

# MATERIAL SAFETY DATA SHEET



Date Issued: 11/12/2009  
MSDS No: F2100A  
Date Revised: 11/12/2009  
Revision No: 8

## F2100A (item #F2100A-F1, F2100A-NT)

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** F2100A (item #F2100A-F1, F2100A-NT)

#### MANUFACTURER

ITW TACC  
195 Demille Rd  
Lapeer MI 48446  
**Service Number:** (800) 498-4310

#### 24 HR. EMERGENCY TELEPHONE NUMBERS

CHEMTREC (US Transportation): (800) 424-9300

**COMMENTS:** FOAMSEAL is a registered trademark of Illinois Tool Works, Inc.

### 2. HAZARDS IDENTIFICATION

#### HAZARD DESIGNATION

"Xn" - Harmful

#### EMERGENCY OVERVIEW

**IMMEDIATE CONCERNS:** WARNING! Contains Diphenylmethane Diisocyanate (CAS No. 101-68-8). May cause respiratory tract irritation. May cause allergic respiratory reaction. Harmful if inhaled. Respiratory sensitizer. May cause lung damage. Lung damage and respiratory sensitization may be permanent. May cause skin irritation. May cause allergic skin reaction. Skin sensitizer. Animal tests and other research indicate that skin contact with MDI can cause isocyanate desensitization and respiratory reaction.

#### POTENTIAL HEALTH EFFECTS

**EYES:** May cause eye irritation. Permanent corneal injury is unlikely.

**SKIN:** May cause skin irritation upon contact. May cause allergic reaction in susceptible individuals. May stain the skin.

**SKIN ABSORPTION:** A single prolonged exposure is not likely to result in material being absorbed through the skin in harmful quantities.

**INGESTION:** Single dose oral toxicity is low. Can result in irritation and corrosive action in the mouth, stomach and digestive tract. However, it is not considered a common occupational route of exposure.

**INHALATION:** MDI vapors or mist concentration at or above the TLV can irritate (burning sensation) the mucous membrane in the respiratory tract causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function. Persons with pre-existing non-specific bronchial hyper-reactivity can respond to concentrations well below the TLV with similar symptoms as well as asthma attacks. Exposure well above the TLV may lead to bronchitis, bronchial spasm, and pulmonary edema. These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g. fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure. As a result of previous repeated overexposure or a single large dose, certain individuals develop isocyanate sensitization (chemical asthma), which will cause them to react to a later exposure to isocyanate at levels well below the TLV. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increase lung sensitivity can persist for weeks and in severe cases for several years. Overexposure to isocyanates has also been reported to cause lung damage (decrease in lung function), which may be permanent. Sensitization can be either temporary

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or permanent.

### SIGNS AND SYMPTOMS OF OVEREXPOSURE

**EYES:** Causes eye irritation.

**SKIN:** Contact causes skin irritation.

**SKIN ABSORPTION:** None Expected.

**INGESTION:** None known, not likely route of entry.

**INHALATION:** Review inhalation signs and symptoms of MDI under Potential Health Effects.

**CARCINOGENICITY:** None known.

**MUTAGENICITY:** None known.

### REPRODUCTIVE TOXICITY

**REPRODUCTIVE EFFECTS:** None known.

**TERATOGENIC EFFECTS:** None known.

**ROUTES OF ENTRY:** Eye and skin contact and Inhalation. Ingestion is an unlikely route of entry.

**TARGET ORGAN STATEMENT:** None known.

**IRRITANCY:** Eye and skin irritation.

**SENSITIZATION:** May cause allergic respiratory and skin reaction. Respiratory and skin sensitizer.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS	Classification
Polymeric Isocyanates	40 - 55	009016-87-9	- -	Xn; 20-36/37/38-42/43
Methylene Bisphenyl Isocyanate	35 - 45	000101-68-8	2477140	Xn; 20-36/37/38-42/43
Diphenylmethane-2,4'-di-isocyanate	3 - 7	005873-54-1	227-534-9	Xn; 20-36/37/38-42/43

### 4. FIRST AID MEASURES

**EYES:** Immediately flush eyes with plenty of tempered water (at least 15-20 minutes) lifting upper and lower eye lids occasionally. Get immediate medical attention.

**SKIN:** Immediately flush skin with plenty of water. Remove clothing. Get medical attention immediately. Wash clothing separately before reuse.

**INGESTION:** If swallowed, do NOT induce vomiting. Give victim two glasses (16 ounces) of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained

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personnel. Seek immediate medical attention. Asthmatic type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic.

**NOTES TO PHYSICIAN:** Medical supervision of all employees who handle or come into contact with isocyanates is recommended. This should include pre-employment and periodic medical examinations with respiratory function tests (FEV, FVC as minimum). Persons with asthmatic type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with MDI. Once a person is diagnosed as sensitized, no further exposure can be permitted.

IF ADDITIONAL INFORMATION ABOUT THIS MIXTURE IS REQUIRED, CONTACT ITW TACC AT (810) 245-2150.

### 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** (390°F) Pensky-Martens CC

**Notes:** FP for MDI

**FLAMMABLE LIMITS:** Not Determined

**FLAMMABLE CLASS:** Class IIIB

**GENERAL HAZARD:** Combustible Liquid.

**EXTINGUISHING MEDIA:** Water spray, carbon dioxide, dry chemical or foam.

**EXPLOSION HAZARDS:** Decomposition products may cause a health hazard. Down wind personnel must be evacuated. Do not reseal contaminated containers, as pressure build-up may rupture them.

**FIRE FIGHTING PROCEDURES:** As in any fire, wear self-contained breathing apparatus with pressure-demand, full face piece SCBA (MSHA/NIOSH approved or equivalent) and full protective gear.

**SENSITIVE TO STATIC DISCHARGE:** Not Applicable

**SENSITIVITY TO IMPACT:** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon Dioxide, Carbon Monoxide, Nitrogen Oxide, Isocyanate Vapors and Mist, Traces of HCN.

### 6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILL:** Absorb the isocyanate with sawdust or other absorbent and shovel into open top containers. Do not make containers pressure tight. Transport to a well ventilated area, preferably outside, and treat with neutralizing solution consisting of a mixture of 90% water, 8% concentrated ammonium hydroxide or sodium carbonate, and 2% liquid detergent. Add about 10 parts of neutralizer per part of isocyanate by mixing. Allow to stand for 48 hours, allowing evolved carbon dioxide to escape.

**LARGE SPILL:** Keep spectators away. Only those persons who are adequately trained, authorized and wearing the required personal protective equipment (PPE) should participate in spill response and clean-up. Know and prepare for spill response before using or handling this product. Dike and contain spill with inert material (e.g. sand, earth). Transfer liquids to covered and labeled containers for disposal. Use appropriate PPE. Place absorbent diking materials in covered containers for disposal. Prevent

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contamination of sewers, streams, and groundwater with spilled material or used absorbent.

If temporary control of isocyanate vapor is required, a blanket of protein foam (available at most Fire Departments) may be placed over the spill.

### 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** For professional or industrial use only. Follow label instructions. Keep out of the reach of children. Not for consumption. No smoking. Do not breathe vapors. Avoid contact with body. Empty containers must not be washed and re-used for any purpose. Contact lens wearers must wear protective eye wear around chemical vapors and liquid. Wash hands thoroughly after handling. To prevent build-up of vapors, use adequate natural and/or mechanical ventilation (e.g. open all windows and doors to achieve cross ventilation).

**HANDLING:** Follow all MSDS/label precautions even after container is emptied because they may retain product residues. Containers should be tightly closed to prevent contamination with foreign materials and moisture. Employee education and training in the safe handling of this product are required under the Federal OSHA Hazard Communication Standard. Avoid contact of liquid with eyes and prolonged skin exposure.

**STORAGE:** Keep container closed when not in use. Store in a dry well ventilated area, out of the sun and away from ignition sources. Do not remove or deface label. Prevent water or moist air from entering container.

**STORAGE TEMPERATURE:** 18.3°C (65°F) Minimum to 35°C (95°F) Maximum

**SHELF LIFE:** 6 months from manufacture date

### 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>
Polymeric Isocyanates	<b>TWA</b>	NL [1]	NL [1]	NL [1]	NL [1]
	<b>STEL</b>	NL [1]	NL [1]	NL [1]	NL [1]
Methylene Bisphenyl Isocyanate	<b>TWA</b>	0.02 ppm	0.2 mg/m <sup>3</sup>	0.005 ppm	NL
	<b>STEL</b>	NL [1]	NL [1]	NL [1]	NL [1]
Diphenylmethane-2,4'-di-isocyanate	<b>TWA</b>	NL	NL	NL [1]	NL [1]
	<b>STEL</b>	NL [1]	NL [1]	NL [1]	NL [1]
<b>Footnotes:</b>					
1. NL = Not Listed					

**ENGINEERING CONTROLS:** Local exhaust ventilation or other engineering controls are recommended to

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maintain levels below the TLV whenever MDI is processed, heated or spray applied. For spray applications, an air-supplied respirator must be worn. Standard reference sources regarding industrial ventilation (i.e. ACGIH Industrial Ventilation) should be consulted for guidance about proper ventilation.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Wear safety glasses with side shields, goggles, or a full-face shield. Do not wear contact lenses.

**SKIN:** Wear chemical resistant gloves such as latex, butyl rubber or nitrile rubber. Wear chemical protective clothing & boots to prevent repeated or prolonged skin contact.

**RESPIRATORY:** Where vapor concentrations exceed or are likely to exceed the occupational exposure limits, a NIOSH approved continuous flow supplied air respirator, hood or helmet is recommended. A NIOSH approved self-contained positive pressure breathing apparatus with full face piece is required for spills and/or emergencies. MDI has poor warning properties, since the concentration at which MDI can be smelled is substantially higher than the maximum exposure limit. A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**WORK HYGIENIC PRACTICES:** Wash hands thoroughly after use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Liquid

**ODOR:** Slight Musty Odor

**COLOR:** Dark Brown

**BOILING POINT:**  $\geq 100^{\circ}\text{C}$  (212 $^{\circ}\text{F}$ )

**FLASHPOINT AND METHOD:** (390 $^{\circ}\text{F}$ ) Pensky-Martens CC

**Notes:** FP for MDI

**SOLUBILITY IN WATER:** Reacts slowly with water

**DENSITY:** 10.338 lbs/gal

**SPECIFIC GRAVITY:** 1.240

**(VOC):** 0.240 gr/L EPA Method 24 VOC

## 10. STABILITY AND REACTIVITY

**STABLE:** Yes

**HAZARDOUS POLYMERIZATION:** No

**STABILITY:** Stable.

**POLYMERIZATION:** Product will not undergo polymerization.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None Expected.

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**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, carbon dioxide, nitrogen oxide, isocyanate vapors and mist, traces of HCN.

**INCOMPATIBLE MATERIALS:** Reaction with water will generate carbon dioxide gas. Incompatible with acids, bases, hydroxyl containing compounds such as alcohols, amine containing compounds such as ammonia. May react with copper alloys or aluminum. May degrade certain elastomers.

### 11. TOXICOLOGICAL INFORMATION

#### ACUTE

Chemical Name	ORAL LD <sub>50</sub> (rat)	DERMAL LD <sub>50</sub> (rabbit)	INHALATION LC <sub>50</sub> (rat)
Polymeric Isocyanates	No data	No data	No data
Methylene Bisphenyl Isocyanate	> 5000 mg/kg (rats)	No data	> 2240 mg/cub m (1-hr dose - rat)
Diphenylmethane-2,4'-di-isocyanate	No data	No data	No data

#### CARCINOGENICITY

**IARC:** Not Applicable

**NTP:** Not Applicable

**OSHA:** Not Applicable

**IRRITATION:** Mild to moderate eyes and skin irritation.

**CORROSIVITY:** Not Applicable

**SENSITIZATION:** Respiratory and Skin Sensitizer

**NEUROTOXICITY:** Not Applicable

**GENETIC EFFECTS:** Not Applicable

**REPRODUCTIVE EFFECTS:** Not Applicable

**TERATOGENIC EFFECTS:** Not Applicable

**MUTAGENICITY:** Not Applicable

**SYNERGISTIC MATERIALS:** Not Applicable

### 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** This product contains components that may be harmful to aquatic organisms and may cause long term adverse effects in the aquatic environment.

**ECOTOXICOLOGICAL INFORMATION:** Contains components that are potentially toxic to freshwater and saltwater ecosystems.

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### 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Dispose of in accordance with all local, state and federal regulations.

### 14. TRANSPORT INFORMATION

#### DOT (DEPARTMENT OF TRANSPORTATION)

**PROPER SHIPPING NAME:** Not Regulated

**MARINE POLLUTANT #1:** None

### 15. REGULATORY INFORMATION

#### UNITED STATES

#### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

**FIRE:** No **PRESSURE GENERATING:** No **REACTIVITY:** Yes **ACUTE:** Yes **CHRONIC:** Yes

**313 REPORTABLE INGREDIENTS:** Diphenylmethane diisocyanate containing MDS CAS#101-68-8  
 Polymethylene polyphenyl isocyanate CAS#26447-40-5

#### EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt. %	CAS
Polymeric Isocyanates	40 - 55	009016-87-9
Methylene Bisphenyl Isocyanate	35 - 45	000101-68-8

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

Chemical Name	Wt. %	CERCLA RQ
Methylene Bisphenyl Isocyanate	35 - 45	5000 lbs.

#### TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Polymeric Isocyanates	009016-87-9
Methylene Bisphenyl Isocyanate	000101-68-8
Diphenylmethane-2,4'-di-isocyanate	005873-54-1

#### CLEAN AIR ACT

Chemical Name	Wt. %	CAS
Methylene Bisphenyl Isocyanate	35 - 45	000101-68-8

#### CANADA

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## WHMIS HAZARD SYMBOL AND CLASSIFICATION



Toxic

## EUROPEAN COMMUNITY

### EEC LABEL SYMBOL AND CLASSIFICATION



"Xn" - Harmful

## 16. OTHER INFORMATION

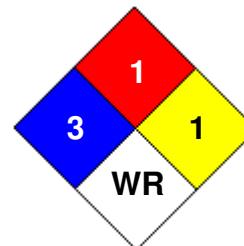
**INFORMATION CONTACT:** (781) 878-7015

**REVISION SUMMARY:** Revision #: 8 This MSDS replaces the November 12, 2009 MSDS. Any changes in information are as follows:

### HMIS RATING

<b>HEALTH:</b>	<input type="checkbox"/>	<b>3</b>
<b>FLAMMABILITY:</b>	<input type="checkbox"/>	<b>1</b>
<b>PHYSICAL HAZARD:</b>	<input type="checkbox"/>	<b>1</b>
<b>PERSONAL PROTECTION:</b>	<b>B</b>	

### NFPA CODES



**GENERAL STATEMENTS:** Keep out of reach of children

For professional or industrial use only

If you cannot read, or do not understand all directions, cautions, and warnings, do not use this product

For spray applications, use only with approved equipment

### MANUFACTURER DISCLAIMER:

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