

governmental regulations.

Classification complies with Canadian Hazardous Products Regulations (WHMIS 2015) and is consistent with the provision of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Weight %*
Isocyanate terminated polyurethane	Proprietary	80 - 90
Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	5 - 10
Methylenebis(phenylisocyanate)	101-68-8	5 - 10
Methylene bisphenyl isocyanate	26447-40-5	0.1 - 1

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin contact:	Immediately flush skin with plenty of water (using soap, if available). Immediately remove soiled or soaked clothing. Get medical attention.
Eye contact:	Check for and remove any contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Ingestion:	If material is ingested, immediately contact a physician or poison control center. DO NOT induce vomiting unless directed to do so by medical personnel.
Symptoms:	See Section 11.
Notes to physician:	Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates.

5. FIRE FIGHTING MEASURES

Extinguishing media:	Use extinguishing measures appropriate to local circumstances and the surrounding environment. Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. Keep unnecessary personnel away.
Unusual fire or explosion hazards:	Sealed containers at elevated temperatures or contaminated with water may rupture explosively. In case of fire, keep containers cool with water spray.

Hazardous combustion products:

Irritating and toxic gases or fumes may be released during a fire. Isocyanate vapors. Oxides of carbon. Oxides of nitrogen. Oxides of sulfur. Hydrogen cyanide.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:

Do not empty into drains / surface water / ground water. Follow all local, state, federal and provincial regulations for disposal.

Clean-up methods:

Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed. For minor spills, absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well ventilated area (outside) and treat with neutralizing solution: mixture of 80% water and 20% non-ionic surfactant Tergitol TMN-10; or 90% water, 3-8% concentrated ammonia and 2% detergent. Large quantities may be pumped into closed, but not sealed containers for disposal. If temporary control of isocyanate vapor is required, a blanket of protein foam (available at most fire departments) may be placed over spill.

7. HANDLING AND STORAGE

Handling:

Use only in well-ventilated areas. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Wear suitable protective clothing, safety glasses and gloves.

Storage:

Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or promptly disposed of. Keep containers closed when not in use. Do not let moisture contaminate this material. Product reacts with water to release carbon dioxide, which could build up pressure in closed containers and lead to bursting. Do not reseal if moisture contamination is suspected.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Isocyanate terminated polyurethane	None	None	None	None
Isocyanic acid, polymethylenepolyphenylene ester	None	None	None	None
Methylenebis(phenylisocyanate)	0.005 ppm TWA	0.02 ppm (0.2 mg/m3) Ceiling	None	None
Methylene bisphenyl isocyanate	None	None	None	None

Engineering controls:

Work should be done in an adequately ventilated area (i.e., ventilation sufficient to maintain concentrations below one half of the PEL and other relevant standards). Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination. Monitoring of airborne isocyanates in the breathing zone of individuals should become part of the overall employee exposure characterization program. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

Respiratory protection:	Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Do not inhale vapors and fumes. Do not breathe dust, spray, or mist. A positive pressure, supplied-air respirator or a self-contained breathing apparatus is recommended when: airborne concentrations of isocyanate are known to exceed 0.005 ppm; operations are performed in a confined space or area with limited ventilation; material is heated or sprayed.
Eye/face protection:	Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Do not wear contact lenses.
Skin protection:	Use impermeable gloves and protective clothing as necessary to prevent skin contact. The workplace should be equipped with an emergency shower and eye-rinsing facility.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Clear
Odor:	Odorless
Odor threshold:	Not available.
pH:	Not applicable
Vapor pressure:	Not available.
Boiling point/range:	Not available.
Melting point/ range:	Not available.
Specific gravity:	1.05
Vapor density:	Not available.
Flash point:	> 180 °C (> 356°F)
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Flammability:	Not applicable
Evaporation rate:	Not available.
Solubility in water:	Reacts slowly with water to liberate carbon dioxide gas.
Partition coefficient (n-octanol/water):	Not available.
VOC content:	0 %
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Hazardous reactions:	Exothermic. Polymerization may occur at elevated temperature or in the presence of incompatible materials.
Hazardous decomposition products:	Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Hydrogen cyanide. Isocyanates.
Incompatible materials:	Humid air and/or water will produce carbon dioxide which will pressurize the container. Moisture. Amines. Alcohols. Ammonia. Strong bases.
Reactivity:	MDI reacts slowly with water to form carbon dioxide gas.
Conditions to avoid:	Avoid moisture. Container can be pressurised by carbon dioxide due to reaction with humid air and/or water.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure:	Skin, Inhalation, Eyes
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Potential Health Effects/Symptoms

Inhalation:	Causes respiratory tract irritation. This product may cause sensitization by inhalation and skin contact. Overexposure to isocyanates may cause burning sensation of respiratory tract, cough, shallow breathing, burning sensation, tightness in chest, reduced lung function. As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. Chronic overexposure to isocyanates has been reported to cause lung damage.
Skin contact:	Causes skin irritation. May cause sensitization by inhalation and skin contact. Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering.
Eye contact:	Liquid or vapor can cause moderate to severe irritation. Symptoms can include irritation, redness, scratching of the cornea, and tearing. Conjunctivitis.
Ingestion:	Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Not expected under normal conditions of use.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Isocyanate terminated polyurethane	None	No Data
Isocyanic acid, polymethylenepolyphenylene ester	None	Allergen, Irritant, Kidney, Liver, Respiratory
Methylenebis(phenylisocyanate)	None	Irritant, Respiratory, Allergen
Methylene bisphenyl isocyanate	None	Allergen, Irritant, Mutagen, Respiratory

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Isocyanate terminated polyurethane	No	No	No
Isocyanic acid, polymethylenepolyphenylene ester	No	No	No
Methylenebis(phenylisocyanate)	No	No	No
Methylene bisphenyl isocyanate	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Do not empty into drains, soil or bodies of water.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Legal disposition of wastes is the responsibility of the owner/generator of the waste. Applicable federal, state and/or local regulations must be followed during treatment, storage, or disposal of waste containing this product.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

Canada Transportation of Dangerous Goods - Ground

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: First issue.

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