

MATERIAL SAFETY DATA SHEET
29 CFR 1910.1200 OSHA Hazard
Communication Rule Format
Chem-Tel 24 Hour Emergency # 1-800-255-3924

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This product contains oxygen and nitrogen, substances subject to the Pennsylvania Worker and Community Right-To-Know Act.

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 484674 Calibration Check Gas, 2500 ppm Bromochlorodifluoromethane in Air

CHEMICAL NAME - Bromochlorodifluoromethane in Air

ADDITIONAL IDENTITIES - MSA P/N 484674 Calibration Gas, Halon 1211, 2500 ppm in Air

FORMULA - CBrClF₂ in Air

APPLICABLE CHEMICAL CONTENTS

	<u>%</u>	<u>TWA</u>
CBrClF ₂ (CAS 353-59-3)	0.25%	Not Listed
Air	Balance	None

NOTE: Gas Under Pressure, 1000 PSIG at 70°F, Approx. 98 Liters Gas at Atmospheric Pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless, Odorless Gas Mixture

BOILING POINT - N/A

VAPOR PRESSURE - N/A

VAPOR DENSITY (AIR = 1) - >1

SOLUBILITY IN WATER - CBrClF₂ - Insoluble
Oxygen - 3.2 cm³/100 ml (25°C)
Nitrogen - 2.3 cm³/100 ml (0°C)

SPECIFIC GRAVITY (H₂O = 1) - N/A

PERCENT VOLATILE BY VOLUME - N/A

N/A - Not Applicable

PHYSICAL HAZARD INFORMATION

PHYSICAL HAZARD - Compressed Gas, 1000 PSIG at 70°F

CONDITIONS OR MATERIALS TO AVOID - Avoid powdered active metals such as aluminum and magnesium.

FLASH POINT - N/A

LEL - N/A

UEL - N/A

EXTINGUISHING MEDIA - This Calibration Gas Mixture Is Not Flammable

SPECIAL FIRE FIGHTING PROCEDURES - CBrClF₂ decomposes above 900°F yielding toxic halogen compounds. Use self-contained pressure demand type breathing apparatus with full facepiece.

UNUSUAL FIRE AND EXPLOSION HAZARDS - Gas Under Pressure, 1000 PSIG at 70°F. Do Not Exceed 120°F.

HEALTH HAZARDS

HEALTH HAZARDS - No TLV is established for CBrClF₂. One manufacturer reports setting 1000 ppm as 8 hr. TWA for its facilities. RTECS reported toxicity: LClo Rat 32 pph/15M. LC50 Rat 20 pph/15M. Reportedly, exposure to concentrations of CBrClF₂ above 4% for longer than one minute can cause toxic side effects. Reportedly, overexposure of susceptible individuals induces cardiac sensitization to circulating epinephrine compounds and can result in potentially fatal heart irregularities.

SIGNS AND SYMPTOMS OF EXPOSURE - Dizziness, headache, nausea, impaired coordination progressing to unconsciousness or death.

PRIMARY ROUTES OF ENTRY - Inhalation

TARGET ORGANS - Central nervous system; cardiovascular system.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE - No Information

EXPOSURE LIMITS - No TLV established.

CARCINOGENICITY DATA - Component gases are not listed by NIOSH RTECS, OSHA, NTP or IARC.

MUTATION DATA - See RTECS reference

EMERGENCY AND FIRST AID PROCEDURES - Remove victim from exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

SAFE HANDLING AND USE

HYGIENIC PRACTICES - Avoid Breathing Gas

PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT - N/A

PROCEDURES FOR SPILL OR LEAK CLEANUP - Ventilate Area

WASTE DISPOSAL - Do not puncture or incinerate cylinder. Before discarding cylinder, slowly release contents to a safe exhaust.

STORAGE - Store in a cool, dry, well-ventilated area. Do not exceed 120°F.

CONTROL MEASURES

PERSONAL PROTECTIVE EQUIPMENT - Due to the limited amount of gas in the cylinder, and the low release rate employed in instrument calibration, respiratory protection is not indicated under conditions of intended use.

ENGINEERING CONTROLS - Mechanical ventilation is suitable.

WORK PRACTICES - Avoid breathing gas. Use in well-ventilated areas. Follow the calibration procedure detailed in the MSA instruction manual provided with the instrument under calibration.

DATE OF PREPARATION - Rev. 8, June 1999

WARNING: This is a hazardous chemical product. By following the directions and warnings provided with this product, the hazards associated with the use of this product can be greatly reduced but never entirely eliminated. Mine Safety Appliances Company makes no warranties, expressed or implied, with respect to this product and EXPRESSLY DISCLAIMS THE WARRANTY OF MERCHANTABILITY AND ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Users assume all risks in handling, using or storing this product.