Material Safety Data Sheet

Material Name: Recycled Halon 1301 with Nitrogen

* * * Section 1 - Chemical Product and Company Identification * * *

Chemical Name: Bromotrifluoromethane with Nitrogen
Product Use: Aircraft Fire Extinguishers

Recycler/Manufacturer Information

Meggitt Safety Systems
1785 Voyager Ave
Simi Valley, CA 93063 U.S.A. Tel# 805-584-4100 24 Hour Emergency# 1-800-535-5053
Infotrac contract # 84268

* * * Section 2 - Composition / Information on Ingredients * * *

CAS #	Component		Percent
75-63-8	Bromotrifluoromethane	<	90%
7727-37-9	Nitrogen	<	10%

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Bromofluorocarbons, Bromine compounds.

Component Information/Information on Non-Hazardous Components

This product is considered to be hazardous under 29 CFR 1910.1200 (Hazard Communication). This is a controlled product under the criteria specified in the Canadian Workplace Hazardous Materials Information System (WHMIS).

* * * Section 3 - Hazards Identification * * *

Emergency Overview

Warning. Asphyxiant. Inhalation of vapors of this product may affect the cardiovascular and central nervous system and may cause death. Skin or eye contact with the liquid will cause frostbite. Pressurized container may explode when exposed to heat or flame.

Potential Health Effects: Eyes

Contact with the liquid of this product will cause frostbite to the eyes.

Potential Health Effects: Skin

Contact with the liquid of this product will cause frostbite to the skin.

Potential Health Effects: Ingestion

Not a likely route of entry.

Potential Health Effects: Inhalation

Asphyxiant. The vapors of this product reduce oxygen available for breathing and are heavier than air. Inhalation of the vapors of the product causes central nervous system depression and affects the cardiovascular system. Symptoms include nausea, vomiting, irregular heartbeat, symptoms of drunkenness, disorientation, bluish skin color, suffocation, convulsions and possibly death.

HMIS Ratings: Health: 1* **Fire:** 0 **Physical Hazard:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

First Aid: Skin

Get medical attention. If frostbite or freezing occurs, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C) for at least 15 minutes. Do not use hot water.

First Aid: Ingestion

If large amount is swallowed, get medical attention.

First Aid: Inhalation

Get medical attention. Remove the affected person immediately to fresh air.

First Aid: Notes to Physician

Do not give epinephrine or similar drugs for treatment of overexposure.

* * * Section 5 - Fire Fighting Measures * * *

Flash Point: Not applicable
Method Used: Not applicable
Upper Flammable Limit (UFL): Not applicable
Lower Flammable Limit (LFL): Not applicable
Auto Ignition: Not applicable
Flammability Classification: Not applicable
Rate of Burning: Not applicable

General Fire Hazards

Pressurized Container: May explode when exposed to heat or flame. Product itself is not flammable. Decomposition of this product occurs at >850°C (>1562°F).

Hazardous Combustion Products

Hydrogen fluorides, hydrogen bromides, free bromine and carbonyl halides.

Extinguishing Media

Use methods for the surrounding fire.

Fire Fighting Equipment/Instructions

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Use water to cool fire-exposed containers and to protect personnel.

NFPA Ratings: Health: 1 **Fire:** 0 **Reactivity:** 1
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

* * * Section 6 - Accidental Release Measures * * *

Containment Procedures

Do not breathe in vapors. Stop the flow of material, if this is without risk. Move the cylinder to a safe and open area if the leak is irreparable.

Clean-Up Procedures

Evacuate the area promptly. Ventilate the contaminated area. Use appropriate respiratory equipment.

Evacuation Procedures

Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed. Evacuate the area promptly and keep upwind of the spilled material. Isolate the spill area to prevent people from entering.

Special Procedures

Regulations vary. Consult local authorities before disposal.

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Do not breathe in vapors. Do not get into contact with the eyes or skin. Use with sufficient ventilation to keep employee exposure below recommended limits.

Storage Procedures

Store in accordance with all current regulations and standards. Subject to storage regulations: 29 CFR 1910.101. Keep from away incompatible substances. Do not heat above 125°F (51.6°C).

* * * Section 8 - Exposure Controls / Personal Protection * * *

A: Component Exposure Limits

bromotrifluoromethane (75-63-8)

ACGIH: 1000 ppm TWA
OSHA: 1000 ppm TWA; 6100 mg/m3 TWA
NIOSH: 1000 ppm TWA; 6100 mg/m3 TWA

Engineering Controls

Ventilation should effectively remove and prevent buildup of any vapors generated from the handling of this product.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear chemical goggles.

Personal Protective Equipment: Skin

The use of polyvinyl chloride (PVC) or polyvinyl alcohol (PVA) gloves are recommended.

Personal Protective Equipment: Respiratory

If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection. If a large spill occurs, the use of a self-contained breathing apparatus (SCBA) is required.

Personal Protective Equipment: General

Eye wash fountain and emergency showers are recommended. Use good industrial hygiene practices in handling this material.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Clear, colorless	**Odor:**	Slight ethereal
Physical State:	Liquefied gas	**pH:**	Neutral
Vapor Pressure:	235 psia @ 77°F (25°C)	**Vapor Density:**	5.14 (Air = 1) @ 77°F (25°C)
Boiling Point:	-72°F (-58°C)	**Melting Point:**	Not available
Solubility (H2O):	0.03 WT% @ 77°F (25°C)	**Specific Gravity:**	1.5 @ 77°F (25°C)
Percent Volatile:	100%		

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

Stable under normal temperature and pressure. Avoid contact with open flames or temperatures above 1000°F (537°C).

Chemical Stability: Conditions to Avoid

Protect container from heat and physical damage.

Incompatibility

Liquid contact with alkali and alkaline earth metals (powdered aluminum, zinc, beryllium, etc.).

Hazardous Decomposition

Hydrogen fluorides, hydrogen bromides, free bromine and carbonyl halides.

Hazardous Polymerization

Will not polymerize.

*** Section 11 - Toxicological Information ***

Acute and Chronic Toxicity

A: General Product Information

Asphyxiant. The vapors of this product reduce oxygen available for breathing and are heavier than air. Inhalation of the vapors of the product causes central nervous system depression and affects the cardiovascular system. Symptoms include nausea, vomiting, irregular heartbeat, symptoms of drunkenness, disorientation, bluish skin color, suffocation, convulsions and possibly death. Skin or eye contact with the liquid will cause frostbite.

B: Component Analysis - LD50/LC50

bromotrifluoromethane (75-63-8)

Inhalation LC50 Rat: 84000 ppm/15M

Carcinogenicity

A: General Product Information

No carcinogenicity data available for this product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Chronic Toxicity

Lung irritation and degeneration of the liver and kidneys were seen in animals exposed repeatedly by inhalation to lethal or near lethal concentrations. Causes nervous system and cardiovascular system effects.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

No information available for the product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

Environmental Fate

A: General Product Information

Causes harm to the ozone layer. The ozone depleting potential for bromotrifluoromethane is 10.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

This material has not been analyzed.

C: Component Analysis - Ecotoxicity - Aquatic Toxicity

This material has not been analyzed.

* * * Section 13 - Disposal Considerations * * *

US EPA Waste Number & Descriptions

A: General Product Information

Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

* * * Section 14 - Transportation Information * * *

US DOT Information

Shipping Name: Compressed Gas,N.O.S. (Bromotrifluoromethane,Nitrogen)
UN/NA #: UN1956 **Hazard Class:** 2.2 Nonflammable Gas

TDG Information

Shipping Name: Compressed Gas,N.O.S. (Bromotrifluoromethane,Nitrogen)
UN/NA #: UN1956 **Hazard Class:** 2.2 Nonflammable Gas

* * * Section 15 - Regulatory Information * * *

US Federal Regulations

A: General Product Information

This product is listed on the U.S. EPA TSCA Inventory. and the Canadian DSL.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

bromotrifluoromethane (75-63-8)

SARA 313: 1.0 % de minimis concentration

Acute Health: Yes **Chronic Health:** Yes **Fire:** No **Pressure:** Yes **Reactive:** No

State Regulations

A: General Product Information

Other state regulations may apply. Check individual state requirements.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
bromotrifluoromethane	75-63-8	Yes	Yes	Yes	Yes	Yes	Yes

Canadian WHMIS Information

A: General Product Information

This product has been classified in accordance with the Canadian Controlled Products Regulations (CPR) and this MSDS contains all of the information required by the CPR.

B: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
bromotrifluoromethane	75-63-8	1 % (English Item 1632, French Item 1670)

WHMIS Classification: Class A: Compressed Gas
PIC.WHMIS Class A

Additional Regulatory Information

A: General Product Information

No additional information available.

B: Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
bromotrifluoromethane	75-63-8	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

Other Information

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; CPR = Controlled Products Regulations; DOT = Department of Transportation; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; mg/m3 = milligrams per Cubic Meter; MSHA = Mine Safety and Health Administration; NA = Not Applicable or Not Available; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; SARA = Superfund Amendments and Reauthorization Act; TDG = Transport Dangerous Goods; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System.

End of MSDS