

HI-BOND

MATERIAL SAFETY DATA SHEET

Date Revised: 12/31/08
2Lb. Pour Foam, Side B

Page: 1
MSDS Number: 701800

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: **HI-BOND 2 LB POUR FOAM SIDE B**
Product Numbers: 1800, 1810, 1820,

The percent by weight composition data given in Sections II and X are NOT SPECIFICATIONS, but are based on 'target' formula values for each ingredient in the product. The data are presented as ranges for low hazard ingredients and single point values for ingredients of regulatory concern. Actual batch concentrations will vary within limits consistent with separately established product specifications.

SECTION II COMPOSITION ON INGREDIENTS/INFORMATION

Ingredient Name	CAS Number	Percent
Polyester polyol	Confidential	35-45 %
Polyether polyol	Confidential	35-45 %
1,1,1,3,3-Pentafluoropropane	460-73-1	5 - 10%

SECTION III HAZARDS IDENTIFICATION

Emergency Overview

Liquid, Amber color. Mild odor

May cause irritation to the eyes and skin. Harmful by inhalation.

Health Effects: Eyes

This product may cause irritation to the eyes.

Health Effects: Skin

This product may cause irritation to the skin.

Health Effects: Inhalation

Inhalation of vapors or mists of the product may be irritating to the respiratory system. Breathing high concentrations of fluorocarbons can cause narcosis, anesthesia, and suffocation. High vapor concentrations may cause central nervous system effects.

Health Effects: Ingestion

Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

SECTION IV FIRST AID MEASURES

Eyes

Immediately flush eyes with water for at least 15 minutes while holding eyelids open. If irritation persists get medical attention.

Skin

For skin contact flush with large amounts of water. If irritation persists, get medical attention. Immediately take off all contaminated clothing. Wash contaminated clothing before reuse.

Inhalation

If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention. If breathing is difficult, give oxygen. If the affected person is not breathing, apply artificial respiration. Seek medical attention.

Ingestion

If ingestion of a large amount does occur, seek medical attention. Do not induce vomiting.

Notes to Physician

At high levels of exposure, cardiac arrhythmia may occur. NO NOT give epinephrine (adrenaline). DO NOT give stimulants.

SECTION V FIRE FIGHTING MEASURES

Flash Point (> 93.9°C), > 201 F PMCC

OSHA Flammability Classification

Extinguishing Media

Dry chemical, foam, carbon dioxide, water fog.

NFPA Rating: Health - 1, Flammability - 1, Reactivity - 0

FireFighting Equipment / Instructions

Firefighters should wear full fire-fighting turn-out gear (full Bunker gear)including NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

NFPA Rating: Health - 3, Flammability - 1, Reactivity - 1

SECTION VI ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES

Emergency Action:

Isolate spill or leak area immediately. Keep unauthorized personnel away. Stay upwind. Keep out of low area. Ventilate enclosed areas.

Do not touch or walk through spilled material. Wear appropriate personal protective equipment during cleanup. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. Large Spills: Dike ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas.

Surfaces may become slippery after spillage.

SECTION VII HANDLING & STORAGE

Handling Procedures

Avoid contact with skin and eyes. Do not breathe gas/flumes/vapor/spray. Wash thoroughly after handling. As with all chemicals, good industrial hygiene practices should be followed when handling this material.

Storage Procedures

Material should be stored at or below 60 F (15.5 C). Store in a cool, dry, well-ventilated area. Vent container carefully, as needed to relieve pressure. Avoid freezing or excessive heat.

SECTION VIII EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use local exhaust ventilation at potential points of emission during polyol blend manufacture and foam manufacture, including transfer to and discharge from mixing vessels.

Personal Protective Equipment: Eyes/Face

Wear chemical goggles: face shield (if splashing is possible).

Personal Protective Equipment: Skin

Wear suitable protective clothing. Use impervious gloves.

Personal Protective Equipment: Respiratory

If exposure limits are exceeded or if irritation is experienced, NIOSH approved respiratory protection should be worn.

Personal Protective Equipment: General

Eye wash fountain and emergency showers are recommended.

1,1,1,3,3-Pentafluoropropane 460-73-1

AIHA (America Industrial Hygiene Association) - 300 ppm TWA

WEEL - TWAs

SECTION IX PHYSICAL & CHEMICAL PROPERTIES

Flash Point	(> 93.9 °C),	> 201 F PMCC
BoilingPoint	(15.6 ° C),	60 F
SpecificGravity	(9.5681b/gal),	1.15 g/ml (@ 65 C)
Percent Volatile	5 - 10 % (w/w)	
Vapor Pressure	(<10-5 mm HG @ 25 C)	
VaporDensity	Estimated heavier than air.	
Viscosity	1500 cps (@ 65 C)	
Evaporation Rate	Estimated slower than ethyl ether.	
RVOC	HFC-245fa is non-VOC accrd.	To 40 CFR 51.100
pH Value	Not applicable	

Appearance and Odor

Liquid, Amber color. Mild odor

===== **SECTION X STABILITY & REACTIVITY** =====

Chemical Stability

Stable under normal conditions.

Conditions to Avoid

Avoid strong oxidizing agents.

Incompatibility

This product is incompatible with strong metals, alkalis, strong acids, oxidizing agents.

Hazardous Decomposition
Decomposition may yield toxic fluorides and chlorides.

Hazardous Polymerization
Will not occur.

SECTION XI TOXICOLOGICAL INFORMATION

Carcinogenicity
Not listed as carcinogenic according to IARC, NTP or OSHA.

LD50 Value
Inhalation LC50 (rat; 4 hr exposure) = >200,000 ppm

SECTION XII ECOLOGICAL INFORMATION

Ecotoxicity
No data available on finished product.

SECTION XIII DISPOSAL CONSIDERATIONS

Disposal Instructions
Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator.

SECTION XIV TRANSPORTATION INFORMATION

DOT Proper Shipping Name Refer to bill of lading or container label for DOT or other transportation hazard classification, if any.

XV REGULATORY INFORMATION

U. S.Federal Regulations
Contains HFC-245fa, a greenhouse gas, a substance which may contribute to global warming regulated under Section 612 (SNAP) of the Clean Air Act and 40 CFR Part 82, subpart G.

Inventories

All components of this product are listed on the following inventories: U.S.A. (TSCA), There is not calculable reportable quantity (RQ) for this product.

HMIS Rating: Health - 3, Flammability - 1, Reactivity - 1
Key- 0=Least, 1=Slight, 2=Moderate, 3=Serious, 4=Extreme, *=Chronic Effects

MATERIAL SAFETY DATA SHEET

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DISCLAIMER AND LIMITATION OF LIABILITY

NOTICE: The information accumulated herein is believed to be correct as of the date issued from sources, which are believed to be accurate and reliable. Since it is not possible to anticipate all circumstances of use, recipients are advised to confirm, in advance of need, that the information is current, applicable and suitable to their circumstances.

MATERIAL SAFETY DATA SHEET

Date Revised: 12/31/08
2Lb. Pour Foam, **Side A**

Page: 1
MSDS Number: 701800

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: **HI-BOND 2 LB POUR FOAM SIDE-A**
Product Numbers: 1800, 1810, 1820,

The percent by weight composition data given in Sections II and X are NOT SPECIFICATIONS, but are based on 'target' formula values for each ingredient in the product. The data are presented as ranges for low hazard ingredients and single point values for ingredients of regulatory concern. Actual batch concentrations will vary within limits consistent with separately established product specifications.

SECTION II COMPOSITION ON INGREDIENTS/INFORMATION

Ingredient Name	CAS Number	Percent
Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	45-55 %
Methylenebisphenylene diisocyanate (1)	101-68-8	35 -45 %
Diphenylmethane diisocyanate	26447-40-5	1-5%

SECTION III HAZARDS IDENTIFICATION

Emergency Overview

Liquid, brown color.

Warning!

May cause irritation to the eyes, skin, and respiratory system. Repeated exposure may lead to respiratory sensitization. May cause irritation or corrosion when ingested.

Health Effects: Eyes

This product may cause irritation to the eyes.

Health Effects: Skin

This product may cause irritation to the skin. Prolonged or repeated skin contact may result in redness, burning sensation or dermatitis. May cause sensitization by skin contact. **Health Effects: Inhalation**

Vapors or mist at high concentrations may irritate the mucous membrane in the respiratory tract (nose, throat, lungs) causing ninny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function.

Repeated exposure may lead to respiratory sensitization reactions, producing an asthma-like condition. Prolonged or repeated overexposure to isocyanates has been reported to cause lung damage which may be permanent.

Health Effects: Ingestion

Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea. This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

SECTION IV FIRST AID MEASURES

Eyes

Immediately flush eyes with water for at least 15 minutes while holding eyelids open. If irritation persists get medical attention.

Skin

Immediately take off all contaminated clothing. For skin contact flush with large amounts of water. If irritation persists, get medical attention. Wash contaminated clothing before reuse. Inhalation

If symptoms are experienced, remove source of contamination or move victim to fresh air.

If symptoms persist, get medical attention. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Seek medical attention.

Ingestion

If the material is swallowed, get immediate medical attention advice. Do not induce vomiting.

SECTION V FIRE FIGHTING MEASURES

Flash Point (> 198.9°C), > 390F PMCC

ExtinguishingMedia

Dry chemical, foam, carbon dioxide, water fog.

FireFighting Equipment / Instructions

Firefighters should wear full fire-fighting turn-out gear (full Bunker gear) including NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

Hazardous Combustion Products
Irritating and toxic gases or fumes may be released during a fire.

SECTION VI ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES

Emergency Action:

Isolate spill or leak area immediately. Keep unauthorized personnel away. Stay upwind. Keep out of low area. Ventilate closed spaces before entering.

Do not touch or walk through spilled material. Wear appropriate personal protective equipment during cleanup. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Collect material in a suitable and properly labeled OPEN container. Do not place in sealed container. Large Spills: Dike ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas.

Surfaces may become slippery after spillage.

SECTION VII HANDLING & STORAGE

Handling Procedures

Avoid contact with skin and eyes. Avoid breathing vapors or mists of this product. Wash thoroughly after handling. As with all chemicals, good industrial hygiene practices should be followed when handling this material.

Storage Procedures

Store in a dry, well-ventilated area. Room temperature - normal conditions.

SECTION VIII EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits. Personal Protective Equipment: Eyes/Face

Wear chemical goggles; face shield (if splashing is possible).

Personal Protective Equipment: Skin

Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. Use impervious gloves.

Personal Protective Equipment: Respiratory

If vapors are present or irritation is experienced, NIOSH approved respiratory protection for organic vapors should be worn.

Personal Protective Equipment: General
 Eye wash fountain and emergency showers are recommended.

Methylenebisphenylene 101-68-8
 diisocyanate (MDI)

ACGIH -Occupational Exposure Limits- TWAs Mexico -Occupational Exposure Limits- TWAs	0.005ppmTWA 0.02ppmTWA; 0.2 mg/m3 0.005ppm TWA (listed as Methylene bisphenyl isocyanate); 0.051 mg/m3 TWA (listed as Methylene bisphenyl isocyanate)
NIOSH-HealthStandards -Exposure Limits	5 ppb TWA; 50 ug/m3 TWA; C (10min) 20ppb;C (10 min) 200 ug/m3 (Listed under 'Diisocyanates')
NIOSH-Health Standards-Health Effects and Precautions	Respiratory effects and sensitization, pulmonary irritation (Listed under Diisocyanates')
NIOSH-Pocket Guide - CeilingLimits	0.020 ppm Ceiling (10min); 0.2 mg/m3 Ceiling(10min)
NIOSH-Pocket Guide-IDLHs (Immediately Dangerous to Life or Health)	75 mg/m3 IDLH
NIOSH-Pocket -Target Organs	eyes, respiratory system
NIOSH-Pocket Guide-TWAs	0.005 ppm TWA; 0.05 mg/m3 TWA
OSHA-Final PELs - Ceiling Limits	0.02ppmCeiling;0.2 mg/m3 Ceiling

SECTION IX PHYSICAL & CHEMICAL PROPERTIES

Flash Point	(> 198.9 "C),	> 390 F PMCC
BoilingPoint	(207.8'C),	406 F
SpecificGravity	(10.3171lb/gal), C)	1.24 g/ml @ 25
Melting Point	(. 0 "C),	<32F
Percent Volatile	NIL	
Vapor Pressure	(<10-5 mm HG @ 25 C)	
VaporDensity	8.5 (Air= 1)	
Viscosity	200 cps (@ 25 C)	
Evaporation Rate	Estimated slower than ethyl ether.	
Solubility in Water	Not soluble.	

Bulls Density 0, 10.3 lbs/gal

Freezing Point (<0°C), <32 F

Appearance and
odor
Liquid, brown
color.

SECTION X STABILITY & REACTIVITY

Chemical Stability
Stable under normal conditions.

Incompatibility

This product is incompatible with water, alcohols, amines, alkalies ,metal
compounds (catalysts)

Hazardous Decomposition
Carbon monoxide, oxides of nitrogen, traces of HCN, MDI vapors or aerosols.

Hazardous Polymerization

Contact with moisture, other materials which react with isocyanates, or
temperatures above 320 F (160C) may cause polymerization.

SECTION XI TOXICOLOGICAL INFORMATION

Carcinogenicity
Not listed as carcinogenic according to IARC, NTP or OSHA.

Other Toxicological
Information Information
available upon request..

Methylenebisphenylene 101-68-8
diisocyanate (MDI)

NIOSH-Selected LD50s and LC50s
Oral LD50 Rat: 9200 mg/kg; Oral LD50 Mouse: 2200 mg/kg

Isocyanic acid, 9016-87-9
polymethylenepolyphenylene ester
NIOSH-Selected LD50s and LC50s Inhalation LC50 Rat: 490 mg/m³/4H; Oral
LD50 Rat: 49 g/kg; Dermal LD50 Rabbit: >9400mg/kg

SECTION XII ECOLOGICAL INFORMATION

Ecotoxicity
Aquatic LC50 = >100-1000 mg/L

SECTION XIII DISPOSAL CONSIDERATIONS

Disposal Instructions
Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator.

SECTION XIV TRANSPORTATION INFORMATION

DOT Proper Shipping Name Refer to bill of lading or container label for DOT or other transportation hazard classification, if any.

SECTION XV REGULATORY INFORMATION

U. S. Federal Regulations

Methylenebisphenylene diisocyanate (MD1) 101-68-8
CAA (Clean Air Act) -1990 Hazardous Air Present
Pollutants
CERCLA/SARA-Section 313 -Emission 1.0o/o de minimis concentration (Listed under 'Diisocyanates')
Reporting

Diphenylmethanediisocyanate 26447-40-5
CERCLA/SARA-Section 313 -Emission 1.0 percent de minimis concentration (Chemical Reporting Categc N120)

Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9
CERCLA/SARA-Section 313 -Emission 1.0 % de minimis concentration (Listed under 'Diisocyanates')
Reporting

Methylenebisphenylene diisocyanate (MD1) 101-68-8
T S CA(ToxicSubstancesControlAct)-Section Effective 10/29/90:
8(a)-PAIR-Reporting List Reporting 12/27/90

Diphenylmethane diisocyanate 264/740-5
TSCA (Toxic Substances Control Act) -Section Effective
10/29/90:Reporting 12/27/90 8(a)-PAIR-Reporting List
TSCA(Toxic Substances Control Act) -Section Effective 6/1/87 Sunset 6/1/97

8(d)-716.120(a)-Health and Safety

Methylenebisphenylene _

diisocyanate(MD1)

TSCA(Toxic Substances Control Act) -Section 8(d)-716.120(a)-Health and Safety
Isocyanic acid,

polymethylenepolyphenylene ester

TSCA(ToxicSubstancesControl Act) -Section 8(d)-716.120(a)-Health and Safety

Methylenebisphenylene _

diisocyanate(MD1)

TSCA(Toxic Substances Control Act)-Section Health and Safety
101-68-8

Effective 6/1/87, Sunset 6/1/97

9016-87-9

Effective 6/1/87 Sunset 12/19/95

101-68-8

Only those chemical substances specifically 8(d)-716.120(d)-listed within this category are subject to all provisions of part 716 for time period from the effective date of the rule until the sunset date. Those chemicals are designated in the 'da' field as belonging to this category.

Inventories

All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL), Japan (ENCS), Korea (ECL), Australia (AICS), China (EICS), Philippines (PICCS)

Reportable Quantity (RQ) of this product is 12500 pounds based upon Methylenebisphenylene Diisocyanate (MD1) (101-68-8) which yielded the lowest resultant RQ according to the following formula: CERCLA ingredient RQ/ % of that ingredient in the product.

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