



## Halon 1211 MATERIAL SAFETY DATA SHEET

Trade Name: H3R, INC.	Emergency Telephone No.: CHEMTREC (800) 424-9300 or (703) 527-3887
Prepared By: Safety and Health Department	Date Prepared: March 31, 1998

### SECTION 1 - IDENTITY

Common Name: (used on label) (Trade Name and Synonyms)	Halon 1211, BCF	CAS No.:	N/A
Chemical Name:	Bromochlorodifluoromethane	Chemical Family:	Halogenated Hydrocarbon
Formula:	CF <sub>2</sub> ClBR		

### SECTION 2 - INGREDIENTS

PART A - HAZARDOUS INGREDIENTS				
Principal Hazardous Component(s) (chemical and common name(s)):	Wt. %	CAS No.	ACGIH TLV	Acute Toxicity Data
Bromochlorodifluoromethane	>99	353-59-3	Not listed	ihl rat LC <sub>50</sub> 32 pph/15 M
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p><b>WARNING:</b> Bromochlorodifluoromethane is a substance which harms public health and environment by destroying ozone in the upper atmosphere.</p> </div>				
PART B - OTHER INGREDIENTS				
Other Component(s) (chemical and common name(s)):	Wt. %	CAS No.	ACGIH TLV	Acute Toxicity Data
None	N/A	N/A		N/A

### SECTION 3 - PHYSICAL AND CHEMICAL CHARACTERISTICS (Fire and Explosion Data)

Boiling Point:	26 °F	Specific Gravity (H <sub>2</sub> O = 1):	1.83	Vapor Pressure (mm Hg):	37.5 psi @ 70 °F
Percent Volatile by Volume (%):	100	Vapor Density (Air = 1):	5.7	Evaporation Rate (= 1):	Gas at room temperature
Solubility in Water:	Negligible		Reactivity in Water:	Unreactive	
Appearance and Odor:	Colorless gas, sweet odor.				
Flash Point:	None to boiling	Flammable Limits in Air % by Volume:	N/A	Extinguisher Media:	N/A
Auto-Ignition Temperature:	N/A				
Special Fire Fighting Procedures:	THIS IS A FIRE EXTINGUISHING AGENT. Use water to cool fire-exposed cylinders or other containers. Self-contained breathing apparatus with full facepiece and protective clothing when re-entering unventilated fire areas where product has been used.				
Unusual Fire and Explosion Hazards:	Containers are equipped with pressure and temperature relief devices, but rupture may occur under fire conditions and toxic decomposition by-products may be formed if used in fires over 900 °F.				

### SECTION 4 - PHYSICAL HAZARDS

Stability:	Unstable <input type="checkbox"/>	Conditions to Avoid:	Decomposes under fire conditions above 900 °F.
	Stable <input checked="" type="checkbox"/>		
Incompatibility (Materials to Avoid):	Active metals and fires involving metal hydrides.		
Hazardous Decomposition Products:	Thermal decomposition; BCF begins decomposing at temperatures above 900 °F to give free halogens, halogen acids, and small amounts of carbonyl halides. These by-products have a sharp irritating odor. They are dangerous even in low concentrations, can result in personal injury or death.		
Hazardous Polymerization:	May Occur <input type="checkbox"/>	Conditions to Avoid:	N/A
	Will Not Occur <input checked="" type="checkbox"/>		
NOTE: As used in Ansul extinguishers or cylinders, Halon 1211 is a gas compressed under pressure up to 150 psi at 70 °F.			



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page 2

## SECTION 5 - HEALTH HAZARDS

Threshold Limit Value:	None listed in ACGIH or OSHA. NOTE: The effects of exposure to Halon 1211 should disappear quickly upon removal from exposure.		
Routes of Entry: Eye Contact:	The liquid form of this material can produce chilling sensations and discomfort.		
Skin Contact:	Systemically toxic concentrations are unlikely to be absorbed through the skin in man. Evaporation of liquid from the skin can produce chilling sensations. Skin injury does not result.		
Inhalation:	Exposures to concentrations of this material above 4% for longer than one (1) minute can cause toxic side effects.		
Ingestion:	Ingestion is not likely to occur since this material is gas at room temperature.		
Signs and Symptoms:	Acute Overexposure:	Dizziness, impaired coordination, reduced mental acuity, and cardiac effects above 4% concentration in excess of one minute. Unconsciousness or even death in high concentrations with longer exposures.	
	Chronic Overexposure:	Unknown	
Medical Conditions Generally Aggravated by Exposure:	Cardiac problems.		
Chemical Listed as Carcinogen or Potential:	National Toxicology Program:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	I.A.R.C. Monographs: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
		OSHA: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

## SECTION 6 - EMERGENCY AND FIRST AID PROCEDURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 minutes while holding lids open. If redness, itching or a burning sensation develops, get Medical attention.
Skin Contact:	Wash the material off the skin with copious amounts of soap and water for at least 15 minutes. If redness, itching or a burning sensation develops, get Medical attention.
Inhalation:	Remove victim to fresh air. If cough or other respiratory symptoms occur, consult Medical personnel. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Consult Medical personnel.
Ingestion:	If patient is conscious, give 1 or 2 glasses of warm water to drink and get Medical attention. DO NOT INDUCE VOMITING. Have victim lie down and keep warm.
NOTE TO PHYSICIAN:	Product is an asphyxiant and can induce cardiac muscle sensitization to circulating epinephrine-like compounds. Do NOT give adrenalin or similar sympathomimetic drugs. Do NOT allow victim to exercise until 24 hours following specific exposures. Freeze burns of mucosal tissue can develop following specific exposures.

## SECTION 7 - SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type):	Not normally necessary if controls are adequate. For high concentrations exceeding 4%, or if exposure is prolonged, use positive pressure air-supplied respirator.		
Ventilation:	Local Exhaust:	Recommended to control exposures. See mechanical.	Mechanical (General): Recommended in low areas or indoors where vapors may collect.
Protective Gloves:	Plastic if working with liquid.	Eye Protection:	Chemical goggles recommended. Full faceshield in addition if splashing of liquid form is possible.
Other Protective Clothing or Equipment:	Eye wash and safety showers are good safety practice in work areas when working with liquefied product.		

## SECTION 8 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be Taken in Handling and Storage:	Store as a liquefied compressed gas in DOT approved pressure vessels away from high temperatures. If cylinder is not connected to a system, it must be safety capped to protect against actuation of valve and release of agent.
Other Precautions:	Note incompatibility information in Section 4.
Steps to be Taken in Case Material is Released or Spilled:	Evacuate area; ventilate to outside atmosphere. Cool or remove hot, metal surfaces or source of non-extinguished flames.
Waste Disposal Methods:	Dispose of in compliance with local, state, and federal regulations.

## HAZARDOUS MATERIAL IDENTIFICATION SYSTEM RATINGS

HAZARD INDEX:	__ 2 __	HEALTH
4 Severe Hazard		
3 Serious Hazard	__ 0 __	FLAMMABILITY
2 Moderate Hazard		
1 Slight Hazard	__ 0 __	REACTIVITY
0 Minimal Hazard		

N/A = Not Applicable

NDA = No Data Available