

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
 	<p>Toxic compound, do not ingest or inhale. Avoid all contact with this material.</p> <p>Irritating to skin, eyes, and the respiratory system. Readily absorbed through skin.</p> <p>POSSIBLE MUTAGEN. MINIMIZE EXPOSURE.</p>	   

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Bromotrichloromethane</b>		
Catalog Number	B0662	Supplier	TCI America 9211 N. Harborage St. Portland OR 1-800-423-8616
Synonym	Trichlorobromomethane		
Chemical Formula	CBrCl <sub>3</sub>		
CAS Number	75-62-7	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Bromotrichloromethane	75-62-7	Min. 98.0 (GC)	Not available.	Rat LDLo (oral) 100 mg/kg Rat LD <sub>50</sub> (intraperitoneal) 119 mg/kg

## Section III. Hazards Identification

Acute Health Effects	<p>Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death.</p> <p>Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.</p> <p>Readily absorbed through skin.</p> <p>Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.</p>
Chronic Health Effects	<p><b>CARCINOGENIC EFFECTS</b> : Not available.</p> <p><b>MUTAGENIC EFFECTS</b> : Not available.</p> <p><b>TERATOGENIC EFFECTS</b> : Not available.</p> <p><b>DEVELOPMENTAL TOXICITY</b>: Not available.</p> <p>Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</p>

## Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

## Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products include toxic carbon oxides (CO,CO <sub>2</sub> ), halogenated compounds WARNING: Highly toxic HCl gas is produced during combustion.		
Fire Hazards	Not available.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.		

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Emergency phone number (800) 424-9300

Fire Fighting Media  
and Instructions

SMALL FIRE: Use DRY chemical powder.  
LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.  
Consult with local fire authorities before attempting large scale fire-fighting operations.

**Section VI. Accidental Release Measures**Spill Cleanup  
Instructions

Toxic material. Irritating material. Material is readily absorbed through skin. Possibly mutagenic material.  
Stop leak if without risk. DO NOT get water inside container. DO NOT touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition.  
Consult federal, state, and/or local authorities for assistance on disposal.

**Section VII. Handling and Storage**Handling and Storage  
Information

TOXIC. IRRITANT. READILY ABSORBED THROUGH SKIN. POSSIBLE MUTAGEN. Keep locked up. Keep away from heat. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents, alkalis (bases).

**Section VIII. Exposure Controls/Personal Protection**

## Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.

## Personal Protection

Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.



## Exposure Limits

Not available.

**Section IX. Physical and Chemical Properties**

Physical state @ 20°C	Liquid. (Clear, colorless.)	Solubility	Miscible with many organic solvents. Insoluble in water.
Specific Gravity	2.02 (water=1)		
Molecular Weight	198.27	Partition Coefficient	Log P <sub>ow</sub> : 2.5
Boiling Point	100 to 103°C (212 to 217.4°F)	Vapor Pressure	5.2 kPa (@ 20°C)
Melting Point	-6°C (21.2°F) (freezing point)	Vapor Density	6.85 (Air = 1)
Refractive Index	1.504 - 1.508	Volatility	Not available.
Critical Temperature	Not available.	Odor	Chloroform-like.
Viscosity	Not available.	Taste	Not available.

**Section X. Stability and Reactivity Data**

## Stability

This material is stable if stored under proper conditions. (See Section VII for instructions)

## Conditions of Instability

Avoid excessive heat and light.

## Incompatibilities

Reactive with strong oxidizing agents, strong alkalis (bases).

**Section XI. Toxicological Information**

## RTECS Number

PA5400000

## Routes of Exposure

Eye Contact. Ingestion. Inhalation.

## Toxicity Data

Rat LDLo (oral) 100 mg/kg  
Rat LD<sub>50</sub> (intraperitoneal) 119 mg/kg

## Chronic Toxic Effects

**CARCINOGENIC EFFECTS** : Not available.  
**MUTAGENIC EFFECTS** : Not available.  
**TERATOGENIC EFFECTS** : Not available.  
**DEVELOPMENTAL TOXICITY**: Not available.  
Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

## Acute Toxic Effects

Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death.  
Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.  
Readily absorbed through skin.  
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

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Emergency phone number (800) 424-9300

**Section XII. Ecological Information**

Ecotoxicity Not available.

Environmental Fate Although bromotrichloromethane is no longer produced in the United States, it is still used in organic syntheses may result in its release to the environment. If released to the atmosphere, bromotrichloromethane is expected to exist solely as a vapor in the ambient atmosphere based on a measured vapor pressure of 39 mm Hg at 25 deg C. Vapor-phase bromotrichloromethane is expected to degrade slowly in the atmosphere by reaction with photochemically-produced hydroxyl radicals based on its structural similarity to bromotrifluoromethane; the half-life for this reaction in air is estimated to be greater than 44 years. Photolysis may occur based on bromotrichloromethane's structural similarity to other halogenated methane compounds but not at an environmentally important rate. If released to soil, bromotrichloromethane is expected to have low mobility based on an estimated Koc of 567. The potential for volatilization of bromotrichloromethane from dry soil surfaces may exist based on this compound's vapor pressure. Bromotrichloromethane may volatilize from moist soil surfaces based on an estimated Henry's Law constant of 3.7X10<sup>-4</sup> atm-cu m/mole at 25 deg C. Volatilization from water surfaces is expected based on the estimated Henry's Law constant for this compound. Estimated volatilization half-lives from a model river and model lake are 7.4 hours and 6.6 days, respectively. An estimated BCF of 49 suggests the potential for bioconcentration in aquatic organisms is moderate. Based upon the highly halogenated structure of bromotrichloromethane, biodegradation in the environment is expected to be slow. Occupational exposure to bromotrichloromethane may occur through inhalation or dermal contact with this compound in workplaces where it is produced or used. The general population may be exposed to bromotrichloromethane via ingestion of food and drinking water.

**Section XIII. Disposal Considerations**

Waste Disposal Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

**Section XIV. Transport Information**

DOT Classification DOT Class 6.1: Toxic material

PIN Number UN2810

Proper Shipping Name Toxic liquid, organic, n.o.s.

Packing Group (PG) III

DOT Pictograms

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA) This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.

WHMIS Classification (Canada) CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).  
On DSL

EINECS Number (EEC) 200-886-0

EEC Risk Statements R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.  
R36/37/38- Irritating to eyes, respiratory system and skin.

Japanese Regulatory Data ENCS No. 2-6363

**Section XVI. Other Information**

**Version 1.0**  
**Validated on 6/29/2007.**  
**Printed 6/29/2007.**

**Notice to Reader**

TCl laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.