

Material Data Safety Sheet (MSDS) ISSUE DATE: 04/05
Form # TFMSDS-001 Last Revision: 03/05 "B" COMPONENT

Product Brand: Tiger Foam Insulation. This sheet covers the "B" Component of a self-contained, portable two-component spray foam insulation kit comprised of an "A" side and "B" side tank.

Product Description: Product is a urethane foam component that contains liquefied compressed gas blowing agent (non-flammable compressed gas). Excessive pressure build-up will occur if heated above 120°F (49°C).

Item Numbers Covered:

TF600FR and TF600SR or TF200FR and TF200SR Note identical packaging w/sticker on front to designate contents as being either "A" component or "B" component. This sheet covers the "A" component.

Manufacturer

COMMERCIAL THERMAL SOLUTIONS, INC.
 6 Worthington Avenue
 Spring Lake, NJ 07762

Emergency Overview and Contacts

Product Information: 1-800-864-0063. Or direct call (001) 1+732.921.5350
Transportation Emergency: CHEMTREC Phone: 1-800-424-9300

Reference: CHEMTREC ACCOUNT # 201586

International Transportation Emergency:

CHEMTREC (011) 1+703.527.3887 REF ACCOUNT # 201586

2. COMPOSITION

<u>Chemical Name (common names)</u> <u>LC₅₀</u>	<u>CAS Number</u>	<u>Percentage</u>	<u>LD₅₀</u>
1,1,1,2- Tetrafluoroethane NA (Non-Flammable Compressed Gas, HFC, Fluorocarbon) 134a	811-97-2	10 to 30 percent	NA
Urethane Pre-polymer Blend NA (Non-Hazardous Proprietary Blend)	Not Available This Section	60 to 100 percent	NA

(NOTE: See Section 8 of this MSDS for Exposure Guidelines)

3. HAZARDS IDENTIFICATION

Physical Hazards

Storage temperature should not exceed 120°F (49°C) in order to avoid excessive pressure build-up and possible release of contents. Liquid contents froth when released from containers. If accidental contact occurs, follow the appropriate first aid procedure described in Section 4 of this MSDS.

Potential Health Effects

The mixture has not been tested. However, it is assumed that the mixture presents the same health hazards as do the components present at a one percent or greater level (1,1,1,2 – Tetrafluoroethane, 134a). Adequate ventilation should be provided to avoid exceeding the exposure limits listed in Section 8 of this MSDS.

Entry Route: Effects of Overexposure

- Inhalation:** Vapor reduces oxygen available for breathing and is heavier than air. May cause dizziness, headaches, lethargy, etc. Inhalation of high concentrations of vapor is harmful and may cause heart irregularities. Persons with cardiac arrhythmia may be at increased risk in severe exposure.
- Eyes:** May be irritating to eyes.
- Skin:** May cause localized irritation, reddening or swelling. Direct, severe, or prolonged exposure may lead to frostbite.
- Ingestion:** May cause irritation of mucous membranes in the mouth and digestive tract.

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 or paper towel to remove liquid from skin and wash thoroughly with soap and water. Remove contaminated clothing. If irritation develops, use a mild skin cream. If irritation persists, obtain medical attention.
- Ingestion:** Drink 1 to 3 glasses of water and seek immediate medical attention. Never give anything orally to an unconscious person.

5. FIRE FIGHTING MEASURES

High temperatures will raise the pressure in the containers, which may lead to rupturing. Extinguishing media include: dry chemical, carbon dioxide, Halon 1211, chemical foam, or water spray if used in large quantities. Wear self-contained breathing apparatus to protect against toxic decomposition by-products, including CO, CO₂, NO, and traces of HCN. 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

Wear skin and eye protection. Provide ventilation and isolate area. Absorb spill with sawdust or vermiculite and dispose of in accordance with all applicable federal, state, and local regulations. Wash spill area thoroughly with soap and water. Avoid uncontrolled reactions with isocyanates (such as A-Component).

Liquid residues may be mixed slowly with A-Component to react and produce low-grade foam, which in most cases can be disposed of as a solid in normal waste streams. Never discard in a liquid state.

Undamaged cylinders are returnable by following manufacturer's instructions and all regulatory requirements.

7. HANDLING AND STORAGE

Store in a cool, dry place. Ideal storage temperature is 60°F to 80°F (15.5°C to 26.6°C). Storage above 90°F (32.2°C) will shorten the 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Read all product instructions before using. Personal protective equipment should include (impervious gloves, protective eye wear and suitable work clothes). Adequate ventilation should also be employed so that vapor levels do not exceed recommended guidelines. If vapor levels are expected to exceed these guidelines, use a NIOSH approved, positive pressure, supplied air respirator or a negative pressure half mask with organic vapor cartridges and dust/mist pre-filters. Exercise good personal hygiene, wash thoroughly after each use.

Exposure Guidelines
ACGIH

OSHA

1,1,1,2 - Tetrafluoroethane (Non-Flammable Established Compressed Gas, HFC Fluorocarbon 134a)	None Established	None
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(None of the components in this product are listed by IARC, NTP, OSHA or ACGIH as a carcinogen).

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Appearance : yellowish color when	Light yellow to amber colored liquid. Froths to an off white to released from container. (Note; Appearance may differ with the introduction of a dye or colorant).
Odor :	Slight fluorocarbon and amine odor.
Specific Gravity :	Approximately 1.2 (H ₂ O = 1)
Boiling Point : Fluorocarbon, 134a)	1,1,1,2 - Tetrafluoroethane (Non-Flammable Compressed Gas, HFC boils at -15°F (-26°C). Other components boil at temperatures greater than 200°F (93.3°C).

Flash Point	:	1,1,1,2 - Tetrafluoroethane (HFC 134a); none. For other components – not determined.
Vapor Pressure kPa. After release	:	Contents under pressure have vapor pressure greater than 50 psig /345 kPa. After release from container, the vapor pressure is very low (not determined).
Solubility in Water	:	Partly soluble, does not react.
Explosion Data	:	Contents are not known to be sensitive to mechanical impact or static discharge.

10. STABILITY AND REACTIVITY

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). Avoid uncontrolled reactions with isocyanates (i.e. A-Component).

11. TRANSPORTATION

Shipping Information

	Containers Less Than 1000 cu. cm. (1 liter)	Containers Greater Than 1000 cu. cm. (1 liter)
<i>Ground</i>	Consumer Commodity ORM-D (On Shipper Carton) Consumer Commodity Two-Component B-Component (On Shipping Document)	UN 1956 Compressed Gas n.o.s. (Fluorocarbon) 2.2 (Non-Flammable Gas Label)
<i>Air</i>	UN 1950 Aerosols, Non-Flammable 2.2 (Non-flammable Gas Label).	UN 1956 Compressed Gas n.o.s. (Fluorocarbon) 2.2 (Non-flammable Gas Label).
<i>Water</i>	UN1950 AEROSOLS, (Limited Quantity) Class 2	UN1956 COMPRESSED GAS N.O.S. (Fluorocarbon) 2.2
<i>Exceptions</i>	N/A	
<i>Note</i>	Emergency Response Guide Numbers - Consumer Commodity # 171. For Aerosols and Compressed Gas # 126.	

12. REGULATORY

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:

No ingredients in this product are currently recognized as SARA Title III reportable.

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.

V.O.C. Content:

Based on the current EPA definition of volatile organic compound, this product does not have any V.O.C. content.

13. OTHER

NFPA: Fire 1; Health 2; Reactivity 1
HMIS: Flammability 1; Health 2; Reactivity 1

The information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof. The manufacturer makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving it will make their own determination as to its suitability for their purposes prior to use. In no event will the manufacturer be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. No representations or warranties, either expressed or implied, of merchantability or fitness for a particular use are made hereunder with respect to this information or the product to which information refers.

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LAST REVISION : 03/05-01
APPROVED BY : P. Pinata
TFMSDS001