



# CHLORINE TRIFLUORIDE

UN 1749

Shipping Name: Chlorine trifluoride

Other Names: Chlorine fluoride  
Chlorotrifluoride  
Trifluorochlorine



- 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
  - **DO NOT USE WATER! GAS EXPLODES UPON CONTACT WITH COMBUSTIBLE MATERIAL OR WATER!**

## Hazards:

- Container may explode or BLEVE when exposed to fire
- Gas is heavier than air and will collect and stay in low areas
- Reacts with water to form toxic chlorine gas and hydrofluoric acid
- Corrosive to metals and rubber; reacts vigorously with sand, glass and concrete

## Awareness and Operational Level Training

### Response:

- **DO NOT ATTEMPT RESCUE!**
- Stay upwind and uphill
- Determine the extent of the problem
- **BACK OFF!** - Isolate a wide area around the release, deny entry and call for expert help
- For container exposed to fire evacuate the area in all directions because of the risk of BLEVE or explosion
- Evacuate or shelter in place the immediate area and downwind for a large release
- Notify local health and fire officials and pollution control agencies
- If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated water

## Description:

- Colorless gas above 53° F
- Greenish-yellow fuming liquid below 53° F
- Pungent, sweet odor
- Reacts violently with water producing toxic chlorine gas and hydrofluoric acid
- Nonflammable but may cause combustibles to ignite
- Gas is heavier than air and will collect and stay in low areas

## Operational Level Training Response:

### RELEASE, NO FIRE:

- Stop the release if it can be done safely from a distance
- Prevent material and runoff from entering sewers and waterways if it can be done safely well ahead of the release
- Use large amounts of water well away from the release to disperse gas - 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:

- Do not allow water to come in contact with the material; material does not burn, fight surrounding fire with an agent appropriate (not water or foam) for the material burning
- 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 (unvented container distorts, bulges or shows any other signs of expanding), withdraw immediately to a secure location
- If cylinders are exposed to excessive heat from fire or flame contact, withdraw immediately to a secure location

## First Aid:

- **DO NOT ATTEMPT RESCUE!**
- 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
  - ◆ Swallowed - do not make the victim vomit
- Victims should be examined by a physician as soon as possible
- **Do NOT perform direct mouth to mouth resuscitation; use a bag/mask apparatus**
- Toxic effects may be delayed
- For skin burns decontaminate with water and apply a clean dry dressing

CAS: 7790-91-2