

MATERIAL SAFETY DATA SHEET**BROMOTRIFLUOROMETHANE**

NSN:

Manufacturer's CAGE:

Part No. Indicator:

Part Number/Trade Name: R13B1

General Information

Item Name: BROMOTRIFLUOROMETHANE
 Company's Name: RemTec International
 Company's Street: 1100 Haskins Road
 Company's City, State, Zip Code: Bowling Green, OH 43402, USA
 In Emergency, Call at any time: PERS, N.America 800-633-8253/International 801-629-0667
 Company's Information Phone #: 419-867-8990 FAX 419-867-7449
 Date MSDS Prepared: 1/3/2007. Revised on Nov. 30, 2009
 MSDS Preparer's Name: RemTec
 MSDS Serial Number: MSDS13B1
 Specification Number: ASTM D 5632-01
 Spec Type, Grade, Class:
 Hazard Characteristic Code:
 Unit Of Issue: Pound Type Of Container: CYLINDER
 Unit Of Issue Container Qty: 1-1000 pounds Net Unit Weight: 30-500 LBS

Ingredients/Identity Information

Proprietary: No
 Ingredient: BROMOTRIFLUOROMETHANE
 Ingredient Sequence Number: 01
 Percent: 100
 NIOSH (RTECS) Number:
 CAS Number: 75-63-8
 OSHA PEL: 1000 PPM
 ACGIH TLV: 1000 PPM
 Other Recommended Limit: None Recommended

Physical/Chemical Characteristics

Formulation: CBrF₃ Molecular Weight: 148.9
 Appearance And Odor: CLEAR, COLORLESS, LIQUIFIED GAS WITH FAINT ETHER-LIKE ODOR
 Boiling Point: -71.9F, -57.7C
 Melting Point: Unknown
 Vapor Pressure (MM Hg/0 C): 6200 Critical Pressure (psia): 574.9
 Vapor Density (Air=1): 5.14 @ 25C Liquid Density at 77°F: 1.54
 Specific Gravity: 1.57 (WATER=1) Critical Temperature (C): 67.1
 Decomposition Temperature: 850C
 Evaporation Rate And Ref: Unknown
 Solubility In Water: .03 wt @ 25C
 Percent Volatiles By Volume: 100
 Corrosion Rate (IPY): Unknown

Fire and Explosion Hazard Data

Flash Point: NONFLAMMABLE
 Extinguishing Media: R-13B1 is a fire extinguishing media
 Special Fire Fighting Proc: Wear fire fighting protective equipment and full-faced self-contained breathing apparatus. Cool fire exposed containers with water spray or fog to cool containers
 Unusual Fire And Explosive Hazards: Combustion or heat of fire may produce hazardous decomposition products and vapors. Cylinders are equipped with relief devices but may still rupture under fire conditions

Reactivity Data

Stability: Yes
 Conditions to Avoid (Stability): None
 Materials to Avoid: Strong alkalis, alkali earth metals, fires of metal hydrides, and material containing own oxygen.
 Hazardous Decomposition Products: Thermal decomposition products include hydrogen fluoride, hydrogen bromide, bromine, carbonyl fluoride, and carbonyl bromide
 Hazardous Poly Occur: No
 Conditions To Avoid (Poly): None

Health Hazard Data

LD50-LC50 Mixture: 1 HR LC50 (RAT) = >700,000 PPM
 Route Of Entry Inhalation: Yes Skin: No Ingestion: No
 Health Hazard Acute And Chronic: Approximate lethal concentration of R13B1 to the rat is 80% for 15 minutes. R13B1 has anesthetic and cardiac effects in humans at concentrations below 10% are considered safe for 0-5 minute exposures. R13B1 is classified as group 6 (least toxic) in the Underwriters Laboratories classification of comparative life hazards of fire extinguishing agents.
 Carcinogenicity - NTP: No
 Carcinogenicity - IARC: No
 Carcinogenicity - Osha: No
 Explanation carcinogenicity: Not listed as carcinogen by NTP, ISAC, or Osha.
 Signs/symptoms of overexposure: The anesthetic effect of R13B1 at levels below 10% is similar to a feeling of mild intoxication. Anesthetic effects to concentrations above 10% (15-20%), may lead to unconsciousness and possibly death. Human health effects of overexposure by inhalation may include nonspecific discomfort, such as nausea, headache, or weakness; or temporary central nervous system depression with effects such as dizziness, headache, confusion, in coordination, and loss of consciousness. Higher exposures by inhalation may cause temporary alteration of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation. Skin or eye contact with the liquid may cause frostbite.
 Medical Cond Aggravated By Exp: Individuals with pre-existing diseases of the central nervous or cardiovascular system may have increased susceptibility to the toxicity of excessive exposures.
 Emergency/First Aid Proc: Inhalation: remove victim to fresh air. Give symptomatic and supportive care. Get medical attention. Note: adrenalin is contraindicated in the

treatment of overexposure to R13B1.

Skin Contact: In case of skin contact, flush skin with plenty of water for 15 minutes. Treat for frostbite if necessary by gently warming affected area.

Eye contact: In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Notes to Physician:

Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as spinephrice, should only be used with special caution in situations of emergency life support.

Precautions for Safe Handling and Use

Steps If Material Released/Spill: Keep upwind. Ventilate area-especially low places. Remove open flames and heating elements. Disperse gas with floor level forced air.

Neutralizing Agent: None

Waste Disposal Method: Recycle or reclaim if possible. Reclaimed material may be incinerated but toxic and corrosive combustion products (hf & hcl) must be handled appropriately. Dispose of in accordance with local, state and federal regulations.

Precautions-Handling/Storing: Store in tightly closed containers. Keep containers out of direct sunlight. Keep away from sources of heat and open ignition sources.

Other Precautions: Avoid eye, and skin contact. Do not breath vapor mists or sprays. Avoid hot surfaces, open flames, cigarette smoking.

Control Measures

Respiratory Protection: If engineering controls fail, non-routine use or emergency occurs; use NIOSH/MSHA approved respirator or supplied air respirator or SCBA, as required. Use in accordance with 29 CFR 1901.134.

Ventilation: Use adequate mechanical ventilation.

Protective Gloves: Rubber

Eye Protection: Safety glasses/chemical splash goggles

Other Protective Equipment: Clothing to prevent contact if liquid.

Work Hygienic Practices: Wash hands after use and before eating, drinking, or smoking

Transportation Data

TYPE I:

DOT Proper Shipping Name: LIQUIFIED GAS, NONFLAMMABLE CHARGED WITH NITROGEN

DOT Class: 2.2

DOT ID Number: UN1058

DOT Label: NONFLAMMABLE GAS

TYPE II:

DOT Proper Shipping Name: LIQUIFIED GAS, N.O.S., "BROMOTRIFLUOROMETHANE AND NITROGEN"

DOT Class: 2.2

DOT ID Number: UN3163

DOT Label: NONFLAMMABLE GAS

Label Data

Label Required:	Yes
Chronic Hazard:	No
Signal Word:	CAUTION!
Acute Health Hazard-Slight:	X
Contact Hazard-Slight:	X
Fire Hazard-None:	X
Reactivity Hazard-None:	X
Special Hazard Precautions:	Contact with vapor may cause eye/skin irritation. Contact with liquid may cause frostbite. Inhalation of high concentrations may cause asphyxiation; may cause sensitivity to adrenalin, producing heart effects. Store in tightly closed containers. Keep containers out of direct sunlight. Keep away from sources of heat and open ignition sources.
	First Aid:
	Eyes: flush with plenty of water for at least 15 minutes. Get medical attention.
	Skin: Get medical attention. If frostbitten, warm skin slowly with water.
	Inhalation: Move to fresh air. Give artificial respiration if breathing stopped. Give oxygen if breathing difficult. Get medical attention.
Protect Eye:	Y
Protect Skin:	Y
Protect Respiratory:	Y
Label Name:	REMTEC INTERNATIONAL
Label Street:	436 N ENTERPRISE DR
Label City, State, Zip, Country:	BOWLING GREEN, OH, 43402, USA
Label Emergency Number:	CHEMTEL 813-979-0626

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Sara 313 Supplier Notification

This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40CFR372).

CAS Number: 75-45-6

Bromotrifluoromethane: 100% by weight

OSHA requires that you must provide copies of this MSDS to all of your customers who purchase this product.