

Common Name: **BROMINE PENTAFLUORIDE**

Synonyms: None

CAS No: 7789-30-2

Molecular Formula: BrF₅

RTK Substance No: 0254

Description: A colorless to pale yellow liquid which becomes a gas at temperatures above 104°F (40°C)

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
4 - Health 0 - Fire 3 - Reactivity DOT#: UN 1745 ERG Guide #: 144 Hazard Class: 5.1 (Oxidizer)	Bromine Pentafluoride is not combustible but it is a STRONG OXIDIZER which enhances the combustion of other substances. Use dry chemical, CO ₂ , or dry sand as extinguishing agents. DO NOT USE WATER or FOAM as Bromine Pentafluoride reacts violently with WATER. POISONOUS GASES ARE PRODUCED IN FIRE including <i>Hydrogen Bromide</i> and <i>Hydrogen Fluoride</i> . CONTAINERS MAY EXPLODE IN FIRE Use water spray to keep fire-exposed containers cool.	Bromine Pentafluoride reacts violently or explosively with WATER; STEAM; ORGANIC COMPOUNDS (such as FUELS); and HYDROGEN CONTAINING MATERIALS (such as AMMONIA and ACETIC ACID). Bromine Pentafluoride reacts with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) and ACID FUMES releasing highly toxic <i>Hydrogen Bromide</i> and <i>Hydrogen Fluoride</i> gas. Bromine Pentafluoride is not compatible with HALOGENS; SALTS; METALS; METAL OXIDES; SELENIUM; SULFUR; and GLASS. Reacts with all chemicals EXCEPT OXYGEN, NITROGEN and RARE GASES (such as HELIUM and ARGON).

SPILL/LEAKS

Isolation Distance:

Small Spills: 30 meters (100 feet)
Large Spills: 215 meters (700 feet)

Cover spilled material with dry sand, dry earth, vermiculite or similar inert material and deposit in sealed containers.

DO NOT GET WATER ON SPILLED MATERIAL.

DO NOT ABSORB IN COMBUSTIBLE ABSORBANTS.

PHYSICAL PROPERTIES

Odor Threshold:	Pungent
Flash Point:	Noncombustible
Relative Vapor Density:	6.05 (air = 1)
Vapor Pressure:	328 mm Hg at 68°F (20°C)
Specific Gravity:	2.46 (water = 1)
Water Solubility:	Decomposes/Reacts
Boiling Point:	106°F (41°C)
Molecular Weight:	174.9

EXPOSURE LIMITS

OSHA:	None
NIOSH:	0.1 ppm, 10-hr TWA
ACGIH:	0.1 ppm, 8-hr TWA
IDLH LEVEL:	No information

PROTECTIVE EQUIPMENT

Gloves:	No information
Coveralls:	DuPont Tychem® Responder®, CSM, and TK for toxic and corrosive vapors and gases
Boots:	No information
Respirator:	>0.1 ppm - Supplied air

HEALTH EFFECTS

Eyes:	Irritation, burns, watery eyes
Skin:	Irritation, burns, discoloration and slow healing ulcers
Acute:	Irritation of the nose, throat and lungs with coughing and shortness of breath
Chronic:	Coughing, phlegm and shortness of breath, headache and dizziness

FIRST AID AND DECONTAMINATION

Remove the person from exposure.

Flush eyes with large amounts of water for at least 30 minutes. Remove contact lenses if worn. Seek medical attention immediately.

Quickly remove contaminated clothing and wash contaminated skin with large amounts of soap and water. Seek medical attention immediately.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer to a medical facility.

Medical observation is recommended as symptoms may be delayed.