MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: **Minimal Expansion Foam**

Product Number (s): **14077, 74077**

Product Use: Foam insulator and sealant

Manufacturer / Supplier Contact Information:

In United States:
CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com
1-215-674-4300(General)
(800) 521-3168 (Technical)
(800) 272-4620 (Customer Service)

In Canada:
CRC Canada Co.
2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
www.crc-canada.ca
1-905-670-2291

In Mexico:
CRC Industries Mexico
Av. Benito Juárez 4055 G
Colonia Orquídea
San Luís Potosí, SLP CP 78394
www.crc-mexico.com
52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

CAUTION: Contents Under Pressure. Uncured Foam May Irritate Skin, Eyes and Respiratory Tract.

Appearance & Odor: Viscous liquid which foams upon release from container as a tan froth; faint hydrocarbon odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May be irritating to eyes. May cause slight temporary corneal injury due to adhesive character.

SKIN: Prolonged skin contact may cause moderate skin irritation with local redness. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible person. Will bond to skin causing irritation upon removal.

INHALATION: Excessive exposure may cause irritation to upper respiratory tract. Symptoms of excessive exposure may be anesthetic or narcotic effects, dizziness or drowsiness. Inhalation of vapors in high concentrations may cause shortness of breath (lung edema). Vapors may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and feeling of tightness in the chest.

INGESTION: May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. Product may cure in the gastrointestinal tract and form an obstruction. May cause adverse cardiac effects, blood disturbances, and metabolic acidosis.

CHRONIC EFFECTS: Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI / polymeric MDI aerosols. Repeated or prolonged contact causes sensitization, asthma and eczemas.

TARGET ORGANS: central nervous system, respiratory tract

Medical Conditions Aggravated by Exposure: allergies, skin disorders, respiratory disorders, eye disorders, kidney disorders, liver disorders

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition / Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2	10 – 30
Flame retardant	proprietary	10 – 30
4,4'- Diphenylmethane diisocyanate (MDI)	101-68-8	5 – 10
Polymeric MDI	9016-87-9	5 – 10
Non-hazardous urethane blend	proprietary	45 – 70

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash before re-use. If foam is sticking to skin, use corn oil or nail polish remover immediately after exposure. If foam has dried on skin, apply generous amounts of petroleum jelly or lanolin. Then cover with plastic glove and wait 1 hour. With a clean cloth, firmly wipe off petroleum jelly. Repeat process if necessary. Do not attempt to remove dried foam with solvents. Call a physician if irritation persists.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Call a physician or poison control center immediately. May produce an allergic reaction. Do not induce vomiting unless directed to do so by medical personnel. Drink plenty of water. Never give anything orally to an unconscious person.

Note to Physicians: Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like symptoms or respiratory sensitization. Respiratory symptoms, including pulmonary edema, may be delayed. Exposure may increase myocardial irritability. No specific antidote.

Section 5: Fire-Fighting Measures

Flammable Properties: Cured foam will burn in the presence of sufficient heat, oxygen and an ignition source.

Flash Point:	None	Upper Explosive Limit:	ND
Autoignition Temperature:	ND	Lower Explosive Limit:	ND

Fire and Explosion Data:

Suitable Extinguishing Media: Dry chemical, carbon dioxide, regular foam or water spray if used in large quantities (water contamination will produce carbon dioxide)

Products of Combustion: Oxides of carbon, oxides of nitrogen, traces of HCN

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and

skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition. Stay upwind.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8. Do not touch or walk through spilled material. Keep upwind of spilled material.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Methods for Containment & Clean-up: Ventilate the area with fresh air. Uncured product is very sticky, so carefully remove the bulk of the foam by scraping it up and then immediately remove residue with a rag and solvent such as mineral spirits or acetone. Once the product has cured, it can only be removed by physically scraping, buffing, etc. If in a confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection.

Section 7: Handling and Storage

Handling Procedures: Adequate ventilation should be provided to avoid excessive exposure to Polymeric Isocyanate (MDI) component and the fluorocarbon. If used indoors, mechanical ventilation or exhaust should be provided during use and until product is cured. Take precautions to avoid contact of product with skin. This product will adhere aggressively to skin. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C to prevent cans from rupturing. Ideal storage temperature is 60 - 90°F (16 - 32°C).

Aerosol Storage Level: I

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

	OSHA		ACGIH		OTHER		
COMPONENT	TWA	STEL	TWA	STEL	TWA	SOURCE	UNIT
1,1,1,2-Tetrafluoroethane	NE	NE	NE	NE	1000	AIHA	ppm
Flame retardant	NE	NE	NE	NE	NE		
4,4'- Diphenylmethane diisocyanate	0.02 (c)	NE	0.005	NE	NE		ppm
Polymeric MDI	NE	NE	NE	NE	NE		
Non-hazardous urethane blend	NE	NE	NE	NE	NE		
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge and dust/mist pre-filters. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as rubber or nitrile. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: viscous liquid / cures to foam
Color: tan
Odor: hydrocarbon
Odor Threshold: ND
Specific Gravity: 1.2
Initial Boiling Point: ND
Freezing Point: ND
Vapor Pressure: ND
Vapor Density: ND (air = 1)
Evaporation Rate: ND
Solubility: insoluble
Coefficient of water/oil distribution: ND
pH: NA
Volatile Organic Compounds: wt %: 0 g/L: 0 lbs./gal: 0

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Temperatures above 120°F / 49°C

Incompatible Materials: Water, alcohols, strong bases, strong oxidizing agents, finely powdered metals

Hazardous Decomposition Products: Oxides of carbon, oxides of nitrogen, traces of hydrogen cyanide (HCN)

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
1,1,1,2-Tetrafluoroethane	No data	No data	1500 g/m^3/4H
Flame retardant	> 5000 mg/kg	1230 mg/kg	5 mg/L/4H
4,4'- Diphenylmethane diisocyanate	9200 mg/kg	No data	178 mg/m^3
Polymeric MDI	49 g/kg	> 9400 mg/kg	490 mg/m^3/4H
Non-hazardous urethane blend	No data	No data	No data

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
1,1,1,2-Tetrafluoroethane	No	No	No	No	Unknown
Flame retardant	No	No	No	Unknown	Unknown
4,4'- Diphenylmethane diisocyanate	No	No	No	skin, respiratory	skin, respiratory
Polymeric MDI	No	No	No	skin, respiratory	skin, respiratory
Non-hazardous urethane blend	No	No	No	Unknown	Unknown

Reproductive Toxicity: This product does not contain any known or suspected reproductive hazards.
Teratogenicity: No information available
Mutagenicity: No information available
Synergistic Effects: No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: No information available
Persistence / Degradability: This product is not biodegradable.
Bioaccumulation / Accumulation: No information available
Mobility in Environment: In the aquatic and terrestrial environment, PMDI movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Section 13: Disposal Considerations

Waste Classification: The dispensed product is not a RCRA hazardous waste. (See 40 CFR Part 261.20 – 261.33) Allow product to fully cure before disposing. Never discard in liquid state. Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): UN1950, Aerosols, non-flammable, 2.2, Limited Quantity**

ICAO/IATA (air): UN1950, Aerosols, non-flammable, 2.2, Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.2, Limited Quantity

Special Provisions: **This material may be shipped as a Consumer Commodity, ORM-D by ground. Contains a marine pollutant.

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):
All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):
Reportable Quantities (RQ's) exist for the following ingredients: 4,4'-diphenylmethane diisocyanate (5000 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:
Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:

Fire Hazard	No
Reactive Hazard	No
Release of Pressure	Yes
Acute Health Hazard	Yes
Chronic Health Hazard	Yes

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Diisocyanates (< 20%)

Clean Air Act:
Section 112 Hazardous Air Pollutants (HAPs): 4,4'-diphenylmethane diisocyanate

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):
This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: None

Consumer Products VOC Regulations: This product is compliant under the category of Sealants and Caulking Compounds.

State Right to Know:

New Jersey:	9016-87-9, 101-68-8, 811-97-2
Pennsylvania:	101-68-8, 811-97-2
Massachusetts:	9016-87-9, 101-68-8
Rhode Island :	101-68-8, 811-97-2

Canadian Regulations:

Controlled Products Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Hazard Class: A, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

European Union Regulations:

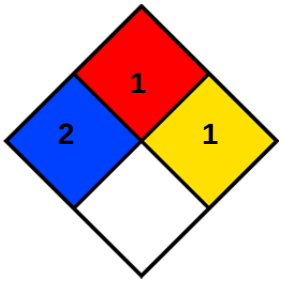
RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	**2***
Flammability:	**1**
Reactivity:	**1**
PPE:	**B**

NFPA



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 14077
Revision Date: 08/19/2013

Changes since last revision: Section 2: potential health effects
Section 3: added ingredient
Section 11: added ingredient

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose
NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System