

# MATERIAL SAFETY DATA SHEET

Date Issued: 08/30/2012  
MSDS No: HBN 5101 Series

## Isobond™ HBN 5105 Series

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Isobond™ HBN 5105 Series

**MANUFACTURER**

Isotec® International, Inc.  
201 Longview St.  
Canton, GA 30114  
**Service Number:** 800-234-6300

**24 HR. EMERGENCY TELEPHONE NUMBERS**

CHEMTREC: 800-424-9300

### 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW**

**PHYSICAL APPEARANCE:** Clear to yellow liquid.

**IMMEDIATE CONCERNS:** Irritating to eyes, respiratory system, and skin. Inhalation at levels above the occupational exposure limit could cause respiratory sensitization and risk of serious damage to respiratory system. The onset of the respiratory symptoms may be delayed for several hours after exposure.

**POTENTIAL HEALTH EFFECTS**

**EYES:** Liquids, vapors, or mists are irritating to the eyes and can cause stinging, burning, lachrymation, or tearing.

**SKIN:** Moderate irritant. Repeated and/or prolonged contact may cause skin sensitization.

**INGESTION:** Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting, lethargy, or diarrhea.

**INHALATION:** Inhalation of vapors or mists at concentrations above the TLV can cause respiratory tract irritation. Repeated or prolonged exposure at levels above the OEL can result in sensitization.

**ROUTES OF ENTRY:** Inhalation, skin contact, eye contact, ingestion.

**SENSITIZATION:** Any individual with isocyanate sensitization should not be exposed to this product. These individuals can react to exposure well below the TLV.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS	EINECS
Diphenylmethane Diisocyanate Mixed Isomers	5 - 20	26447-40-5	
4,4'-Diphenylmethane Diisocyanate	5 - 20	101-68-8	202-966-0
MDI Prepolymer	60 - 80	Not disclosed	Not disclosed

### 4. FIRST AID MEASURES

**EYES:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek immediate medical attention.

**SKIN:** Remove contaminated clothing. Wash affected areas thoroughly with soap and water. Discard contaminated clothing and shoes. For severe or prolonged exposure, seek medical attention immediately. For lesser exposure, seek medical attention if more than minor discomfort occurs.

**INGESTION:** Do not induce vomiting. If the individual is conscious, rinse mouth with water and give 1 to 2 cups of water to drink.

**Isobond™ HBN 5105 Series**

Never give anything by mouth to an unconscious person. Seek immediate medical attention.

**INHALATION:** Remove individual from exposure; keep warm and at rest. Seek immediate medical attention.

**5. FIRE FIGHTING MEASURES**

**FLASH POINT AND METHOD:** > (200°F) Closed Cup

**EXTINGUISHING MEDIA:** Dry Chemical, Carbon Dioxide, Chemical Foam, Water Fog or Spray.

**HAZARDOUS COMBUSTION PRODUCTS:** Carbon Monoxide, Carbon Dioxide, Nitrous Oxide, and HCN.

**FIRE FIGHTING PROCEDURES:** In case of fire, use normal fire fighting equipment including a NIOSH approved self-contained breathing apparatus (SCBA). Use water to cool containers.

**HAZARDOUS DECOMPOSITION PRODUCTS:** By Fire: carbon monoxide, carbon dioxide, nitrous oxide, HCN, and MDI vapors.

**6. ACCIDENTAL RELEASE MEASURES**

**SMALL SPILL:** Clean up spills wearing proper personal protective equipment. (See Section 8) Absorb with dry chemical absorbent, earth, sand, or any other inert material. Place in a chemical waste container. Move to outside well-ventilated area. Treat with 10 parts decontamination solution to 1 part isocyanate. Mix well. Allow to stand uncovered 48 hours before disposal.

**LARGE SPILL:** Evacuate and ventilate the area. Create a dike or trench to contain materials. Prevent entry into waterways, sewers, basements or confined areas. Clean-up personnel should wear appropriate personal protection equipment. (See Section 8) Absorb with dry chemical absorbent, earth, sand, or any other inert material. Place in a chemical waste container. Move to outside well-ventilated area. Treat with 10 parts decontamination solution to 1 part isocyanate. Mix well. Allow to stand uncovered 48 hours before disposal. Clean spill area with decontamination solution and allow to stand 15 minutes before removal.

**GENERAL PROCEDURES:** Decontamination solution: Concentrated ammonia (5%), detergent (2%), and water (93%)

**7. HANDLING AND STORAGE**

**HANDLING:** Wear proper personal protective equipment. Use in a well ventilated area. Avoid smoking, bare lights, or ignition sources. Keep containers securely sealed when not in use. Avoid physical damage to containers.

**STORAGE:** Keep in a cool, dry and well ventilated area. Product is hygroscopic. Protect from atmospheric moisture. Keep container sealed when not in use.

**STORAGE TEMPERATURE:** (60°F) Minimum to (120°F) Maximum

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****EXPOSURE GUIDELINES**

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Diphenylmethane Diisocyanate Mixed Isomers	TWA	0.02*+ [1]	0.20*+ [1]	0.005+	0.051+
4,4'-Diphenylmethane Diisocyanate	TWA	0.02* [2]	0.20* [2]	0.005	0.051
MDI Prepolymer	TWA	NE [3]	NE [3]	NE	NE

**Footnotes:**

- + = Exposure limits are for 4,4'-Diphenylmethane diisocyanate (CAS 101-68-8) in this component. \* = Ceiling
- \* = Ceiling
- NE = Not Established

**Isobond™ HBN 5105 Series**

**ENGINEERING CONTROLS:** Use process enclosures, local exhaust ventilation, or other engineering controls to control exposure.

**PERSONAL PROTECTIVE EQUIPMENT**

**EYES AND FACE:** Wear safety glasses with side shields or goggles.

**SKIN:** Wear impervious gloves, coveralls, and boots.

**RESPIRATORY:** If the exposure limit is exceeded and engineering controls are not feasible, a half-face organic vapor respirator may be worn for up to 10 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic vapor respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. All respirators used should follow the OSHA Respiratory Standard 29 CFR 1910.134.

**WORK HYGIENIC PRACTICES:** Follow good normal hygiene practices. Avoid contact with skin. Avoid eating, drinking, or smoking while using this product. Wash hands thoroughly after use.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL STATE:** Liquid

**ODOR:** Slightly musty

**APPEARANCE:** Clear to yellow liquid

**BOILING POINT:** Not Established

**FREEZING POINT:** Not Established

**FLASH POINT AND METHOD:** > (200°F) Closed Cup

**SOLUBILITY IN WATER:** Insoluble

**10. STABILITY AND REACTIVITY**

**STABILITY:** Stable.

**POLYMERIZATION:** Polymerization may occur at elevated temperatures in the presence of alkalis, tertiary amines, and metal compounds.

**CONDITIONS TO AVOID:** Temperature extremes. Container contamination.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon Monoxide, Carbon Dioxide, Nitrous Oxide, and HCN.

**INCOMPATIBLE MATERIALS:** This product will react with any materials containing active hydrogens such as water, alcohol, amines, bases and acids. The reaction with water is very slow under 122 °F, but is accelerated at higher temperatures.

**11. TOXICOLOGICAL INFORMATION****ACUTE**

Chemical Name	ORAL LD <sub>50</sub> (rat)	DERMAL LD <sub>50</sub> (rabbit)	INHALATION LC <sub>50</sub> (rat)
4,4'-Diphenylmethane Diisocyanate	> 5000 mg/kg	> 5000 mg/kg	490 mg/m <sup>3</sup> /4h (respirable aerosol)

**EYE EFFECTS:** Moderate irritant.

**SKIN EFFECTS:** Moderate irritant.

**CARCINOGENICITY**

**IARC:** Not classified as a carcinogen.

**NTP:** Not classified as a carcinogen.

**OSHA:** Not classified as a carcinogen.

**SENSITIZATION:** May cause sensitization by inhalation and skin contact.

**Isobond™ HBN 5105 Series****12. ECOLOGICAL INFORMATION****ECOTOXICOLOGICAL INFORMATION:**MDI:LC<sub>50</sub> >500 mg/L (Fish) (96 h)EC<sub>50</sub> >500 mg/L (Daphnia magna) (48 h)**GENERAL COMMENTS:** No testing for product as a whole.**13. DISPOSAL CONSIDERATIONS****DISPOSAL METHOD:** Disposal should be in accordance with local, state, provincial or national regulations.**EMPTY CONTAINER:** Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.**RCRA/EPA WASTE INFORMATION:** If discarded in its purchased form, this material is not a hazardous waste under RCRA (40 CFR 261).**GENERAL COMMENTS:** The generation of waste should be avoided or minimized whenever possible. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways.**14. TRANSPORT INFORMATION****DOT (DEPARTMENT OF TRANSPORTATION)****PROPER SHIPPING NAME:** Not regulated when shipped below RQ.**REPORTABLE QUANTITY (RQ) UNDER CERCLA:** 25000 lbs**15. REGULATORY INFORMATION****UNITED STATES****SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)****311/312 HAZARD CATEGORIES:** Immediate health hazard. Delayed health hazard.**EPCRA SECTION 313 SUPPLIER NOTIFICATION**

Chemical Name	Wt. %	CAS	Comments
Diphenylmethane Diisocyanate Mixed Isomers	5 - 20	26447-40-5	Diisocyanate Category
4,4'-Diphenylmethane Diisocyanate	5 - 20	101-68-8	Diisocyanate Category

**CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)**

Chemical Name	Wt. %	CERCLA RQ
4,4'-Diphenylmethane Diisocyanate	5 - 20	5000 lbs

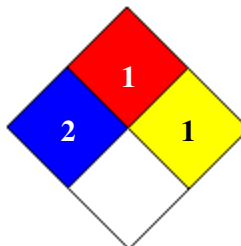
**REPORTABLE SPILL QUANTITY:** 25000 lbs**TSCA (TOXIC SUBSTANCE CONTROL ACT)****TSCA REGULATORY:** All components are on TSCA inventory.**RCRA STATUS:** Not hazardous if discarded in its purchased form. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste.**OSHA HAZARD COMM. RULE:** This product is classified as a hazardous material under the criteria outlined in the OSHA Hazard Communication Standard 29 CFR 1910.1200.**NATIONAL RESPONSE CENTER:** Any spill or release above the RQ must be reported to the National Response Center (800-

**Isobond™ HBN 5105 Series**

424-8802).

**16. OTHER INFORMATION****PREPARED BY:** L. Priest**HMIS RATING**

<b>HEALTH</b>	*	<b>2</b>
<b>FLAMMABILITY</b>		<b>1</b>
<b>PHYSICAL HAZARD</b>		<b>1</b>
<b>PERSONAL PROTECTION</b>		

**NFPA CODES****NFPA STORAGE CLASSIFICATION:** Rating system: 0 = low hazard to 4 = high hazard**HMIS RATINGS NOTES:**

If present, the asterisk signifies a chronic health hazard.

Rating system: 0 = low hazard to 4 = high hazard

**COMMENTS:**Key Legend Information:

ACGIH - American Conference of Governmental Industrial Hygienists

EPA - Environmental Protection Agency

IARC - International Agency for Research on Cancer

NTP - National Toxicology Program

OEL - Occupational Exposure Limit

OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit

STEL - Short Term Exposure Limit

TLV - Threshold Limit Value

TWA - Time Weighted Average

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