# GUIDE GASES - OXIDIZING (INCLUDING REFRIGERATED LIQUIDS)

## **POTENTIAL HAZARDS**

### FIRE OR EXPLOSION

- Substance does not burn but will support combustion.
- Some may react explosively with fuels.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Runoff may create fire or explosion hazard.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

### HEALTH

- Vapors may cause dizziness or asphyxiation without warning.
- · Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire may produce irritating and/or toxic gases.

## **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.
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.

## **EVACUATION**

### Large Spill

• Consider initial downwind evacuation for at least 500 meters (1/3 mile).

## Fire

 If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 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).

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## **EMERGENCY RESPONSE**

### FIRE

Use extinguishing agent suitable for type of surrounding fire.

### **Small Fire**

Dry chemical or CO<sub>a</sub>.

### Large Fire

- · Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- · Damaged cylinders should be handled only by specialists.

### Fire involving Tanks

- · 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; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- · ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

## SPILL OR LEAK

- 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.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- · 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.
- Allow substance to evaporate.
- · Isolate area until gas has dispersed.

CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

## 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.
- Administer oxygen if breathing is difficult.
- · Remove and isolate contaminated clothing and shoes.
- Clothing frozen to the skin should be thawed before being removed.
- · In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- · Keep victim calm and warm.