



# BORON TRIFLUORIDE

UN 1008

Shipping Name: Boron trifluoride

Other Names: Boron fluoride

Trifluoroboron



- WARNING!** • **POISON! BREATHING THE GAS CAN KILL YOU! SKIN AND EYE CONTACT CAUSES SEVERE BURNS AND BLINDNESS!**
- Fire fighting gear (including SCBA) provides NO protection. If exposure occurs, remove and isolate gear immediately and thoroughly decontaminate personnel

## Hazards:

- Vapors are heavier than air and will collect and stay in low areas
- Odor is not a reliable indicator of the presence of toxic amounts of gas
- Container may explode when exposed to fire
- Reacts with water or moist air to produce hydrofluoric acid
- Combustion and decomposition products upon heating include the toxic gases hydrogen fluoride and fluorine
- Will attack some plastics and rubber coatings
- Contact with liquid may cause frostbite

## Awareness and Operational Level Training

### Response:

- Do not put yourself in danger by entering a contaminated area to rescue a victim
- Stay upwind and uphill
- Determine the extent of the problem
- Isolate the area of release or fire and deny entry
- Evacuate or shelter in place the immediate area and downwind for a large release
- For container exposed to fire evacuate the area in all directions because of the risk of explosion
- Notify local health and fire officials and pollution control agencies
- If contaminated runoff enters waterways, notify downstream users of potentially contaminated water

## Description:

- Colorless compressed gas
- Pungent and irritating odor, may be considered pleasant at low concentrations
- Forms a dense white aerosol mist upon contact with moist air
- Reacts with water to form toxic hydrofluoric acid
- Soluble in water
- Nonflammable
- Vapors are heavier than air and will collect and stay in low areas
- May be stored as an ethyl ether complex that will increase flammability

## Operational Level Training Response:

### RELEASE, NO FIRE:

- Stop the release if it can be done safely from a distance
- Use large amounts of water well away from the material to disperse vapors - contain runoff
- Ventilate confined area if it can be done without placing personnel at risk
- If in a building, evacuate building and confine vapors by closing doors and shutting down HVAC systems

### FIRE:

- Material does not burn; fight surrounding fire with an agent appropriate for the burning material
- If material is not leaking, cool exposed containers with large quantities of water from unattended equipment or remove intact containers if it can be done safely
- If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors or shows any signs of deforming), withdraw immediately to a secure location

## First Aid:

- Do not put yourself in danger by entering a contaminated area to rescue a victim
- Provide Basic Life Support/CPR as needed
- Decontaminate the victim as follows:
  - ◆ Inhalation - remove the victim to fresh air and give oxygen if available
  - ◆ Skin - remove and isolate contaminated clothing (including shoes) and wash skin with soap and large volumes of water for 15 minutes
  - ◆ Eye - rinse eyes with large volumes of water or saline for 15 minutes
- Victims should be examined by a physician as soon as possible
- Frostbite - warm injured area in very warm water
- Toxic effects may be delayed
- For skin burns decontaminate with water and apply a clean dry dressing

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