



MATERIAL SAFETY DATA

Chemtrec 24-Hour Emergency Telephone

Domestic North America (800) 424-9300

International (800) 527-3887

This MSDS complies with 29 CFR 1910.1200 (Hazard Communications)

1. Product and Supplier Identification

Product Name:	Fiberfoam II, Side A Fiberfoam II, Side B
Product Number:	104115F, 4013F, 4015F, 4016F, 401D, 401F10, 401F12, 401G, 401P, 401Q
Date of Prep:	10-22-2010
Product Type:	A - Polyurethane Foam B – Polyol Urethane Resin
Supplier:	Fiberlay Inc. 24 S. Idaho S. Seattle, Wa 98134 (206)782-0660

2. Composition/Information On Ingredients

SIDE A			
CAS No.	Chemical Name	% (by weight)	Current TLV / PEL
9018-87-9	Polymeric Diphenylmethane Diisocyanate	50-100	Not listed
101-66-8	4,4 Diphenylmethane Diisocyanate	10-50	ACGH .005PPM TWA

SIDE B			
CAS No.	Chemical Name	% (by weight)	Current TLV / PEL
N/A (mixture)	Hydroxyl Terminated Poly	70-90	N.E.
N/A (mixture)	Amine	Trace	N.E.

3. Hazards Identification

	SIDE A	SIDE B
Overview	<ul style="list-style-type: none"> • Symptoms respiratory sensitization: <ul style="list-style-type: none"> ✓ Irritation to eyes, nose, throat and lungs ✓ Dryness of throat ✓ Chest tightness ✓ Difficulty breathing • Onset of symptoms may be delayed several hours after exposure • Hyper-reactive response to minimal concentrations of MDI may develop in sensitized persons 	Animal toxicity: <ul style="list-style-type: none"> • Oral, LD 50 NE • Dermal, LD 50 NE • Inhalation, LC 50 (4 hrs) NE • Aquatic, LC 50 (24 hrs) NE • Eyes NE • Skin NE
Inhalation	<ul style="list-style-type: none"> • Respiratory irritant • Repeated inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization • Symptoms: 	<ul style="list-style-type: none"> • Possible throat irritation • At room temperature, vapor inhalation is not considered hazardous, vapors may cause dizziness, tremors, arrhythmia and cardiac arrest
Skin	<ul style="list-style-type: none"> • Moderate irritant • Repeated or prolonged contact may cause skin sensitization • Respiratory sensitization can occur from skin contact 	<ul style="list-style-type: none"> • Amine catalyst will cause irritation to the skin after prolonged contact
Eye Contact	<ul style="list-style-type: none"> • Irritant 	<ul style="list-style-type: none"> • Slight irritant
Ingestion	<ul style="list-style-type: none"> • May cause irritation of Gastro-intestinal tract • Based on oral LD50, product practically non-toxic by ingestion 	<ul style="list-style-type: none"> • This is not considered a common occupational route of exposure, and no observable effects have been demonstrated
Chronic effects	<p>Study: indicated that in absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumor formation will occur. There are reports that chronic exposure may result in permanent decrease in lung function.</p> <p>Study: groups of rats exposed 6 hrs/day, 5 days / week for a lifetime to atmospheres of respirable polymeric MDI aerosol.</p>	<ul style="list-style-type: none"> • Threshold limit Value (ACGIH): No TLV has been established for this product as a system • OSHA: same as above

4. First Aid Measures

Eyes:

- Flush with clean, lukewarm water at low pressure for at least 15 minutes
- Consult a physician immediately

Skin:

- Remove contaminated clothing
- Wash exposed areas thoroughly with warm soapy water
- Contaminated clothing should be properly laundered before reusing

Ingestion:

- Induce vomiting
- Never induce vomiting or give anything to drink to an unconscious person

Inhalation:

- Remove victim 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

- **Note to Physician:**
- With regard to Side A:
 - ✓ No specific antidote
 - ✓ Supportive care based on symptoms
 - ✓ Manifestations of respiratory symptoms, including pulmonary edema may be delayed
- With regard to Side B:
 - ✓ Treatment based on symptoms

5. Fire Fighting Measures

DATA	SIDE A	SIDE B
Flash Point	400° F COC	325°F
Autoignition temperature	465°F (4,4 Diphenylmethane Diisocyanate)	Not established
Combustion Products	Carbon Monoxide, Carbon Dioxide, Nitrogen oxides and some HCN	

Fire and Explosion Hazards:

- Contact with finely divided reactive materials may cause reactions
- Decomposition products may be hazardous
- Do not cut, weld, or grind on or near container due to possible toxic fume generation or explosion due to flammable vapor residue
- Use explosion proof equipment where vapor concentrations can become ignitable
- Ground transfer lines and equipment

Extinguishing Media:

- Dry chemical extinguishers (monoammonium phosphate, potassium sulfate, potassium chloride)
- Carbon dioxide, high expansion (proteinic) chemical foam
- Water spray for large fires

Fire Fighting Instructions:

- Do not direct solid water stream or foam into hot, burning pools (may cause frothing and increase fire intensity)
- Use self-contained breathing apparatus and body covering protective clothing
- Burning can produce oxides of carbon and nitrogen

6. Accidental Release Measures

- Contain the spilled material
- Cover with loose, absorbent material such as:
 - ✓ Oildry
 - ✓ Vermiculite
 - ✓ Sawdust
 - ✓ Fuller's earth
- Shove waste material into proper waste containers
- Wash the contaminated area with hot soapy water
- Thoroughly ventilate area to remove vapors
- Transport container to well ventilated area
- treat with a neutralizing solution :
 - ✓ *Water & 3-8% concentrated ammonium hydroxide or*
 - ✓ *5-10% sodium carbonate*
 - ✓ Add approximately 10 parts of neutralizer per part of isocyanate with mixing
 - ✓ Allow to stand for 48 hours, letting CO₂ to escape

7. Handling and Storage

Storage Temperature (Min / Max): 65°F (18°C) to 75°F (24°C)

Average Shelf Life: Six (6) months from date of manufacture

Special Sensitivity (heat, light, moisture):

- This product is reactive with water
- Containers should be tightly sealed to prevent moisture contamination
- Do not expose to high temperatures for any length of time
- A nitrogen blanket should be used for bulk storage

Precautions in Handling and Storage:

- If contamination of the isocyanate is suspected:
 - ✓ Do not re-seal container because of possible rupture due to pressure build-up
 - ✓ Always slowly vent container when opening to relieve any pressure build-up

8. Exposure Controls / Personal Protection

Engineering Controls:

- Ventilation: Natural or mechanical
- Local exhaust will keep the TLV below minimum in most cases
- 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

Eye Protection:

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

Skin Protection:

- Chemical resistant gloves such as natural rubber or polyvinyl alcohol
- Cover as much exposed skin as possible with appropriate clothing
- If skin creams are used, keep the area covered by the cream to a minimum

Respiratory Protection:

- This product has demonstrated no observable effects at room temperature
- Recommended that an air purifying respirator with organic filter cartridges be worn
- In any spray application, a supplied air source must be provided

Prevention Ingestion:

9. Physical and Chemical Properties

4,4 (Diphenylmethane Diisocyanate)

	Site A	Site B		Site A	Site B
Melting Point:	Not established	< 13°F	Physical Form	Liquid	Liquid
Boiling Point:	Decomp. 392°F	Not established	Color	Amber to brown	Amber
Vapor Pressure:	<0.0000 mm Hg	<50 mm Hg	Odor	Slightly musty	Faint Ether-like
Vapor Density:	(Air=1): 8.5	(Air=1): <1.0	Odor threshold:	.4PPM	Not established
Specific Gravity	1.2	Approx 1.05	% Volatiles by wt	0	0
Bulk Density	10 lb/gal	9.76 lb/gal			
Solubility in Water:	Reacts	> 50%			

10. Stability and Reactivity

	SIDE A	SIDE B
Stability:	Stable under recommended storage conditions	Stable
Hazardous Polymerization:	May occur with incomplete reactants which accelerate the reaction with water: <ul style="list-style-type: none"> • Strong bases • water or temperatures over 374°F • temperatures over 120°F 	<ul style="list-style-type: none"> • Will not occur
Materials and Conditions to Avoid:	<ul style="list-style-type: none"> • water (reacts to form heat, CO₂, and insoluble urea) • acid • bases • metal compounds • surface active materials *Some reactions are violent in the presence of the above list of materials	<ul style="list-style-type: none"> • oxidizing materials • isocyanates • acids • alkali or alkaline earth metals (aluminum, zinc, beryllium, and copper)
Hazardous Decomposition Products:	<ul style="list-style-type: none"> • Aliphatic Fragments, CO, NH₃, CO₂ 	<ul style="list-style-type: none"> • Aliphatic Fragments, CO, CO₂

11. Toxicological Information

Side A:

- **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 (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (including lethal) to the mother. Fetotoxicity was not observed at doses that were not maternally toxic. The doses used in these studies were maximal, respirable concentrations well in excess of the defined occupational limits.

Side B:

- Threshold Limit Value (ACGIH): No TLV has been established for this product as a system
- Permissible Exposure Limit (OSHA): No TLV has been established for this product as a system

12. Ecological Information

13. Disposal Considerations

Waste Disposal Method:

- Waste material may be incinerated or disposed of under local, state and federal regulations controlling environmental protection
- This material is not a hazardous waste under RCRA 40 CFR 261

14. Transport Information

Shipping Data:

	Side A	Side B
Technical Shipping Name:	Diphenylmethane -4,4 Diisocyanate	Polypropylene Glycol
Freight Class (Bulk):	Diphenylmethane -4,4 Diisocyanate, NOS, Class 9, PG III	Polypropylene Glycol
Freight Class Package	Chemicals NOI	Polypropylene Glycol
UN Number	None	None
Product Label:	"A" Component established	Established
Placards Required:	None; HMIS: H3, F1, R1	None; HMIS: H-1, F-1, R-0

DOT (Domestic Surface)

(HM-181)

	Side A	Side B
Proper Shipping Name:	Diphenylmethane -4,4 Diisocyanate	Non regulated
Reportable quantity:	None	
Hazard Class or Division: Bulk	9	Non regulated
Hazardous Substance	MDI, Methylene Diphenyl Diisocyanate	None
Hazard Placard(s), Bulk	9	None
IMO / IMDG Code (Ocean)	Not regulated	Not regulated
TDG:	Not regulated	Not regulated
IARA/ICAO Class:	Not regulated	Not regulated

15. Regulatory Information

	Side A	Side B
OSHA Classification	<ul style="list-style-type: none"> • Physical-not related • Health • Hazardous-respiratory sensitizer • irritant 	None
TSCA Regulations:	All ingredients are on the TSCA chemical substance inventory	All ingredients are on the TSCA chemical substance inventory
EPCRA Section 313 (40 CFR 372)	<p>This product contains the following chemical(s) subject to reporting requirements:</p> <ul style="list-style-type: none"> • CAS #101-68-8 • 4,4-MDI, 10-70% • CAS# 9018-87-9 • Polymeric Dipheylmethane Diisocyanate 	This product contains no chemicals required for reporting.
CERCLA	<ul style="list-style-type: none"> • CAS# 101-88-8 • 4,4 – Diphenylmethane diisocyanate • 5000 pound RQ • Any spill or release must be reported to the National Response Center • The % of the 4,4-MDI in this product is listed in Section 2 of this MSDS 	None
WHMIS Controlled Products Regulations Classification	<ul style="list-style-type: none"> • D-1A Very toxic (acute effects) • D-2A Very Toxic • D-2B Toxic 	Not established
Canadian Classification:	<ul style="list-style-type: none"> • This product has been classified in accordance with the Hazard criteria of the COR (controlled products regulations) and this MSDS contains all of the information required by CPR 	Not established
CEPA / Canadian	<ul style="list-style-type: none"> • The substances in this product is on the 	Not established

Domestic Substance List (DSL)	Canadian Domestic Substances List (CEPA DSL)	
Other regulations / legislation:	<ul style="list-style-type: none"> • Massachusetts Right To Know • Pennsylvania Right to Know • New Jersey Right To Know 	None Determined
Ozone	This product does not contain any ozone depleting substances.	This product does not contain any ozone depleting substances.

16. Other Information

HMIS Hazard Classification Side A:

Health: 3 Flammability: 1 Reactivity: 1

HMIS Hazard Classification Side B:

Health: 1 Flammability: 1 Reactivity: 0

Preparation Date: 10-22-2010

Prepared by: Fiberlay Inc

Comments: This Material Safety Data Sheet was prepared using information provided by Hydroseal Polymers Inc, Fiberlay Inc, and CCINFO

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Revisions: None