



SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

1.1 Product Identifier: Versi-Foam Systems 1, 9, 15, 50, and 1.75 pcf Refillable – Standard & Slow Rise – **Component A**

1.2 Relevant identified uses of the substance or mixture and uses advised against:

General Use: Component in low pressure polyurethane foam, Component A, for professional use only.
Uses Advised Against: No further information available.

1.3 Details of the supplier of the Safety Data Sheet:

Manufacturer/Supplier: RHH Foam Systems, Inc.
17100 W Victor Rd
New Berlin, WI 53151-4139 USA
1-800-657-0702 / 262-754-8088

1.4 Emergency telephone numbers:

Within the USA: CHEMTREC (contract #18811) (24 hours) 1-800-424-9300
International: CHEMTREC (contract #18811) (24 hours) 001-703-527-3887

SECTION 2 – HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture:

Product definition:

Mixture

OSHA/GHS Classification:

Gases Under Pressure – Compressed Gas
Respiratory Sensitizer Category 1
Skin Sensitizer Category 1
Skin Irritant Category 2
Eye Irritant Category 2B
Specific Organ Toxicity – Single Exposure Category 3 (STOT SE 3)

2.2 Label elements: (Regulation (EC) No 1272/2008)

Hazard Symbols:



Signal Word: DANGER

Hazard Statement(s):

H280: Contains gas under pressure; may explode if heated
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H320: Causes eye irritation.
H334: May cause allergy or asthma like symptoms or breathing difficulties if inhaled.
H335+H336: May cause respiratory irritation, drowsiness, or dizziness.

Precautionary Statement(s):

P102: Keep out of reach of children.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P251: Pressurized container: Do not pierce or burn, even after use.
P261: Avoid breathing vapor, mist, or spray.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P272: Contaminated work clothing must not be allowed out of the workplace.
P280: Wear protective gloves/protective clothing/eye protection/ face protection.
P284: In case of inadequate ventilation: wear respiratory protection.
P302+P352+P333+P313: IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical attention.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical attention.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P312: If experiencing respiratory symptoms or feel unwell: Call a POISON CENTER or doctor.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P362: Take off contaminated clothing and wash it before reuse.

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

P405: Store locked up.

P410: Protect from sunlight.

P411: Store at temperatures not exceeding 120°F (48°C).

P412: Do not expose to temperatures exceeding 250°F (121°C).

P501: Dispose of contents/container in accordance with local, state, national, and international regulations.

Hazards Not Otherwise Classified:

Tetrafluoroethane vapors may displace oxygen and cause asphyxiation. System is pressurized.

1% of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components	CAS #	% by Weight
Polymethylene polyphenyl isocyanate containing 4,4' Methylene bisphenyl isocyanate	009016-87-9 000101-68-8	90-100%
Tetrafluoroethane	811-97-2	5-10%

SECTION 4 – FIRST-AID MEASURES

4.1 Description of first aid measures:

Eyes: Flush eyes with large amounts of water for at least 15 minutes. Get medical attention.

Skin: Wash skin thoroughly with large amounts of water. Consult a physician if irritation develops or persists. Remove contaminated clothing and wash before re-use. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a Polyglycol-based skin cleanser or corn oil may be more effective than soap and water.

Inhalation: If affected by vapors, remove patient to fresh air and get medical attention. Give oxygen or artificial respiration if necessary. Do not give stimulants. Epinephrine and similar drugs may adversely affect the heart due to a possible risk of eliciting cardiac dysrhythmias.

Ingestion: If swallowed, do not induce vomiting. Get medical attention immediately. The hazard of aspirating material into the lungs is greater than the hazard associated with allowing material to progress through the intestinal tract.

4.2 Note to physician:

No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, Expectorants, and Antitussives may be of help. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed for 24-48 hours for signs of respiratory distress.

SECTION 5 – FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media: Carbon Dioxide, Dry Chemical, or Alcohol Foam are preferred. Water is not recommended but may be applied in large amounts as a fine spray if other extinguishing media are not available.

Unsuitable extinguishing media: Do not use direct water stream as it may spread fire. Product reacts with water. Reaction may be violent, producing heat and gases.

5.2 Special hazards arising from the substance or mixture:

During a fire dense smoke will be produced containing the original material as well as unidentified toxic or irritating compounds. Hazardous combustion products may include, but are not limited to, nitrogen oxides, isocyanates, hydrogen cyanide, carbon monoxide, and carbon dioxide. Sealed container may rupture from gases generated in a fire situation. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the auto-ignition temperatures. This may result in spontaneous combustion.

5.3 Protective equipment / Precautions for fire-fighters:

Fire-fighters should wear full protective fire-fighting gear including a full face piece, positive-pressure self-contained breathing apparatus (SCBA). Avoid contact with this material during fire-fighting operations. Consider fighting fire from a remote location with unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from area if you hear rising sound from a venting safety device or the container discolors.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Always clear area and use protective equipment (as recommended in Section 8) before attempting to stop spill. Wear suitable chemical resistant clothing including foot protection. Always wear eye protection and gloves when handling this product. Avoid any contact. Barricade area. Clear non-emergency personnel from area. Keep upwind of spill. Ventilate area of leak or spill. The area must be evacuated and reentered by persons equipped for decontamination.

6.2 Environmental precautions:

Contain liquid to prevent contamination of soil, surface water or ground water. Keep out of ditches, sewers, and water supplies.

6.3 Methods and materials for containment and cleaning up:

Should the product enter sewers or drains, it should be pumped into an open vessel. Emergency services may need to be called to assist in the cleanup operation.

Supplies of suitable decontaminant should always be kept available. Absorb with material such as: sawdust, vermiculite, dirt, sand, clay, cob grit, Milisorb. Avoid materials such as cement powder. Collect material in suitable and properly labeled open containers. Do not place in sealed container. Prolonged contact with water results in a chemical reaction which may result in rupture of the container. Place in: poly lined fiber packs, plastic drums, or properly labeled metal containers. Remove to a well-ventilated area. Clean up floor areas. Attempt to neutralize by decontaminant solution: formulation 1: Sodium Carbonate 5-10%; Liquid Detergent 0.2%; Water to make up to 100%. Or formulation 2: Concentrated ammonia solution 3-8%; Liquid Detergent 0.2%; Water to make up 100%. If ammonia is used, use good ventilation to prevent vapor exposure. If you have any questions on how to neutralize call RHH Foam Systems, Inc.

SECTION 7 – HANDLING AND STORAGE

7.1 Precautions for safe handling:

Wear proper protective equipment (as recommended in Section 8) and provide proper ventilation during and after application. Avoid contact of this product with water at all times during handling and storage. Do not eat, drink, or smoke where this product is used. Keep equipment clean and use disposable containers and tools whenever possible.

7.2 Conditions for safe storage, including any incompatibilities:

Store in a cool, covered, well-ventilated place away from direct sunlight. Keep container tightly closed and store locked up in an upright position. Do not expose to moisture. Do not expose to excessive heat. Do not allow to freeze. Ideal storage temperatures are 65°-90°F (18°-32°C). **Keep out of reach of children.**

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

Ingredient	CAS #	OSHA PEL	ACGIH TLV	WEEL TWA
4,4' Methylene bisphenyl isocyanate	000101-68-8	0.2 mg/m ³ ; 0.02 ppm	0.05 mg/m ³ ; 0.005 ppm	
1,1,1,2 Tetrafluoroethane	811-97-2			4240 mg/m ³ ; 1000 ppm

8.2 Exposure controls:

Engineering controls:

Use only with adequate ventilation. Provide exhaust ventilation to control airborne concentrations. Exhaust systems should be designed to move the air away from workers and the work area. Odor is an inadequate warning of excessive exposure.

Protective equipment:

Eye protection: Wear chemical resistant safety goggles.

Hand protection: Wear chemically resistant gloves such as: nitrile/butadiene (NBR), neoprene, butyl rubber or PVC (vinyl). An individual's body reaction to specific glove materials should be considered during the selection process and verified prior to the application. The break through time of the selected glove must be greater than the intended period of use.

Other protective equipment: Wear chemical resistant clothing such that no skin is exposed.

Respiratory protection: If concentration levels exceed exposure limits, use a NIOSH approved air-purifying respirator equipped with an organic vapor cartridge and particle filter (P100). Employers are required to implement a cartridge change-out schedule for such respirators. If concentration levels are unknown or extremely high use a positive-pressure self-contained breathing apparatus.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance: Brown liquid
Odor: Slightly musty
Odor Threshold: Well above the exposure limits.
pH: No Data.
Melting Point: No Data.
Freezing Point: No Data.
Boiling Point: 410°F (210°C) @ 5 mmHg
Flash Point: >400°F (204°C)
Evaporation Rate: No Data.

LFL/UFL: Not Applicable.
Vapor Pressure: <1 x 10⁻⁵ mmHg @ 25°C (77°F)
Vapor Density: 8.5 (air = 1)
Relative Density: 1.24 @ 20°C
Solubility: Reacts with water.
Partition Coefficient: No Data
Auto-Ignition Temp.: >1100°F (600°C)
Viscosity: No Data

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity:

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability:

Stable under recommended storage conditions (per section 7).

10.3 Possibility of hazardous reactions:

Material reacts slowly with water releasing carbon dioxide. This reaction can cause pressure to build and closed containers to rupture. Elevated temperatures accelerate this reaction.

10.4 Conditions to avoid:

Heat, flames, welding arcs, and atmospheric moisture.

10.5 Incompatible materials:

Acids, alcohols, water, amines, ammonia, bases, and strong oxidizers. Avoid contact with metals such as: aluminum, zinc, brass, copper, galvanized metals, and tin.

10.6 Hazardous decomposition products:

Hazardous decomposition products vary depending upon temperature, air supply, and presence of other materials. Gases, such as, carbon monoxide and carbon dioxide are likely.

SECTION 11 – TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects:**

Likely Routes of Exposure: Inhalation, ingestion, skin, and eye contact.

Toxicity Data:

Oral – LD50 = >10,000 mg/kg

Dermal – LD50 = >2000 mg/kg

Effects and Symptoms:

Immediate: May cause eye and skin irritation. Excessive exposure by inhalation may cause irritation of the eyes, respiratory tract, and lungs. Pulmonary edema may also occur. Tetrafluoroethane vapors may cause drowsiness or dizziness. Excessive exposure can lead to unconsciousness or asphyxiation.

Delayed: Respiratory symptoms may not present for several hours.

Chronic: May cause skin and respiratory sensitization. Skin contact may play a role in respiratory sensitization. Sensitized individuals may have allergic reactions to concentrations below exposure guidelines. Repeated, excessive exposures to MDI aerosols have been shown to cause tissue injury to the upper respiratory tract and lungs in laboratory animals. Decreased lung function has been associated with overexposure to isocyanates.

Carcinogen: Lung tumors have been observed in lab animals in correlation with persistent lung injury caused by repeated, excessive exposures to aerosols. Such exposures are unlikely to occur in actual working environments.

SECTION 12 – ECOLOGICAL INFORMATION**12.1 Ecotoxicity:**

Based on information for MDI and polymeric MDI. The ecotoxicity measurement is that of the hydrolyzed product generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100mg/L in the most sensitive species). The LC50 for earthworm *eisenia foetida* is >1000 mg/kg.

12.2 Persistence and degradability:

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polymers which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

12.3 Bioaccumulative potential:

No data available.

12.4 Mobility in soil:

Movement is expected to be limited by the product's reactivity with water, forming predominantly insoluble polymers.

12.5 Results of PBT and vPvB assessment:

No data available.

12.6 Other adverse effects:

None known.

SECTION 13 – DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods:****Procedure for handling empty or partially used disposable cylinders:**

Versi-Foam® is best disposed of as solid material as opposed to the liquid chemicals. To that end, we recommend the following:

Empty remaining chemicals, if any, into a waste container. Make sure that the waste container contains both "A" and "B" chemicals. They do not have to be on ratio, but they both must be present. Mix the waste chemical blend with a stick so that it becomes a solid substance. This substance can then be disposed of as solid industrial waste.

VENTING OF THE TANKS: Turn the tanks upside down. Open tank valves. Leave in this position for 24 hours. Any remaining pressure should be evacuated from the tanks within this period of time.

If only one of the chemicals remains within the container, the chemical must be absorbed and possibly neutralized before disposal.

For "A" chemical remaining, follow this procedure:

Always wear respiratory protection. After venting tanks, empty "A" chemical into a waste container. Absorb chemical with a dry oil-absorbent material (for example sawdust or vermiculite). Remove to an outdoor or extremely well ventilated area. Decontaminate with solution of 90-95 parts water, 2-8 parts aqueous ammonia solution and .03-.05 parts liquid detergent. Be sure to add 10%-20% of this decontamination solution to the absorbed chemical. **DO NOT SEAL THE CONTAINER.** Allow to stand for 72 to 96 hours. Dispose of as solid industrial waste.

Waste, Residue, or Chemical: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. The preferred option for disposal is sending waste to a licensed and permitted recycler, reclaimer, incinerator, or other thermal destruction device. All disposal methods must be in compliance with local, state, national, and international regulations. Compliance with these regulations is the sole responsibility of the waste generator. RHH FOAM SYSTEMS, INC. HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION.

Container: Containers may contain residue and should be treated with the same considerations as the product itself. Dispose of vented empty tanks as ordinary industrial waste. Check with your City Department of Public Works for more information.

Procedure for handling empty refillable tanks:

Refillable tanks, measuring in 9 gallons or larger, should be returned to RHH Foam Systems Inc., where they will be cleaned, refilled and re-distributed.

SECTION 14 – TRANSPORT INFORMATION

Note: The U.S. Department of Transportation requires that any person preparing a hazardous material for shipping, including packing, marking, labeling and preparation of documents must be trained in accordance with 49 CFR Parts 100 – 185. Contact the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration at <http://phmsa.dot.gov/hazmat> at 1-800-467-4922 or email: phmsa.hm-training@dot.gov for information on their CD ROM Training Module for Hazardous Materials Transportation.

DOT (Over the road transportation): UN #: UN3500 Shipping Name: Chemical Under Pressure ,N.O.S.(Nitrogen) Shipping Class: 60 Hazard Class: 2.2 Packing Group: N/A	Bulk Transport (>5000 lbs.): UN #: UN3500 Shipping Name: Chemical Under Pressure, N.O.S. (Nitrogen), RQ (Methylene Diphenyl Diisocyanate) Hazard Class: 2.2 Packing Group: N/A Special Precautions: None known
IMDG (Ocean transportation): UN #: UN3500 Shipping Name: Chemical Under Pressure, N.O.S. (Nitrogen) Shipping Class: 60 Hazard Class: 2.2 Packing Group: N/A Marine Pollutant: No	IATA (Air transportation): UN #: UN3500 Shipping Name: Chemical Under Pressure, N.O.S. (Nitrogen) Shipping Class: 60 Hazard Class: 2.2 Packing Group: N/A Packing Instructions: 218

Note: Additional certifications are required to ship hazardous material by ocean (IMDG) and air (IATA).

SECTION 15 – REGULATORY INFORMATION

**15.1 Safety, health, and environmental regulations/legislations specific for the substance or mixture:
(Not meant to be all-inclusive – selected regulations represented)**

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown below. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure that its activities comply with federal, state, provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state, provincial, and local laws and regulations.

U.S. Federal Regulations:

SARA 313 Information: 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:

Chemical Name	CAS #	Concentration
Methylene Bis(Phenylisocyanate) (MDI)	000101-68-8	42-45%
Polymeric Diphenylmethane Diisocyanate	009016-87-9	100%

SARA Hazard Category: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

- An immediate health hazard
- A delayed health hazard

Toxic Substances Control Act (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

The CAS numbers for TSCA are:

- CAS# 009016-87-9
- CAS# 000101-68-8

State Right-To-Know: The following product components are cited on certain lists as mentioned.

Chemical Name	CAS #	LIST
Methylene Bis(Phenylisocyanate) (MDI)	000101-68-8	NJ3, NJ2, PA1, PA3
Polymeric Diphenylmethane Diisocyanate	009016-87-9	NJ2

NJ2 = New Jersey Environmental Hazardous Substance (present at greater than or equal to 1.0%).

NJ3 = New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).

PA1 = Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%)

PA3 = Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%)

OSHA Hazard Communication Standard: This product is a "Hazard Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Comprehensive Environmental Response Compensation and Liability Act (CERCLA, or Superfund): This product contains the following substance(s) listed as "Hazardous Substances: under CERCLA which may require reporting of releases:

Chemical Name	CAS #	Reportable Quantity (lbs.)	% in Product
Methylene bisphenyl isocyanate	000101-68-8	5000	42-45%

Canadian Regulations:

WHMIS Information: The Canadian Workplace Hazardous Materials System (WHMIS) Classification for this product is:

D2A – Respiratory tract sensitizer.

D2B – Eye or skin irritant.

D2B – Skin sensitizer.

CPR Statement: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and this Safety Data Sheet contains all the information required by the CPR.

Hazardous Products Act Information: This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA Section 13 and 14):

Components	CAS #	% by Weight
Methylene Bis(Phenylisocyanate) (MDI)	000101-68-8	42-45%
Polymeric Diphenylmethane Diisocyanate	009016-87-9	90-100%

SECTION 16 – OTHER INFORMATION

NFPA Ratings:

Health	2
Flammability	1
Reactivity	1
SPECIAL HAZARD:	Avoid Water

Other Information: The reaction of polyols and isocyanates generate heat. Contact of the reacting materials with skin or eyes can cause severe burns and may be difficult to remove from the affected areas. In addition, such contact increases the risk of isocyanate vapors.

Date of Preparation/Last Revision: April 30, 2015

Prepared by: RHH Foam Systems Inc.

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF, RHH FOAM SYSTEMS INC. MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ANY LIABILITY FROM RELIANCE THEREON.