

# GUARDFOAM 27

## OPEN CELL SPRAY INSULATION

### MATERIAL SAFETY DATA SHEET (MSDS)

**COMPANY :** GUARDIAN FIBERGLASS INC.  
**ADDRESS :** 1000 EAST NORTH STREET  
ALBION, MI 49224 USA  
**TELEPHONE :** (517) 629-9464  
(800) 748-0035

**PRODUCT :** GUARDFOAM 27 A Side OPEN/CLOSED Cell Isocyanate  
**NFPA HAZARD RATINGS :** H :2 F :0 R :1 PP :1  
**LAST REVISION :** March 2011

### SECTION I : HAZARDOUS SUBSTANCES

	<u>CAS #</u>	<u>% BY WT.</u>	<u>OSHA PEL/ACGIH TLV</u>		<u>Vapor Pressure</u>
4, 4' Diphenylmethane diisocyanate <sup>(1)</sup>	101-68-8	40-60%	.02 ppm (STEL)	005 ppm (TWA)	.0003 mm Hg (@ 68F)
(1) This chemical is subject to SARA Title III, Section 313 reporting					
1,1,1,2-Tetrafluoroethane	811-97-2	12-20%	WEEL : 1,000 ppm		

### SECTION II : PHYSICAL DATA

**BOILING RANGE :** 646° F (Decomposes)      **WEIGHT per GALLON :** 10.3 lbs.  
**VAPOR DENSITY (air=1) :** A : Non-volatile  
**% VOLATILE by VOLUME :** 8.5 (air=1)      **EVAPORATION RATE (ether=1) :** N/A

### SECTION III : FIRE & EXPLOSION HAZARD DATA

**FLASH POINT :** Non-flammable liquid.

**EXTINGUISHING MEDIA :** Foam, CO2, dry chemical or water fog.

**SPECIAL FIRE FIGHTING PROCEDURES :** Firefighters must wear self-contained breathing apparatus and full protective clothing to prevent contact with toxic and/or irritating fumes. Do not spray pool fires directly; a solid stream of water directed into hot, burning liquid can cause frothing.

**UNUSUAL FIRE AND EXPLOSION HAZARD :** High temperatures will raise the pressure in the containers, which may rupture. Contamination with water will generate carbon dioxide gas with possible pressure build up in confined areas. Carbon monoxide may be evolved if combustion is incomplete. Poly-Iso is non-flammable and will not explode from mechanical impact.

**Warning! When exposed to open flames, cured polyurethane foam will present a serious fire hazard.**

**Product is a urethane foam component that contains a liquified compressed gas blowing agent (Non-flammable compressed gas). Containers should not be heated or stored above 120 F (49 C) to avoid excessive build up of pressure.**

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## SECTION IV : HEALTH HAZARD DATA

**EFFECTS OF OVEREXPOSURE :** Skin contact may cause irritation and chemical can be absorbed through the skin . Eye contact causes irritation, redness, tearing and blurred vision. Inhalation/skin absorption : MDI in vapor or aerosol form can cause asthma-like symptoms and may result in sensitization in some individuals.. May cause central nervous sytem or anesthetic effects. .

**EMERGENCY & FIRST AID :** Inhalation : Remove to fresh air; if symptoms persist, consult a physician. Eye contact : flush with water for 15 minutes and contact a physician as soon as possible. Skin contact : wash with soap and water and remove contaminated clothing. Ingestion : do not induce vomiting; see a physician immediately.

**PRIMARY ROUTES of ENTRY :** Inhalation, Skin absorption, eyes, ingestion. .

**MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE :** persons with asthma or other pulmonary conditions should not be exposed to the chemical at any level. .

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## SECTION V : REACTIVITY DATA

**STABILITY :** Stable

**CONDITIONS TO AVOID :** Temperature extremes and water contamination.

**INCOMPATIBILITY :** Reacts with water, alcohol, amines, ammonia and carboxylic acids.

**HAZARDOUS DECOMPOSITION PRODUCTS :** Incomplete burning may produce nitrogen oxides, hydrogen cyanide, carbon monoxide and/or carbon dioxide.

**HAZARDOUS POLYMERIZATION :** Reacts slowly with water to produce carbon dioxide gas.

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## SECTION VI : SPILL OR LEAK PROCEDURES

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED :** In enclosed areas, cleanup personnel should wear self-contained breathing apparatus. Cover spills with sawdust, vermiculite, or other absorbent material to minimize spreading of the material before collecting. Poly-Iso must be neutralized with a solution of 90% water, 3-8% concentrated ammonia and 2% detergent and allowed to react for 10 minutes. Collect into open containers and add more solution. Cover loosely to vent carbon dioxide gas generated.

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

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## SECTION VII : SPECIAL PROTECTION INFORMATION

**RESPIRATORY PROTECTION :** Wear powered air-purifying respirator with hood where exposure levels exceed the short-term exposure limit or where exposure levels are unknown when the material is being heated, spray applied or applied in poorly ventilated areas. PAPR must have organic vapor cartridge with HEPA filter . Cartridge use must be monitored and the cartridge replaced before it loses effectiveness in filtering the chemicals.

**VENTILATION :** For interior applications, ventilation should be provided. In areas with poor ventilation, use Local Mechanical Ventilation/Exhaust ) to reduce vapor concentration.

**PROTECTIVE CLOTHING AND GLOVES :** Wear Tyvek or chemical Resistant suit (or apron & sleeves) and Nitrile or Chemical resistant gloves. No skin should be exposed during spraying.

**EYE PROTECTION :** Wear full hood or Safety goggles or face shield.

**OTHER PROTECTION REQUIREMENTS :** Work zone/reoccupancy guidelines : No unprotected individuals should be in the home while spraying is being done or for one hour after spraying has been completed. Eye wash should be available; safety shower is recommended. .

**OSHA Respiratory Protection Standard must be followed. Applicators must have medical clearance to wear a respirator. If a tight –fitting respirator is worn, the applicators must have been fit-tested per OSHA standards.**

Health and Safety information and guidance documents available at [www.spraypolyurethane.org](http://www.spraypolyurethane.org) (Weatherization Contractor Section)

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## SECTION VIII : SPECIAL PRECAUTIONS & TOXICOLOGICAL PROPERTIES

**SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING & STORING :** Keep containers closed and store in a cool dry place away from sunlight.

**TOXICOLOGICAL PROPERTIES :** The International Isocyanate Institute is currently sponsoring a lifetime study on polymeric MDI in rats for carcinogenicity. Monomeric MDI is positive for mutagenicity in the Ames assay. Oral LD50 (rats) is greater than 15,800 mg/kg. Dermal LD50 (rabbits) is greater than 7900 mg/kg. Inhalation LC50 (rats – 2hr) is greater than 400 mg/m3 on dust of monomeric MDI. Harmful or fatal if swallowed. Vapor harmful. May cause skin or eye irritation.

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