

# GUIDE 124 GASES - TOXIC AND/OR CORROSIVE - OXIDIZING

## POTENTIAL HAZARDS

### HEALTH

- **TOXIC and/or CORROSIVE; may be fatal if inhaled or absorbed through skin.**
- Fire will produce irritating, corrosive and/or toxic gases.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Runoff from fire control or dilution water may cause environmental contamination.

### FIRE OR EXPLOSION

- Substance does not burn but will support combustion.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- These are strong oxidizers and will react vigorously or explosively with many materials including fuels.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Some will react violently with air, moist air and/or water.
- Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

### PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Many gases are heavier than air and will spread along the ground and collect in low or confined areas (sewers, basements, tanks, etc.).
- Ventilate closed spaces before entering, but only if properly trained and equipped.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer **when there is NO RISK OF FIRE.**
- Structural firefighters' protective clothing provides thermal protection **but only limited chemical protection.**

### EVACUATION

#### Immediate precautionary measure

- Isolate spill or leak area for at least 100 meters (330 feet) in all directions.

#### Spill

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

#### Fire

- If tank, rail tank car or highway tank 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.

## EMERGENCY RESPONSE

## FIRE

**CAUTION:** These materials do not burn but will support combustion. Some will react violently with water.

**Small Fire**

- Contain fire and let burn. If fire must be fought, water spray or fog is recommended.
- **Water only; no dry chemical, CO<sub>2</sub> or Halon®.**
- Do not get water inside containers.
- If it can be done safely, move undamaged containers away from the area around the fire.
- Damaged cylinders should be handled only by specialists.

**Fire Involving Tanks**

- Fight fire from maximum distance or use unmanned master stream devices 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 in direct contact with flames.
- For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

## SPILL OR LEAK

- Do not touch or walk through spilled material.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.
- Ventilate the area.

## FIRST AID

Refer to the "General First Aid" section.

**Specific First Aid:**

- Clothing frozen to the skin should be thawed before being removed.



In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product. Please consult the shipping paper and/or the "ERAP" section.



TABLE 3 - INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES FOR LARGE SPILLS FOR DIFFERENT QUANTITIES OF SIX COMMON TIH (PIH IN THE US) GASES														
TRANSPORT CONTAINER	First ISOLATE in all Directions		Then PROTECT persons Downwind during											
			DAY					NIGHT						
			Low wind (< 6 mph = < 10 km/h)		Moderate wind (6-12 mph = 10 - 20 km/h)		High wind (> 12 mph = > 20 km/h)	Low wind (< 6 mph = < 10 km/h)		Moderate wind (6-12 mph = 10 - 20 km/h)		High wind (> 12 mph = > 20 km/h)		
	Meters	(Feet)	Kilometers (Miles)		Kilometers (Miles)		Kilometers (Miles)	Kilometers (Miles)		Kilometers (Miles)				
<b>UN1005 Ammonia, anhydrous / Anhydrous ammonia: Large Spills</b>														
Rail tank car	300	(1000)	1.6	(1.0)	1.2	(0.8)	1.0	(0.6)	4.1	(2.6)	2.1	(1.3)	1.3	(0.8)
Highway tank truck or trailer	150	(500)	0.8	(0.5)	0.5	(0.3)	0.4	(0.3)	1.8	(1.1)	0.7	(0.4)	0.6	(0.4)
Agricultural nurse tank	60	(200)	0.5	(0.3)	0.3	(0.2)	0.3	(0.2)	1.4	(0.9)	0.3	(0.2)	0.3	(0.2)
Multiple small cylinders	30	(100)	0.3	(0.2)	0.2	(0.1)	0.1	(0.1)	0.7	(0.5)	0.3	(0.2)	0.2	(0.1)
<b>UN1017 Chlorine: Large Spills</b>														
Rail tank car	1000	(3000)	9.6	(6.0)	6.3	(3.9)	5.1	(3.2)	11.0+	(7.0+)	8.9	(5.6)	6.5	(4.1)
Highway tank truck or trailer	600	(2000)	5.6	(3.5)	3.3	(2.1)	2.5	(1.6)	6.4	(4.0)	4.7	(2.9)	3.8	(2.4)
Multiple ton cylinders	300	(1000)	1.9	(1.2)	1.3	(0.8)	1.0	(0.6)	3.5	(2.2)	2.3	(1.4)	1.3	(0.8)
Multiple small cylinders or single ton cylinder	150	(500)	1.3	(0.9)	0.7	(0.5)	0.5	(0.3)	2.4	(1.5)	1.2	(0.8)	0.6	(0.4)

**TABLE 3**

"+" means distance can be larger in certain atmospheric conditions