



Material Safety Data Sheet

RECYCLED HALON 1301/WITH NITROGEN

SECTION I. IDENTIFICATION

Recycler's/Manufacturer's Name	PACIFIC SCIENTIFIC
Address	1800 Highland Ave Duarte, California 91010
Emergency Phone Number	Infotrack 1 (800) 227-8431
Chemical Name	Trifluorobromomethane/with Nitrogen
Synonyms	Halon 1301 Bromotrifluoromethane Trifluoromethyl Bromide Nitrogen
CAS Numbers	75-63-8 and 7727-37-9
Chemical Family	Halogenated Hydrocarbon and Inert gas
Chemical Formula	CF ₃ Br and N ₂
Molecular Weight	148.9
Issued	June 03, 2005
Supersedes	November 02, 1995

SECTION II. INFORMATION ON COMPONENTS/INGREDIENTS

Components	CAS Number	Percentage
Trifluorobromomethane	75-63-8	<90%
Nitrogen	7727-37-9	<.01%

SECTION III. PHYSICAL DATA

Boiling Point	-57.8 ~C (-71 .95 °F)
Vapor Pressure at 25 °C (77 °F)	235 psia
Vapor Density (Air = 1)	5.14 at 25 cc (77 °F)
Volatility, Vol. %	100 %
Solubility in H ₂ O	0.03 % by weight at 25 °C (77 °F)
Appearance/Odor	Colorless gas with slight odor
Specific Gravity (H ₂ O = 1)	1.54 at 25 °C (77 °F)

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point	Non-flammable
Flammability Limits	Not applicable
LEL	Not applicable
UEL	Not applicable
Extinguishing Media	Halon 1301 and nitrogen is a fire extinguishing agent. Use water to cool fire-exposed cylinders as they may rupture when exposed to heat.
Special Fire Fighting Precautions	Self-contained breathing apparatus and protective clothing should be worn when re-entering unventilated fire areas where the product has been used.
Unusual Fire and Explosion Hazards	When Halon 1301 is discharged onto a fire, it decomposes above 1560 °F (850 °C) releasing hydrogen fluoride, hydrogen bromide, bromine, and small amounts of carbonyl fluoride, and carbonyl bromide. These decomposition products, although harmful if inhaled, are easily detected; only a few parts per million in air cause an unpleasant, acrid odor which acts as a warning to personnel.

SECTION V. REACTIVITY

Chemical Stability	Stable
Conditions to Avoid	None known
Incompatibly/Materials to Avoid	Active metals, fires of metal hydrides, and materials containing own oxygen
Decomposition Products	Hydrogen fluoride, hydrogen bromide
Hazardous Polymerization	Will not occur
Polymerization Conditions to Avoid	None

SECTION VI. SPILLS AND LEAK PROCEDURES

Accidental Leaks or Spills	Evacuate area. Wear protective gear when turning off gas source. Before re-entry, ventilate area, especially low or enclosed places where heavy vapors might collect.
Waste Disposal Considerations	Dispose of in accordance with all Local, State, and Federal regulations. In some regions, discharge for non-fire related events is prohibited. Unused product should be returned for recycling to Pacific Scientific, Duarte, California.

SECTION VII. HEALTH HAZARD DATA

Route of Exposure	Inhalation, skin contact
Potential Health Effects	INHALATION: Overexposure may cause central nervous system depression such as dizziness, confusion, incoordination, drowsiness or unconsciousness. This material may cause heightened sensitivity to circulating epinephrine (adrenaline) compounds resulting in irregular heart beats and sometimes death. SKIN/EYE CONTACT: Evaporation of Halon 1301 on the skin/eye may cause a chilling sensation or even frostbite. Significant skin permeation and subsequent systemic toxicity appears unlikely.
Toxicity Data	inhalation rat ALC (15 minute); 83.2% Canine Cardiac NOAEL = 5.0% Canine Cardiac LOAELt 7.5%
Carcinogenicity	Not listed by ARC, OSHA or ACGIH as a carcinogen
Exposure Limits	OSHA PEL: 1000 ppm, 6100 mg/n, ³ ACGIH TLV: 1000 ppm, 6100 mg/n, ³ NIOSH IDLH: 50,000 ppm
Overexposure Effects	Central nervous system depression and/or heart irregularities
Emergency/First Aid Procedures	INHALATION: Remove to fresh air immediately; keep person calm. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call physician. Administration of epinephrine (adrenaline) is contraindicated in the treatment of overexposure to Halon 1301. SKIN CONTACT: Immediately flush area with large amount of lukewarm, not hot, water, If persistent redness, itching, or burning sensation exists, seek medical attention. EYE CONTACT: Immediately flush affected eye(s) with lukewarm, not hot, water for at least 15 minutes. Consult a physician.

SECTION VIII. SPECIAL PROTECTION/CONTROL MEASURES

Respiratory Protection	Not normally needed if controls are adequate. If needed, use MSHA/NIOSH approved respirator for organic vapors. For high concentrations, confined areas, and oxygen-deficient atmospheres, wear air-supplied mask or self-contained breathing apparatus.
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NOAEL = No Observable Adverse Effect Level

~ LOAEL = Lowest Observable Adverse Effect Level

Ventilation	Ventilate low-lying areas, such as sumps or pits where dense vapors may collect. Use local exhaust to control exposures.
Protective Gloves	Lined butyl gloves
Eye Protection	Chemical splash goggles when handling liquid.
Other Protective Equipment	None required
Handling and Storage Procedures	Store cylinders in cool place, below 125 °F Avoid cylinder damage. Limit exposure to vapors.

SECTION IX. SHIPPING/TRANSPORTATION INFORMATION

DOT Shipping Name	Compressed Gases NOS or Fire Extinguisher
Hazard Class	Non-flammable gas, 2.2
DOT/IMO Label	Non-flammable gas, 2.2
UN Number	1956 or 1044
Reportable Quantity (RQ)	Not established
Packaging Size	Packaged to customer specification in compressed gas cylinders.

SECTION X. ADDITIONAL INFORMATION

SARA/TITLE III HAZARD CATEGORIES AND LISTS	This chemical is 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
Chronic Health	No
Acute Health	Yes
Fire Hazard	No
Pressure Hazard	Yes
Reactivity Hazard	No
Extremely Hazardous Substance	No
CERCLA Hazardous Substance	No
Toxic Chemicals	No

MSDS Preparer: Nolan Kim
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The above information is believed to be correct and the most current information available. It represents the best judgment for proper use and handling of this product under normal conditions. Any use of the product which is not in conformance with this MSDS or which involves using the product in combination with any other product or any other process is the responsibility of the user.