

# SAFETY DATA SHEET

**Date Issued :** 1/8/2014  
**MSDS No :** F2100A  
**Date Revised :** 10/14/2014  
**Revision No :** 12

## MIRACLE FOAMSEAL F2100A

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** MIRACLE FOAMSEAL F2100A

#### MANUFACTURER

ITW Polymers Sealants North America  
 56 Air Station Industrial Park  
 Rockland, MA 02370

**Product Stewardship:** (781) 878-7015

#### 24 HR. EMERGENCY TELEPHONE NUMBERS

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

**COMMENTS:** MIRACLE and FOAMSEAL are registered trademarks of Illinois Tool Works, Inc.

### 2. HAZARDS IDENTIFICATION

#### GHS CLASSIFICATIONS

##### Health:

Acute Toxicity (Inhalation), Category 2  
 Skin Irritation, Category 2  
 Eye Irritation, Category 2A  
 Respiratory Sensitization, Category 1  
 Skin Sensitization, Category 1  
 Carcinogenicity, Category 2  
 Target Organ Toxicity (Single exposure), Category 3  
 Target Organ Toxicity (Repeated exposure), Category 2  
 Aspiration Hazard, Category 1

#### GHS LABEL



Skull and  
crossbones



Exclamation  
mark



Health  
hazard

**SIGNAL WORD:** DANGER

#### HAZARD STATEMENTS

H304: May be fatal if swallowed and enters airways.  
 H315: Causes skin irritation.  
 H317: May cause an allergic skin reaction.  
 H319: Causes serious eye irritation.  
 H330: Fatal if inhaled.  
 H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H335: May cause respiratory irritation.  
 H351: Suspected of causing cancer.  
 H373: May cause damage to organs through prolonged or repeated exposure.

#### PRECAUTIONARY STATEMENT(S)

##### Prevention:

80975E8A: P201: Obtain special instructions before use.  
 P202: Do not handle until all safety precautions have been read and understood.

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P260: Do not breathe dust/fume/gas/mist/vapours/spray.  
 P264: Wash hands, forearms, and other exposed areas thoroughly after handling.  
 P271: Use only outdoors or in a well-ventilated area.  
 P272: Contaminated work clothing should not be allowed out of the workplace.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 P285: In case of inadequate ventilation wear respiratory protection.

### Response:

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
 P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
 P304+P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P313: IF exposed or concerned: Get medical advice/attention.  
 P310: Immediately call a POISON CENTER or doctor/physician.  
 P312: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P314: Get medical advice/attention if you feel unwell.  
 P320: Specific treatment is urgent (see section 4).  
 P331: Do NOT induce vomiting.  
 P332+P313: If skin irritation occurs: Get medical advice/attention.  
 P333+P313: If skin irritation or rash occurs: Get medical advice/attention.  
 P337+P313: If eye irritation persists: Get medical advice/attention.  
 P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
 P362: Take off contaminated clothing and wash before reuse.

### Storage:

P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
 P405: Store locked up.

### Disposal:

P501: Dispose of contents/container according to local, regional, national, and international regulations.

## 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.

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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 or permanent.

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

**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
Polymeric Isocyanates	40 - 55	9016-87-9
Methylene Bisphenyl Isocyanate	35 - 45	101-68-8
Diphenylmethane-2,4'-di-isocyanate	3 - 7	5873-54-1

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

#### 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.

**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

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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 POLYMERS SEALANTS NORTH AMERICA AT (800) 403-7747

### 5. FIRE FIGHTING MEASURES

**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 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 SDS/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.

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**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]

#### Footnotes:

1. NL = Not Listed

**ENGINEERING CONTROLS:** Local exhaust ventilation or other engineering controls are recommended to 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:** Use good hygiene practices when handling this material. Wash hands thoroughly after use.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

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**PHYSICAL STATE:** Liquid  
**ODOR:** Slight Musty Odor  
**ODOR THRESHOLD:** Not Determined  
**COLOR:** Dark Brown  
**pH:** Not Determined  
**PERCENT VOLATILE:** Not Determined  
**FLASHPOINT AND METHOD:** (390°F) Pensky-Martens CC  
**Notes:** FP for MDI  
**FLAMMABLE LIMITS:** Not Determined  
**AUTOIGNITION TEMPERATURE:** Not Applicable  
**VAPOR PRESSURE:** Not Determined  
**VAPOR DENSITY:** Not Determined  
**BOILING POINT:**  $\geq 100^{\circ}\text{C}$  (212°F)  
**FREEZING POINT:** Not Determined  
**MELTING POINT:** Not Determined  
**POUR POINT:** Not Determined  
**SOLUBILITY IN WATER:** Reacts slowly with water  
**EVAPORATION RATE:** Not Determined  
**DENSITY:** 10.338 lbs/gal  
**PARTICLE SIZE:** Not Determined  
**SPECIFIC GRAVITY:** 1.24  
**VISCOSITY:** Not Determined  
**MOLECULAR WEIGHT:** Not Determined  
**(VOC):** 0.240 gr/L EPA Method 24 VOC  
**COEFF. OIL/WATER:** Not Determined  
**OXIDIZING PROPERTIES:** Not Determined

### 10. STABILITY AND REACTIVITY

**STABLE:** Yes  
**HAZARDOUS POLYMERIZATION:** No  
**STABILITY:** Stable.  
**POLYMERIZATION:** Product will not undergo polymerization.  
**POSSIBILITY OF HAZARDOUS REACTIONS:** None Expected.  
**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.

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### 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	g/kg (rabbits)	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	g/kg (rabbits)	No data

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

**SENSITIZATION:** Respiratory and Skin Sensitizer

### 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.

### 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

#### EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt. %	CAS
Polymeric Isocyanates	40 - 55	9016-87-9
Methylene Bisphenyl Isocyanate	35 - 45	101-68-8

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

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

### TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Polymeric Isocyanates	9016-87-9
Methylene Bisphenyl Isocyanate	101-68-8
Diphenylmethane-2,4'-di-isocyanate	5873-54-1

### CLEAN AIR ACT

Chemical Name	Wt. %	CAS
Methylene Bisphenyl Isocyanate	35 - 45	101-68-8

### CANADA

#### WHMIS HAZARD SYMBOL AND CLASSIFICATION



### 16. OTHER INFORMATION

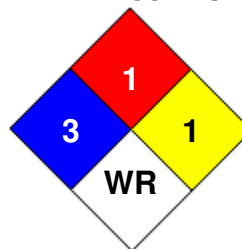
**INFORMATION CONTACT:** (781) 878-7015

**REVISION SUMMARY:** This MSDS replaces the 10/14/2014 MSDS.

#### HMIS RATING

<b>HEALTH</b>	□	3
<b>FLAMMABILITY</b>	□	1
<b>PHYSICAL HAZARD</b>	□	1
<b>PERSONAL PROTECTION</b>	□	B

#### NFPA CODES



**GENERAL STATEMENTS:** Keep out of reach of children  
For professional or industrial use only

**MANUFACTURER DISCLAIMER:** This document may be used to comply with OSHA's Hazardous Communication Standard, 29 CFR 1910.1200.

To the best of our knowledge, the information contained in this SDS is accurate. It is intended to assist the user in his/her evaluation of the product's hazards and safety precautions to be taken in its use. The data in this SDS relate only to the specific material designated herein. We do not assume liability for the use of, or reliance on this information, nor do we guarantee its accuracy or completeness.



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