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 ***

<table>
<thead>
<tr>
<th>CAS</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-63-8</td>
<td>Bromotrifluoromethane</td>
<td>&lt; 90%</td>
</tr>
<tr>
<td>7727-37-9</td>
<td>Nitrogen</td>
<td>&lt; 10%</td>
</tr>
</tbody>
</table>

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.
Material Name: Recycled Halon 1301 with Nitrogen

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
- **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.
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Material Name: Recycled Halon 1301 with Nitrogen

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 ***

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colorless</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquefied gas</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>235 psia @ 77°F (25°C)</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>-72°F (-58°C)</td>
</tr>
<tr>
<td>Solubility (H2O)</td>
<td>0.03 WT% @ 77°F (25°C)</td>
</tr>
<tr>
<td>Percent Volatile</td>
<td>100%</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight ethereal</td>
</tr>
<tr>
<td>pH</td>
<td>Neutral</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>5.14 (Air = 1) @ 77°F (25°C)</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.5 @ 77°F (25°C)</td>
</tr>
</tbody>
</table>

*** 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.
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**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:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
<th>RI</th>
</tr>
</thead>
<tbody>
<tr>
<td>bromotrifluoromethane</td>
<td>75-63-8</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**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.
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Material Name: Recycled Halon 1301 with Nitrogen

B: Component Analysis - WHMIS IDL

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Minimum Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>bromotrifluoromethane</td>
<td>75-63-8</td>
<td>1% (English Item 1632, French Item 1670)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>TSCA</th>
<th>CAN</th>
<th>EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>bromotrifluoromethane</td>
<td>75-63-8</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
</tr>
</tbody>
</table>

*** 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