

POTENTIAL HAZARDS

HEALTH

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

FIRE OR EXPLOSION

- Some may burn but none ignite readily.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Some of these materials may react violently with 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.
- For UN1005: Anhydrous ammonia, at high concentrations in confined spaces, presents a flammability risk if a source of ignition is introduced.

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

- For **highlighted materials**: see Table 1 - Initial Isolation and Protective Action Distances.
- For non-highlighted materials: increase the immediate precautionary measure distance, in the downwind direction, as necessary.

Fire

- If tank, rail car or tank truck is 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 paper and/or the ERAP Program Section (page 390).

EMERGENCY RESPONSE

FIRE

Small Fire

- Dry chemical or CO₂.

Large Fire

- Water spray, fog or regular foam.
- If it can be done safely, move undamaged containers away from the area around the fire.
- Do not get water inside containers.
- 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 engulfed in fire.

SPILL OR LEAK

- 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.
- Prevent entry into waterways, sewers, basements or confined areas.
- 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.
- Isolate area until gas has dispersed.

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- **Do not perform mouth-to-mouth resuscitation if victim ingested or inhaled the substance; wash face and mouth before giving artificial respiration. Use 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 liquefied gas, thaw frosted parts with lukewarm water.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- **In case of skin contact with hydrogen fluoride, anhydrous (UN1052), if calcium gluconate gel is available, rinse 5 minutes, then apply gel. Otherwise, continue rinsing until medical treatment is available.**
- Keep victim calm and warm.
- Keep victim under observation.
- Effects of contact or inhalation may be delayed.

			TABLE 1 - INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES											
			SMALL SPILLS						LARGE SPILLS					
			(From a small package or small leak from a large package)						(From a large package or from many small packages)					
			First ISOLATE in all Directions		Then PROTECT persons Downwind during				First ISOLATE in all Directions		Then PROTECT persons Downwind during			
ID No.	Guide	NAME OF MATERIAL	Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
— —	125	CG (when used as a weapon)	150 m	(500 ft)	0.8 km	(0.5 mi)	3.2 km	(2.0 mi)	1000 m	(3000 ft)	7.5 km	(4.7 mi)	11.0+ km	(7.0+ mi)
— —	125	CK (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.4 km	(0.9 mi)	300 m	(1000 ft)	1.4 km	(0.9 mi)	6.1 km	(3.8 mi)
— —	125	DP (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	200 m	(600 ft)	1.0 km	(0.7 mi)	2.4 km	(1.5 mi)
1005	125	Ammonia, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	Refer to table 3					
1005	125	Anhydrous ammonia	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	Refer to table 3					
1008	125	Boron trifluoride	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.5 mi)	400 m	(1250 ft)	2.3 km	(1.4 mi)	5.1 km	(3.2 mi)
1008	125	Boron trifluoride, compressed	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.5 mi)	400 m	(1250 ft)	2.3 km	(1.4 mi)	5.1 km	(3.2 mi)
1048	125	Hydrogen bromide, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.2 mi)	150 m	(500 ft)	1.0 km	(0.6 mi)	3.4 km	(2.1 mi)
1050	125	Hydrogen chloride, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	Refer to table 3					
1052	125	Hydrogen fluoride, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	Refer to table 3					
1069	125	Nitrosyl chloride	30 m	(100 ft)	0.2 km	(0.2 mi)	1.0 km	(0.6 mi)	800 m	(2500 ft)	4.3 km	(2.7 mi)	10.8 km	(6.7 mi)
1076	125	Phosgene	100 m	(300 ft)	0.6 km	(0.4 mi)	2.4 km	(1.5 mi)	500 m	(1500 ft)	2.9 km	(1.8 mi)	9.2 km	(5.7 mi)
1079	125	Sulfur dioxide	100 m	(300 ft)	0.6 km	(0.4 mi)	2.5 km	(1.6 mi)	Refer to table 3					
1079	125	Sulphur dioxide	100 m	(300 ft)	0.6 km	(0.4 mi)	2.5 km	(1.6 mi)	Refer to table 3					
1589	125	Cyanogen chloride, stabilized	300 m	(1000 ft)	1.8 km	(1.2 mi)	6.4 km	(4.0 mi)	1000 m	(3000 ft)	9.7 km	(6.0 mi)	11.0+ km	(7.0+ mi)
1741	125	Boron trichloride (when spilled on land)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	100 m	(300 ft)	0.6 km	(0.4 mi)	1.4 km	(0.9 mi)
1741	125	Boron trichloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	100 m	(300 ft)	1.2 km	(0.8 mi)	3.6 km	(2.2 mi)
1859	125	Silicon tetrafluoride	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	100 m	(300 ft)	0.5 km	(0.3 mi)	1.8 km	(1.2 mi)
1859	125	Silicon tetrafluoride, compressed	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	100 m	(300 ft)	0.5 km	(0.3 mi)	1.8 km	(1.2 mi)
2186	125	Hydrogen chloride, refrigerated liquid	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	Refer to table 3					
2194	125	Selenium hexafluoride	200 m	(600 ft)	1.1 km	(0.7 mi)	3.5 km	(2.2 mi)	600 m	(2000 ft)	3.5 km	(2.2 mi)	7.9 km	(4.9 mi)
2195	125	Tellurium hexafluoride	1000 m	(3000 ft)	5.8 km	(3.6 mi)	10.9 km	(6.8 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
2196	125	Tungsten hexafluoride	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	150 m	(500 ft)	0.8 km	(0.5 mi)	2.7 km	(1.7 mi)
2197	125	Hydrogen iodide, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	150 m	(500 ft)	1.0 km	(0.6 mi)	2.9 km	(1.8 mi)
2198	125	Phosphorus pentafluoride	30 m	(100 ft)	0.2 km	(0.2 mi)	1.0 km	(0.7 mi)	150 m	(500 ft)	1.0 km	(0.6 mi)	3.5 km	(2.2 mi)
2198	125	Phosphorus pentafluoride, compressed	30 m	(100 ft)	0.2 km	(0.2 mi)	1.0 km	(0.7 mi)	150 m	(500 ft)	1.0 km	(0.6 mi)	3.5 km	(2.2 mi)
2417	125	Carbonyl fluoride	150 m	(500 ft)	0.7 km	(0.5 mi)	2.5 km	(1.6 mi)	600 m	(2000 ft)	3.6 km	(2.3 mi)	7.8 km	(4.9 mi)
2417	125	Carbonyl fluoride, compressed	150 m	(500 ft)	0.7 km	(0.5 mi)	2.5 km	(1.6 mi)	600 m	(2000 ft)	3.6 km	(2.3 mi)	7.8 km	(4.9 mi)
2418	125	Sulfur tetrafluoride	100 m	(300 ft)	0.5 km	(0.3 mi)	2.3 km	(1.5 mi)	400 m	(1250 ft)	2.1 km	(1.3 mi)	6.0 km	(3.7 mi)
2418	125	Sulphur tetrafluoride	100 m	(300 ft)	0.5 km	(0.3 mi)	2.3 km	(1.5 mi)	400 m	(1250 ft)	2.1 km	(1.3 mi)	6.0 km	(3.7 mi)
2420	125	Hexafluoroacetone	100 m	(300 ft)	0.7 km	(0.4 mi)	2.7 km	(1.7 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3057	125	Trifluoroacetyl chloride	30 m	(100 ft)	0.2 km	(0.1 mi)	0.9 km	(0.6 mi)	800 m	(2500 ft)	5.2 km	(3.3 mi)	11.0+ km	(7.0+ mi)
3304	125	Compressed gas, poisonous, corrosive, n.o.s.	100 m	(300 ft)	0.5 km	(0.3 mi)	2.5 km	(1.6 mi)	500 m	(1500 ft)	2.9 km	(1.8 mi)	9.2 km	(5.7 mi)
3304	125	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone A)	100 m	(300 ft)	0.5 km	(0.3 mi)	2.5 km	(1.6 mi)	500 m	(1500 ft)	2.9 km	(1.8 mi)	9.2 km	(5.7 mi)
3304	125	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.0 km	(0.7 mi)	400 m	(1250 ft)	2.3 km	(1.4 mi)	5.1 km	(3.2 mi)
3304	125	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	300 m	(1000 ft)	1.6 km	(1.0 mi)	3.2 km	(2.0 mi)
3304	125	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	150 m	(500 ft)	0.8 km	(0.5 mi)	2.0 km	(1.3 mi)
3304	125	Compressed gas, toxic, corrosive, n.o.s.	100 m	(300 ft)	0.5 km	(0.3 mi)	2.5 km	(1.6 mi)	500 m	(1500 ft)	2.9 km	(1.8 mi)	9.2 km	(5.7 mi)
3304	125	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone A)	100 m	(300 ft)	0.5 km	(0.3 mi)	2.5 km	(1.6 mi)	500 m	(1500 ft)	2.9 km	(1.8 mi)	9.2 km	(5.7 mi)
3304	125	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.0 km	(0.7 mi)	400 m	(1250 ft)	2.3 km	(1.4 mi)	5.1 km	(3.2 mi)
3304	125	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	300 m	(1000 ft)	1.6 km	(1.0 mi)	3.2 km	(2.0 mi)
3304	125	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	150 m	(500 ft)	0.8 km	(0.5 mi)	2.0 km	(1.3 mi)
3308	125	Liquefied gas, poisonous, corrosive, n.o.s.	100 m	(300 ft)	0.5 km	(0.3 mi)	2.5 km	(1.6 mi)	500 m	(1500 ft)	2.9 km	(1.8 mi)	9.2 km	(5.7 mi)
3308	125	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone A)	100 m	(300 ft)	0.5 km	(0.3 mi)	2.5 km	(1.6 mi)	500 m	(1500 ft)	2.9 km	(1.8 mi)	9.2 km	(5.7 mi)
3308	125	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.0 km	(0.7 mi)	400 m	(1250 ft)	2.3 km	(1.4 mi)	5.1 km	(3.2 mi)
3308	125	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	300 m	(1000 ft)	1.6 km	(1.0 mi)	3.2 km	(2.0 mi)
3308	125	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	150 m	(500 ft)	0.8 km	(0.5 mi)	2.0 km	(1.3 mi)
3308	125	Liquefied gas, toxic, corrosive, n.o.s.	100 m	(300 ft)	0.5 km	(0.3 mi)	2.5 km	(1.6 mi)	500 m	(1500 ft)	2.9 km	(1.8 mi)	9.2 km	(5.7 mi)
3308	125	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone A)	100 m	(300 ft)	0.5 km	(0.3 mi)	2.5 km	(1.6 mi)	500 m	(1500 ft)	2.9 km	(1.8 mi)	9.2 km	(5.7 mi)
3308	125	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.0 km	(0.7 mi)	400 m	(1250 ft)	2.3 km	(1.4 mi)	5.1 km	(3.2 mi)
3308	125	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	300 m	(1000 ft)	1.6 km	(1.0 mi)	3.2 km	(2.0 mi)
3308	125	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	150 m	(500 ft)	0.8 km	(0.5 mi)	2.0 km	(1.3 mi)
3318	125	Ammonia solution, with more than 50% Ammonia	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	150 m	(500 ft)	0.8 km	(0.5 mi)	2.1 km	(1.3 mi)