Right to Know Hazardous Substance Fact Sheet

Emergency Responders Quick Reference

Common Name: **BORON OXIDE**

Synonyms: Boric Anhydride; Diboron Trioxide
CAS No: 1303-86-2
Molecular Formula: B_2O_3
RTK Substance No: 0243
Description: Odorless, colorless or white lump, crystal or granular solid

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
2 - Health **0 - Fire** **1 - Reactivity** **DOT#:** None **ERG Guide #:** None **Hazard Class:** None	Extinguish fire using an agent suitable for type of surrounding fire. **Boron Oxide** itself does not burn. POISONOUS GASES ARE PRODUCED IN FIRE. Use water spray to keep fire-exposed containers cool.	**Boron Oxide** reacts with WATER and MOISTURE to form *Boric Acid*. **Boron Oxide** is not compatible with CALCIUM OXIDE; CALCIUM CHLORIDE; and BROMINE PENTAFLUORIDE. **Boron Oxide** is corrosive to METALS in the presence of *Moist Air* and *Oxygen*.

SPILL/LEAKS

Isolation Distance:

Spill: 25 meters (75 feet)

Fire: 800 meters (1/2 mile)

Collect powdered material in the most convenient and safe manner and place into sealed containers for disposal.

DO NOT wash into sewer.

PHYSICAL PROPERTIES

Odor Threshold:	Odorless
Flash Point:	Noncombustible
Vapor Pressure:	0 mm Hg at 68°F (20°C) (approximate)
Specific Gravity:	2.46 (water = 1)
Water Solubility:	Slightly soluble
Boiling Point:	3,380°F (1,860°C)
Melting Point:	842°F (450°C)
Ionization Potential:	13.5 eV
Molecular Weight:	69.64

EXPOSURE LIMITS

OSHA: 15 mg/m^3, 8-hr TWA
NIOSH: 10 mg/m^3, 10-hr TWA
ACGIH: 10 mg/m^3, 8-hr TWA
IDLH: 2,000 mg/m^3

The Protective Action Criteria values are:

PAC-1 = 30 mg/m^3 PAC-3 = 500 mg/m^3
PAC-2 = 300 mg/m^3

PROTECTIVE EQUIPMENT

Gloves: Nitrile and Natural Rubber

Coveralls: Tyvek®

Respirator: >10 mg/m^3 - Full facepiece APR with High efficiency filters
>30 mg/m^3 - SCBA

HEALTH EFFECTS

Eyes: Irritation

Skin: Irritation

Inhalation: Nose and throat irritation with coughing and wheezing
Headache, dizziness, nausea and vomiting

FIRST AID AND DECONTAMINATION

Remove the person from exposure.

Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn.

Quickly remove contaminated clothing and wash contaminated skin with large amounts of water.

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

Transfer promptly to a medical facility.