

BORON TRIFLUORIDE**ICSC: 0231****Date of Peer
Review:
September
1993**Trifluoroborane
(cylinder)

CAS #	7637-07-2	BF ₃
RTECS #	ED2275000	Molecular mass: 67.8
UN #	1008	
EC #	005-001-00-X	

TYPES OF HAZARD / EXPOSURE	ACUTE HAZARDS / SYMPTOMS	PREVENTION	FIRST AID / FIRE FIGHTING
FIRE	Not combustible.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			In case of fire: cool cylinder by spraying with water but avoid contact of the substance with water.
EXPOSURE		STRICT HYGIENE!	IN ALL CASES CONSULT A DOCTOR!
Inhalation	Corrosive. Burning sensation. Cough. Laboured breathing.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.
Skin	Redness. Burning sensation. Pain. ON CONTACT WITH LIQUID: FROSTBITE.	Protective gloves. Cold-insulating gloves. Protective clothing.	First rinse with plenty of water, then remove contaminated clothes and rinse again. Refer for medical attention.
Eyes	Redness. Pain. Blurred vision.	Face shield or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion		Do not eat, drink, or smoke during work.	
SPILLAGE DISPOSAL		PACKAGING & LABELLING	

<p>Evacuate danger area! Consult an expert! Ventilation. NEVER direct water jet on liquid. Remove fumes with fine water spray. Personal protection: complete protective clothing including self-contained breathing apparatus.</p>	<p>EU Classification Symbol: T+, C R: 14-26-35 S: (1/2-)-9-26-28-36/37/39-45 UN Classification UN Hazard Class: 2.3 UN Subsidiary Risks: 8</p>
<p>EMERGENCY RESPONSE</p>	<p>SAFE STORAGE</p>
<p>Transport Emergency Card: TEC (R)-20G1TC</p>	<p>Fireproof if in building. Separated from alkali metals, alkaline earth metals, alkyl nitrates and lime. Cool.</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div data-bbox="204 701 323 853"> <p>IPCS International Programme on Chemical Safety</p> </div> <div data-bbox="347 714 466 837">  </div> <div data-bbox="481 721 600 831">  </div> <div data-bbox="616 721 734 831">  </div> <div data-bbox="743 725 906 828">  </div> <div data-bbox="911 654 1377 806"> <p>Prepared in the context of cooperation between the International Programme on Chemical Safety and the Commission of the European Communities © IPCS, CEC 2004</p> </div> </div> <p style="text-align: right;">SEE IMPORTANT INFORMATION ON BACK</p>	

BORON TRIFLUORIDE

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IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
COLOURLESS COMPRESSED GAS, WITH PUNGENT ODOUR. FORMS WHITE FUMES IN MOIST AIR.

PHYSICAL DANGERS:
The gas is heavier than air.

CHEMICAL DANGERS:
The substance will polymerize unsaturated compounds. The substance decomposes on contact with water and moisture producing toxic and corrosive fumes including hydrogen fluoride (see ICSC0283), fluoroboric acid and boric acid. Reacts violently with metals such as sodium, potassium and calcium, and with alkyl nitrates. Attacks many metals in presence of water.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 1 ppm (Ceiling value); (ACGIH 2004).
MAK: IIb (not established but data is available) (DFG 2004).

ROUTES OF EXPOSURE:

The substance can be absorbed into the body by inhalation.

INHALATION RISK:

A harmful concentration of this gas in the air will be reached very quickly on loss of containment.

EFFECTS OF SHORT-TERM EXPOSURE:

Corrosive. Lachrymation. The substance is corrosive to the eyes, the skin and the respiratory tract. Inhalation of the gas may cause lung oedema (see Notes). Rapid evaporation of the liquid may cause frostbite.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:

The substance may have effects on the kidneys.

PHYSICAL PROPERTIES

Boiling point: -100°C
Melting point: -127°C
Solubility in water: reaction (see Notes)
Relative vapour density (air = 1): 2.4

ENVIRONMENTAL DATA

This substance may be hazardous to the environment; special attention should be given to aquatic organisms.

NOTES

Boron trifluoride is soluble in cold water, 332 g/100 ml at 0°C. The occupational exposure limit value should not be exceeded during any part of the working exposure. Depending on the degree of exposure, periodic medical examination is suggested. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

Card has been partly updated in April 2005. See sections Occupational Exposure Limits, EU classification, Emergency Response.

ADDITIONAL INFORMATION

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