TWO-COMPONENT LOW PRESSURE A-COMPONENT

(Includes Quick Cure, Slow Rise, E-84 Class 1, SPF Roof Patch, Commercial Vehicle, Sound Barrier, Air Seal, Low Density, Mine Sealant SA and Cavity Fill)

MSDS # A16178A

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M A T E R I A L S A F E T Y D A T A S H E E T

1. PRODUCT & COMPANY IDENTIFICATION

Chemical Product

A-Component for Two-Component Low Pressure Polyurethane Foam System for Professional Use Only.

Manufacturer

FOMO PRODUCTS, INC.
P. O. Box 1078
Norton, Ohio 44203

Emergency Overview

Product Information: 1-800-321-5585 (Monday-Friday 8:00am-5:00pm). In Ohio and outside the United States call (330) 753-4585.

Transportation Emergency: CHEMTREC 1-800-424-9300 (24 hours). Two-Component A-Component is registered by the manufacturer, FOMO PRODUCTS, INC.

International Transportation Emergency: CHEMTREC (703) 527-3887

Product is a urethane foam component that contains a liquified compressed gas blowing agent (Non-Flammable Compressed Gas). Containers should not be heated above 120°F (49°C) to avoid excessive pressure build-up.

2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING! EYE, SKIN, LUNG IRRITANT. May cause eye irritation. May cause skin irritation. May cause allergic skin reaction. Skin Sensitizer. May cause allergic respiratory reaction. Harmful if inhaled. May cause lung injury. Respiratory sensitizer. Lung damage and respiratory sensitization may be permanent. May cause central nervous system effects. Keep upwind of spill. May cause anesthetic effects. Pressurized Containers: storage temperature should not exceed 120°F (49°C) in order to avoid excessive pressure build-up and possible release of contents. MDI will react with water to form CO_2 and water insoluble polyureas.

Potential Health Effects

The primary adverse health effects of this product are related to the Polymeric Isocyanate (MDI) component, and, to a lesser degree, the Fluorocarbon (134a) component. Therefore, use in a well ventilated area and with certified respiratory protection to avoid exceeding exposure limits listed in Section 8 of this MSDS.

Entry Route: Effects of Overexposure

Inhalation: May irritate mucous membranes. Can cause runny nose, sore throat, coughing, chest discomfort, shortness of breath, wheezing, and reduced lung function. Extensive overexposure can lead to respiratory symptoms like bronchitis, bronchial spasm, and pulmonary edema. These symptoms could be immediate or delayed up to several hours after exposure. These effects are usually reversible, but increased lung sensitivity can persist for a longer period of time. Chronic overexposure to diisocyanates can cause permanent damage. Overexposure to 1,1,1,2 - Tetrafluoroethane may cause lightheadedness, headaches, or lethargy. Persons with cardiac arrhythmia are more susceptible to increased medical risk from severe exposure.

Eyes: May be irritating to eyes. Symptoms of irritation can include reddening, tearing, swelling, or stinging. May cause temporary corneal injury. Chronic overexposure may cause conjunctivitis.

Skin: May cause localized irritation, reddening or swelling. May cause an allergic reaction. Prolonged or repeated exposure may lead to sensitization and/or contact dermatitis.

Ingestion: May cause irritation of mucous membranes in the mouth and digestive tract. Symptoms may include abdominal pain, nausea, vomiting, and diarrhea. Small amounts are unlikely to cause symptoms or injury.

If accidental contact occurs, follow the appropriate first aid procedure described in Section 4 of this MSDS.

3. COMPOSITION

Chemical Name (common names)	CAS Number	Percentage
1,1,1,2- Tetrafluoroethane (Non-Flammable Compressed Gas, HFC, Fluorocarbon) 134a	811-97-2	5 to 10 percent
4,4' - Diphenylmethane Diisocyanate (MDI)	101-68-8	30 to 60 percent
Higher Oligomers of MDI (Polymeric MDI)	9016-87-9	30 to 60 percent

(NOTE: See Section 8 of this MSDS for Exposure Guidelines)
(NOTE: See Section 11 of this MSDS for Toxicological Information- LC_{50} and LD_{50})

4. FIRST AID

Inhalation: If breathing difficulty is experienced, move to area free of exposure. Provide fresh air. If necessary, provide oxygen or artificial respiration by trained personnel and obtain medical attention.

Eye Contact: Flush with clean water for at least 15 minutes and obtain medical attention.

Skin Contact: Use a rag to remove liquid from skin and remove contaminated clothing. May cause mild irritation or temporary darkening of skin. Persistent washing with soap and water will eventually remove all residues. If irritation persists, obtain medical attention.

Ingestion: Drink 1 to 3 glasses of water and seek immediate medical attention. Do not induce vomiting. Never give anything orally to an unconscious person.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Dry Chemical, carbon dioxide, Halon 1211, chemical foams, or water spray (if used in large quantities).

Firefighting Procedures: Isolate area. Stay upwind. Water is not recommended unless used in large quantities as a fine spray when other extinguishing agents are not available. The product is equipped with a pressure relief valve which can activate in a high temperature situation. Remove all personnel from the area at the first sound of releasing pressure. Protective equipment: Wear self-contained breathing apparatus to protect against toxic decomposition by-products, including Carbon monoxide, Carbon dioxide, Nitrogen oxides, Isocyanates, Hydrogen fluoride and traces of Hydrogen cyanide. Wear all turn out gear (boots, trousers, helmet, gloves, and hood).

Unusual Fire/Explosion Hazards: Product reacts with water. Water Contamination will produce carbon dioxide. High temperatures will raise the pressure in the containers, which may lead to rupturing. Cured foam is organic and, therefore, will burn in the presence of sufficient heat, oxygen and an ignition source. Main hazards associated with burning foam are similar to burning of other organic materials (wood, paper, cotton, etc.) and precautions against exposure should be taken accordingly. Avoid welding or other "hot work" in the vicinity of exposed cured foam.

6. ACCIDENTAL RELEASE MEASURES/DISPOSAL CONSIDERATIONS

Personal Precautions: Evacuate all unnecessary personnel; contain the area if possible. Wear skin, eye, and respiratory protection and equipment. Ventilate the area.

Environmental Precautions: Containment should include preventing the spill from entering drains, sewers, waterways, groundwater, or soil.

Clean Up Procedures/Neutralization: Soak up material with absorbent and shovel into chemical waste container. Loosely cover container and remove from work area. Decontaminate waste and spill area with a solution of 0.2 – 0.5% liquid detergent and 3 – 8% concentrated ammonium hydroxide in water (5 – 10% sodium bicarbonate may be substituted for ammonium hydroxide). Use 10 parts of solution for each part of the spill and allow to react for at least 10 minutes. Allow loosely covered container to stand for several days before disposing in accordance with all applicable federal, state and local regulations.

7. HANDLING AND STORAGE

Handling: Use only in a well ventilated area with certified respiratory protection or with a power air purifying respirator (PAPR). Wear protective glasses or goggles, nitrile gloves, and clothing that protects from dermal exposure. Contents are under pressure. Do not puncture or incinerate.

Storage: Store in a dry place. Ideal storage temperature for disposable kits is 60°F to 80°F (15.5°C to 26.6°C). Store refillable tanks at 75°F to 85°F (24°C to 29°C). Storage at less than ideal temperatures can cause delays in production until the product is warmed/cooled to temperature. Do not expose the tanks/kits to open flame or temperatures above 120°F (49°C). Excessive heat can cause premature aging of components resulting in a shorter shelf life. Protect unused product from freezing. Storage below 55°F (12.7°C) may affect foam quality if chemicals are not warmed to room temperature before using. Protect containers from physical abuse. Always store containers upright. KEEP OUT OF REACH OF CHILDREN

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Read all product instructions before using.

Exposure Guidelines

4,4' – Diphenylmethane Diisocyanate (MDI)	OSHA	.020 ppm ceiling	.200 mg/m^3 ceiling
	ACGIH	.005 ppm TWA	.051 mg/m^3 TWA
1,1,1,2 - Tetrafluoroethane	WEEL	1,000 ppm	4,240 mg

(None of the components in this product are listed by IARC, NTP, OSHA or ACGIH as a carcinogen).

Personal Protective Equipment

Respiratory Protection: Use products only in a well ventilated area. If atmospheric levels are expected to exceed the exposure levels, use a NIOSH approved air purifying respirator equipped with an organic vapor cartridge and a particulate filter. If atmospheric levels exceed 10 times the TLV or PEL level for which an air-purifying respirator is effective, use a powered air purifying respirator (PAPR). The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134).

Hand Protection: Use chemically resistant gloves (ie Nitrile gloves). Nitrile/butadiene rubber, Butyl Rubber, polyethylene, PVC (vinyl), or neoprene gloves are also effective. Glove selection should take into account potential body reactions to certain materials and manufacturer's instructions for use.

Eye Protection: Use safety glasses or goggles. An eye wash station or portable eye wash bottle should be in the area.

Skin Protection: Avoid contact with skin. Use clothing that protects against dermal exposure.

Medical Surveillance: Users whom have a history of adult asthma should be excluded from work with isocyanates. Some users can become sensitized to isocyanates. Once a user has become sensitized, no further exposure should be permitted. Skin or respiratory allergies should also be taken into account when using isocyanates.

General Hygiene: Do not eat, drink, or smoke while handling this product. Always use in a well ventilated area. Wash after handling. Do not breathe vapors. Avoid contact with skin and hands.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Amber to dark brown liquid. Froths to an off white to yellowish color when released from the container. (Note: Appearance may differ with the introduction of a dye/colorant.
Odor:	Slight Musty odor
pH:	Not available
Melting/Freezing Point:	Not available
Boiling Point:	1,1,1,2 - Tetrafluoroethane (Non-Flammable Compressed Gas, HFC Fluorocarbon 134a) boils at -15°F (-26°C). MDI boils at 406°F (208°C).
Flash Point:	1,1,1,2 - Tetrafluoroethane (HFC 134a); none. MDI; 390°F (199°C).
Specific Gravity:	Approximately 1.2 (H_2O = 1) at 25°C
Solubility:	Water: Insoluble reacts slowly with water to liberating traces of CO2.
Partition Coefficient N-octanol/water:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Odor Threshold:	Not available
Evaporation Rate:	Not available
Flammability:	Non flammable propellant
Flammability Limits:	Not available
Vapor Pressure:	Contents under pressure have vapor pressure greater than 50 psig/345 kPa. For MDI liquid less than 10 mm Hg at 77°F (25°C).
Vapor Density:	Not available

10. STABILITY AND REACTIVITY

Stability: This product is considered stable under normal and anticipated storage and handling conditions. Do not store above 120°F (49°C). For longest shelf life, avoid storage above 90°F (32.2°C).

Materials to Avoid: Alcohols, strong bases or amines, metal compounds, ammonia, strong oxidizers. Avoid contamination with water.

Conditions to Avoid: Avoid moisture. Material reacts slowly with water, releasing CO_2. High temperatures will raise the pressure in the containers, which may lead to rupturing. Product use is temperature sensitive. Avoid temperatures below 40°F (5°C) or temperatures above 95°F (35°C).

Thermal Decomposition: Toxic decomposition by-products, including Carbon monoxide, Carbon dioxide, Nitrogen oxides, Isocyanates, Hydrogen fluoride and traces of Hydrogen cyanide can be released in instances of fire.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Inhalation: LC50 490 mg/m³ (4h, rat)
Ingestion: LD50 >5,000 mg/kg (rat, male/female)
Skin: LD50 >5,000 mg/kg (rabbit)
Sensitization
Skin: (rabbit, slightly irritating)
Eye: (rabbit, slightly irritating)

Repeated Dose Toxicity: 2 yrs, Inhalation, NOAEL .19, (rat, male/female, 6hrs/day, 5days/week) Irritation to lungs and nasal cavity

Chronic Toxicity/ Carcinogenicity: 6.3 mg/m (**high level of exposure**, 2years, 6hrs/day, 5days/week) Lung tumors observed.
Developmental Toxicity: rat, female, 6hrs/day, 12 mg/m³, days 6-15 (gestation period); 4 mg/m³ (maternal/fetotoxicity)
Genetic Toxicity In vitro: Inconclusive, In vitro studies were negative/positive, salmonella typimurium

12. ECOLOGICAL INFORMATION

Ecological Data for Polymeric MDI:
Biodegradation: Expected to have a short half-life
Bioaccumulation: Oncorhynchus mykiss (rainbow trout), 112 day exposure, <1 BCF. Does not bioaccumulate.
Acute Toxicity to Fish: LC0: >1000mg/l brachydanio rerio (zebra fish), 96 hour exposure
Acute Toxicity to Aquatic Invertebrates: EC50: >1000 mg/l Daphnia magna (water flea), 24h
Toxicity to Microorganisms: EC50: >100 mg/l, activated sludge, 3h

Ecological Data for MDI
Acute Toxicity to Fish: LC50: >500mg/l brachydanio rerio (zebra fish), 24h
Acute Toxicity to Aquatic Invertebrates: EC50: >500 mg/l Daphnia magna (water flea), 24h

Ecological Data for 1,1,1,2-Tetrafluoroethane
Accumulation in aquatic organisms is unlikely

13. DISPOSAL CONSIDERATIONS

Disposable Cylinders:
1. DO NOT INCINERATE TANKS
2. After tanks are empty, the hose must be removed and the tanks must be vented. CAUTION: Tanks will still be under pressure. Turn valves to the off position before removing the hoses. Safety glasses or goggles, nitrile gloves, clothing that protects against dermal exposure, and a certified respirator must be worn during this procedure. With tank inverted, slowly open tank valve, point tank away from face and allow pressure to completely vent. CAUTION: Empty tank could contain potential vapor toxicity hazard. Dispose Cylinders in a well ventilated area with certified respiratory protection.
3. DISPOSE OF EMPTY CYLINDERS ACCORDING TO APPLICABLE FEDERAL, STATE, PROVINCIAL AND LOCAL REGULATIONS. CHECK WITH YOUR LOCAL WASTE DISPOSAL SERVICE FOR GUIDANCE.

Refillable Tanks:
THESE TANKS ARE RETURNABLE.
The tanks are shipped back to Fomo Products, Inc to be cleaned, refilled, and redistributed. Return instructions are included in the collar of the refill tanks.

14. TRANSPORTATION

Shipping Information

	Containers Less Than 1000 cu. cm. (1 liter)	**Containers Greater Than 1000 cu. cm. (1 liter)**
Ground DOT	Consumer Commodity ORM-D (On Shipper Carton) Consumer Commodity Two-Component A-Component (On Shipping Document)	UN1956 Compressed Gas n.o.s. (Fluorocarbon) 2.2 (Non-Flammable Gas Label)
Air IATA	UN1950 Aerosols, Non-Flammable 2.2 (Non-flammable Gas Label) LIMITED QUANTITY Packing Instruction (Cargo & Passenger) 203	UN1956 Compressed Gas n.o.s. (Fluorocarbon) 2.2 (Non-flammable Gas Label) Packing Instruction (Cargo & Passenger) 200
Water IMDG	UN1950 Aerosols, Non-Flammable 2.2 LIMITED QUANTITY	UN1956 Compressed Gas n.o.s. (Fluorocarbon) 2.2 (Non-flammable Gas Label)

Note Emergency Response Guide Numbers - Consumer Commodity # 171. For Aerosols and Compressed Gas # 126.

15. REGULATORY

OSHA Hazcom Standard Rating:
Hazardous

WHMIS Classification:
A
D2A
D2B

Toxic Substances Control Act (TSCA)/Domestic Substances List (DSL):
All ingredients are listed on the TSCA inventory, as well as the Canadian Domestic Substances List.

SARA Title III: Section 311/312:
Acute Health Hazard, Chronic Health Hazard, Sudden Release of Pressure Hazard

SARA Title III: Section 313
Contains Diphenylmethane Diisocyanate (CAS #101-68-8) and Diphenylmethane Diisocyante, Isomers and homologues (CAS #9016-87-9) which are subject to the reporting requirements of SARA Title III. Applicability must be determined by end user.

State Right-To Know Information: Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Chemical Name (common names)	CAS Number	Percentage
Diphenylmethane Diisocyanate	101-68-8	5% to 10 %

California Proposition 65:
Based on information currently available, this product is not known to contain detectable amounts of any chemicals currently listed under California Proposition 65.

16. OTHER

NFPA: Health Hazard 2; Flammability 1; Reactivity 1
HMIS III: Health 2*; Flammability 1; Physical Hazard 1
*=chronic health hazard

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