

MATERIAL SAFETY DATA SHEET

Halon 1301

FILE NO.: MSDS1301 A-Gas RemTec
MSDS DATE: December /2012

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Halon 1301
SYNONYMS: BROMOTRIFLUOROMETHANE, R13B1, FREON 13B1, MONOBROMOTRIFLUOROMETHANE
PRODUCT USE: Fire Extinguishant Clean Agent

RECLAIMER: A-Gas RemTec
ADDRESS: 1100 Haskins Road
Bowling Green, OH 43402 USA
WWW.REMTEC.NET
Cage Code: 4LMC6



EMERGENCY PHONE: 1-800-633-8253 PERS in USA
INTERNATION EMERGENCY PHONE: 1-801-629-0667
OTHER CALLS: 1-419-867-8990
FAX PHONE: 1-419-867-3279

PREPARED BY: A-Gas RemTec

SECTION 2: HAZARD IDENTIFICATION

HAZARD CLASSIFICATION: Non Flammable Gas
SIGNAL WORD: WARNING
HAZARD STATEMENT: Gas under pressure.

Frost bite may occur from vapor stream.

Gas weighs less than air. Asphyxiation may occur in small enclosed areas. Inhalation may cause heart thumping, apprehension, lightheadedness, feeling of fainting, dizziness, weakness, loss of consciousness and death in high concentrations. Individuals with preexisting cardiac, respiratory or central nervous system conditions may be susceptible to overexposure.

PICTORIAL: Gas Cylinder



OTHER HAZARDS: Halon is an ozone depleting substance and will harm the ozone layer if released

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME: Bromotrifluoromethane
CHEMICAL FAMILY: Fluorinated Hydrocarbon
CHEMICAL FORMULA: CBrF₃

CAS Number: 75-63-8
PERCENTAGE: greater than 99.0%

SECTION 4: FIRST AID MEASURES

EYES: Immediately flush eyes with water for at minimum of 20 minutes.

SKIN: Flush skin with warm running water for 20 minutes.

INGESTION: Not applicable

INHALATION: Remove victim to fresh air. Give symptomatic and supportive care.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Adrenalin is contraindicated in the treatment of overexposure. Due to possible disturbances of cardiac rhythm, catecholamine drugs, such as spinephrice should only be used with special caution in situation of emergency life support.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE PROPERTIES: Non flammable
FLASH POINT: Not applicable
AUTOIGNITION TEMPERATURE: Not applicable

NFPA HAZARD CLASSIFICATION: 0 = Minimal 1 = Slight 2 = Moderate 3= Serious 4 = Severe

HEALTH: 1

FLAMMABILITY: 0

REACTIVITY: 0



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SECTION 5: FIRE-FIGHTING MEASURES CONTINUED

EXTINGUISHING MEDIA: Halon is a fire extinguishing media. Use extinguishing media appropriate for surrounding fire.

PROTECTIVE EQUIPMENT: General fire fighting protective equipment.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Cylinders are equipped with pressure release devices to vent contents exposed to high temperatures. Cylinders may rupture under fire conditions. Cool cylinders with water spray.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion or heat of fire may produce hazardous decomposition. Gas will decompose in high heat forming toxic gases such as hydrogen bromide, hydrogen fluoride and bromine.

SECTION 6: ACCIDENTAL RELEASE MEASURES

IMMEDIATE RESPONSE: If the release is caused by an open valve and it is safe for operator to close, do so. If possible to transfer the remaining gas in the cylinder in a safe manner to a separate tank, do so. If the release cannot be isolated or closed and it is a significant amount, allow the gas to release in place or safely move cylinder to a safe area. Evacuate area in the event of a significant release in an enclosed area.

ACCIDENTAL RELEASE MEASURES: Keep unwind. Ventilate area, especially low places. Remove open flames and heating elements. Disperse gas with floor level forced air. Gas will evaporate.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Operators should be familiar with CGA pamphlet P-1 Safe Handling of Compressed Gases in Containers. Do not allow cylinders to be stored in areas where heat may rise over 130°F

OTHER PRECAUTIONS: Use properly rated DOT or ASME cylinders/tanks. Do not fill cylinders if inspection date has expired. Cylinders that have been previously filled to inspection expiration date may still be shipped in accordance with CFR.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Proper recovery equipment with trained operator to be utilized.

VENTILATION: Use adequate mechanical ventilation.

RESPIRATORY PROTECTION: If non-routine use or emergency occurs or in low or closed area use Niosh/MSHA approved respirator or supplied air respirator or SCBA, as required. Use in accordance with 20 CFR 1901-134

EYE PROTECTION: Safety glasses with side shields or Chemical splash goggles.

SKIN PROTECTION: Avoid bare skin to protect against frostbite.

HAND AND FOOT PROTECTION: Rubber or Heavy leather gloves and safety shoes when handling cylinders.

WORK HYGIENIC PRACTICES: Wash hands after use and before eating or drinking.

EXPOSURE GUIDELINES:

	<u>ppm</u>	<u>mg/m3</u>
OSHA PEL-TWA:	1000	6100mg/m3
ACGIH TLV-TWA:	1000	6100mg/m3

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquefied Gas under pressure

APPEARANCE: Clear - colorless

ODOR: Faint Ether like

MOLECULAR WEIGHT: 148.91

SPECIFIC GRAVITY (H2O = 1): 1.53 g/MI

MELTING POINT @ 1 ATM: -142.8°F (-172°C)

BOILING POINT: -72°F (-58°C)

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES CONTINUED

EVAPORATION RATE:	Not Applicable	
VAPOR PRESSURE: (mm hgG/0C)	6200	235PSIA @ 77°F (25°C)
CRITICAL PRESSURE:	574.9 psia	
CRITICAL TEMPERATURE:	153°F (67.1°C)	
VAPOR DENSITY (AIR = 1):	5.14 @ 77°F (25°C)	
LIQUID DENSITY:	1.54 @ 77°F (25°C)	
SOLUBILITY IN WATER:	.03% by weight	
AUTO IGNITION TEMPERATURE:	Not Applicable	
DECOMPOSTION TEMPERATURE:	1562°F (850°C)	
VISCOSITY LIQUID:	0.157 mPa.s @ 77°F (25°C)	

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Strong Alkalis, alkali earth metals, fires of metal hydrides &d material containing own oxygen.
STABILITY: Stable

CONDITIONS TO AVOID (STABILITY): Avoid high heat (above 130°F (54°C)) on cylinders.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Thermal decomposition product include hydrogen fluoride, hydrogen bromide, bromine, carbonyl fluoride, and carbonyl bromide.

HAZARDOUS POLYMERIZATION: Not Applicable

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

ROUTES OF ENTRY: Inhalation: Yes Skin: No Ingestion: No

ACUTE TOXICITY: LD50-LC50 Mixture – 1 HR LC50 (RAT) = >700,000 PPM

REPRODUCTIVE/DEVELOPMENT TOXICTY: No effects

CARCINOGENICITY: Not listed as a carcinogen by NTP, IARC, or OSHA

DESCRIPTION OF SYMPOMS: Inhalation of high concentration may lead to unconsciousness and possible death. Effects of overexposure by inhalation may include non specific discomfort, such as nausea, headache, or weakness, or temporary central nervous system depression with effects such as dizziness, headache, confusion, in coordinate, and loss of consciousness. Higher exposures by inhalation may cause temporary alteration the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation.

Individuals with pre-existing diseases of the central nervous or cardiovascular system may have increased susceptibility to the toxicity of excessive exposure.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Halon 1301 is a Class I Ozone Depleting Substance. Halon-1301 has an Ozone Depleting Potential (ODP) of 10.0, an average lifetime of 65 years, and a Global Warming Potential (GWP) of 5600 to 6900

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Send cylinder with residual gas to a halon reclamation facility for recovery and/or disposal. Contact A-Gas RemTec for reclamation or disposal.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: Bromotrifluoromethane, Refrigerant Gas R13B1
HAZARD CLASS: 2.2, Non-Flammable Gas
UN NUMBER: UN1009
PACKING GROUP: Not Applicable
LABEL STATEMENT: Class 2.2 (Non-Flammable)
BOL: UN1009, Bromotrifluoromethane, Refrigerant Gas R13B1, 2.2



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SECTION 14: TRANSPORT INFORMATION CONTINUED

OR if charged with nitrogen

PROPER SHIPPING NAME: Liquefied Gas, Nonflammable charged with nitrogen
HAZARD CLASS: 2.2, Non-Flammable Gas
UN NUMBER: UN1058
PACKING GROUP: Not Applicable
LABEL STATEMENT: Class 2.2 (Non-Flammable)
BOL: UN1058, Liquefied Gas, Nonflammable charged with nitrogen



Other: Avoid transport in vehicles where the load space is not separated from the driver's compartment. Ensure Vehicle driver is aware of the potential hazards of the containers and what action to take in the event of an accident or an emergency.

Prior to transporting cylinders ensure that they are firmly secured and;
Cylinder valve is closed and not leaking
Valve outlet cap nut or plug (if provided) is correctly connected

WATER TRANSPORTATION: Same as above

AIR TRANSPORTATION: Cargo Aircraft Only 150kg maximum net/pkg

U.S. Environmental Protection Agency Clean Air Act Regulations 40CFR Part 82: Label required

WARNING: Contains a substance which harms the public health and environment by destroying the ozone in the upper atmosphere.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): Halon 1301 is listed in the TSCA Inventory

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): Reportable Quantity (RQ): Not Applicable

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

SECTIONS 302/304: Not Applicable

SECTIONS 311/312: Immediate Health: No, Pressure: Yes, Delayed Health: No, Reactivity: No, Fire: No

SECTIONS 313: Releases of Halon 1301 require reporting.

INTERNATIONAL REGULATIONS:

CANADIAN DSL/NDSL: Halon 1301 is on the DSL Inventory

CANADIAN WHMIS: Halon 1301 is categorized as a Controlled Product, Hazard Class A, Compressed Gas.

EINECS LISTING (EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES):

All ingredients of Halon 1301 are listed.

SECTION 16: OTHER INFORMATION

ABBREVIATIONS: DSL – Domestic Substance List
NDSL – Non-Domestic Substance List
WHMIS - Workplace Hazardous Materials Information System

PREPARATION INFORMATION: A-Gas RemTec
DATE PREPARED: December 2012

1DISCLAIMER: Details given in this document are for information purposes only and are believed to be correct. Information is provided without warranty. A-Gas RemTec is not liable for any damage which may result from the use or reliance on this information.