

Common Name: **BORON TRIBROMIDE**

Synonyms: Tribromoborane; Boron Bromide

CAS No: 10294-33-4

 Molecular Formula: BBr<sub>3</sub>

RTK Substance No: 0244

Description: Colorless, fuming liquid with a strong odor

## HAZARD DATA

Hazard Rating	Firefighting	Reactivity
<b>3 - Health</b> <b>0 - Fire</b> <b>2-W - Reactivity</b>  DOT ID #: UN 2692 ERG Guide #: 157 Hazard Class: 8  (Corrosive)	Use dry chemical or CO <sub>2</sub> . DO NOT USE WATER. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Hydrogen Bromide</i> and <i>Boron Oxide</i> . Use water to cool intact containers only.	<b>Boron Tribromide</b> reacts violently and explosively with WATER or STEAM, and decomposes on contact with ALCOHOLS, producing <i>Hydrogen Bromide gas</i> . Mixtures of <b>Boron Tribromide</b> and POTASSIUM or SODIUM can explode on impact. <b>Boron Tribromide</b> is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); ETHERS; PHOSPHORUS; STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE); AMMONIA; and ALKALI METALS. Protect from SHOCK, HEAT and LIGHT.

## SPILL/LEAKS

**Isolation Distance:** 50 to 100 meters  
(160 to 330 feet)

Absorb spill with inert material.  
Do not use water.

Before entering a confined space where **Boron Tribromide** may be present, check to make sure that an explosive concentration does not exist.

Use the explosive limits for *Hydrogen gas*  
(LEL: 4%, UEL: 75%)

## PHYSICAL PROPERTIES

<b>Odor Threshold:</b>	Strong Odor
<b>Flash Point:</b>	Not Combustible
<b>Relative Vapor Density:</b>	8.6 (air = 1)
<b>Relative Density:</b>	2.7 (water =1)
<b>Vapor Pressure:</b>	40 mm Hg at 57°F (14°C)
<b>Water Solubility:</b>	Reacts/Decomposes
<b>Boiling Point:</b>	196°F (91°C)
<b>Ionization Potential:</b>	9.7 eV
<b>Melting Point:</b>	-51°F (-46°C)

## EXPOSURE LIMITS

<b>OSHA:</b>	N/A
<b>NIOSH:</b>	1 ppm Ceiling
<b>ACGIH:</b>	1 ppm Ceiling

## PROTECTIVE EQUIPMENT

<b>Gloves:</b>	No information
<b>Coverall:</b>	DuPont Tychem® BR, LV, Responder®, TK, Reflector®, and ChemFab Challenger® 5200
<b>Boot:</b>	No information
<b>Respirator:</b>	>1 ppm fullface APR with Acid gas cartridges >10 ppm Supplied Air

## HEALTH EFFECTS

<b>Eyes:</b>	Irritation, burns
<b>Skin:</b>	Irritation, burns
<b>Acute:</b>	Cough, shortness of breath, Pulmonary edema
<b>Chronic:</b>	Bronchitis, cough, shortness of breath May affect the nervous system

## FIRST AID AND DECONTAMINATION

<b>Remove</b> the person from exposure.
<b>Flush</b> eyes with large amounts of water for at least 30 minutes.
<b>Remove</b> contact lenses if worn.
<b>Remove</b> contaminated clothing. Wash contaminated skin with soap and water.
<b>Begin</b> artificial respiration if breathing has stopped and CPR if necessary.
<b>Transfer</b> to a medical facility.
<b>Observation</b> is recommended as symptoms may be delayed.