (rabbit), DERMAL LD₅₀ (rabbit), DERMAL LD₅₀ (rabbit), ORAL LD₅₀ (rat), INHALATION LC₅₀ (rat), ORAL LD₅₀ (rat), ORAL LD₅₀ (rat), INHALATION LC₅₀ (rat), INHALATION LC₅₀ (rat), ORAL LD₅₀ (rat)), CHRONIC, GENETIC EFFECTS, REPEATED DOSE EFFECTS. **Section 12:** COMMENTS, ENVIRONMENTAL DATA. **Section 13:** COMMENTS. **Section 14:** AIR (ICAO/IATA) (PACKING GROUP, UN/NA NUMBER), DOT (DEPARTMENT OF TRANSPORTATION) (UN/NA NUMBER, PACKING GROUP), ROAD AND RAIL (ADR/RID) (UN NUMBER, PACKING GROUP). **Section 15:** CHRONIC, COMMENTS, OSHA HAZARD COMM. RULE, REACTIVITY, 313 REPORTABLE INGREDIENTS, STATE REGULATIONS, TSCA REGULATORY. **Section 16:** HMIS RATING - HMIS RATINGS NOTES MANUFACTURER DISCLAIMER, NFPA CODES - NFPA STORAGE CLASSIFICATION.

NFPA STORAGE CLASSIFICATION: Health 2, Flammability 3, Physical Hazard 1

HMIS RATINGS NOTES: Health 2, Flammability 3, Physical Hazard 1, PPE B

MANUFACTURER DISCLAIMER: Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.