

POTENTIAL HAZARDS

HEALTH

- **TOXIC; may be fatal if inhaled or absorbed through skin.**
- Vapors may be irritating.
- Contact with gas may cause burns and injury.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

FIRE OR EXPLOSION

- Some gases may burn or be ignited by heat, sparks or flames but NOT readily due to low transportation pressures.
- May form explosive mixtures with air.
- Oxidizers may ignite combustibles (wood, paper, oil, clothing, etc.) but NOT readily due to low transportation pressures.
- Vapors may travel to source of ignition and flash back.
- Some of these materials may react violently with water.
- Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices.
- Runoff may create fire hazard.

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Ventilate closed spaces before entering.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

EVACUATION

Spill

- See [Table 1 - Initial Isolation and Protective Action Distances](#).

Fire

- If several small packages (rail or trailer) are involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.



In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product. Please consult the shipping document and/or the ERAP Program Section (page 391).

* **SOME SUBSTANCES MAY ALSO BE FLAMMABLE, CORROSIVE AND/OR OXIDIZING**

EMERGENCY RESPONSE

FIRE

- **DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.**

Small Fire

- Dry chemical, CO₂, water spray or alcohol-resistant foam.
- For UN3515, UN3518, UN3520, **use water only; no dry chemical, CO₂ or Halon®.**

Large Fire

- Water spray, fog or alcohol-resistant foam.
- Do not get water inside containers.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

Fire involving Several Small Packages (rail or trailer)

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL OR LEAK

- Some gases may be flammable. ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- For flammable gases, all equipment used when handling the product must be grounded.
- Fully encapsulating, vapor-protective clothing should be worn for spills and leaks with no fire.
- For oxidizing substances, keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Do not direct water at spill or source of leak.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.

FIRST AID

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim calm and warm.
- Keep victim under observation.
- Effects of contact or inhalation may be delayed.