

### POTENTIAL HAZARDS

#### HEALTH

- CORROSIVE and/or TOXIC; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
- Fire will produce irritating, corrosive and/or toxic gases.
- Reaction with water may generate much heat that will increase the concentration of fumes in the air.
- Contact with molten substance may cause severe burns to skin and eyes.
- Runoff from fire control or dilution water may cause environmental contamination.

#### FIRE OR EXPLOSION

- **EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE**, some of these materials may burn, but none ignite readily.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff.
- Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated or if contaminated with water.
- Substance may be transported in a molten form.

#### 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.
- 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 in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

##### 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 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 paper and/or the ERAP Program Section (page 390).

### EMERGENCY RESPONSE

#### FIRE

- **When material is not involved in fire, do not use water on material itself.**

##### Small Fire

- Dry chemical or CO<sub>2</sub>.
- If it can be done safely, move undamaged containers away from the area around the fire.

##### Large Fire

- Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply, responders should withdraw.

##### Fire Involving Tanks or Car/Trailer Loads

- Cool containers with flooding quantities of water until well after fire is out.
- Do not get water inside containers.
- 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 damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.

##### Small Spill

- Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
- Use clean, non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.

#### 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 substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Removal of solidified molten material from skin requires medical assistance.
- Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

TABLE 1 - INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

			SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (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)	
1725	137	Aluminum bromide, anhydrous (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)
1726	137	Aluminum chloride, anhydrous (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.5 km	(0.3 mi)	2.0 km	(1.2 mi)
1754	137	Chlorosulfonic acid (with or without sulfur trioxide) (when spilled on land)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.2 km	(0.2 mi)	0.3 km	(0.2 mi)
1754	137	Chlorosulfonic acid (with or without sulfur trioxide) (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.7 km	(0.4 mi)	2.3 km	(1.4 mi)
1754	137	Chlorosulphonic acid (with or without sulphur trioxide) (when spilled on land)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.2 km	(0.2 mi)	0.3 km	(0.2 mi)
1754	137	Chlorosulphonic acid (with or without sulphur trioxide) (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.7 km	(0.4 mi)	2.3 km	(1.4 mi)
1758	137	Chromium oxychloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)
1777	137	Fluorosulfonic acid (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)
1777	137	Fluorosulphonic acid (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)
1806	137	Phosphorus pentachloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.3 km	(0.8 mi)
1808	137	Phosphorus tribromide (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.4 km	(0.3 mi)	1.5 km	(0.9 mi)
1809	137	Phosphorus trichloride (when spilled on land)	30 m	(100 ft)	0.2 km	(0.2 mi)	0.6 km	(0.4 mi)	100 m	(300 ft)	1.0 km	(0.7 mi)	2.1 km	(1.3 mi)
1809	137	Phosphorus trichloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.7 km	(0.4 mi)	2.4 km	(1.5 mi)
1810	137	Phosphorus oxychloride (when spilled on land)	30 m	(100 ft)	0.3 km	(0.2 mi)	0.6 km	(0.4 mi)	100 m	(300 ft)	1.0 km	(0.7 mi)	1.9 km	(1.2 mi)
1810	137	Phosphorus oxychloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.1 km	(1.3 mi)
1828	137	Sulfur chlorides (when spilled on land)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.3 km	(0.2 mi)	0.4 km	(0.3 mi)
1828	137	Sulfur chlorides (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.0 km	(0.6 mi)
1828	137	Sulphur chlorides (when spilled on land)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.3 km	(0.2 mi)	0.4 km	(0.3 mi)
1828	137	Sulphur chlorides (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.0 km	(0.6 mi)
1829	137	Sulfur trioxide, stabilized	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	300 m	(1000 ft)	2.9 km	(1.8 mi)	6.3 km	(4.0 mi)
1829	137	Sulphur trioxide, stabilized	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	300 m	(1000 ft)	2.9 km	(1.8 mi)	6.3 km	(4.0 mi)
1831	137	Sulfuric acid, fuming	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	300 m	(1000 ft)	2.9 km	(1.8 mi)	6.3 km	(4.0 mi)
1831	137	Sulphuric acid, fuming	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	300 m	(1000 ft)	2.9 km	(1.8 mi)	6.3 km	(4.0 mi)
1834	137	Sulfuryl chloride (when spilled on land)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.4 km	(0.3 mi)	60 m	(200 ft)	0.8 km	(0.5 mi)	1.5 km	(0.9 mi)
1834	137	Sulfuryl chloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.4 km	(0.3 mi)	1.6 km	(1.0 mi)
1834	137	Sulphuryl chloride (when spilled on land)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.4 km	(0.3 mi)	60 m	(200 ft)	0.8 km	(0.5 mi)	1.5 km	(0.9 mi)
1834	137	Sulphuryl chloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.4 km	(0.3 mi)	1.6 km	(1.0 mi)
1836	137	Thionyl chloride (when spilled on land)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.2 mi)	30 m	(100 ft)	0.3 km	(0.2 mi)	0.5 km	(0.3 mi)
1836	137	Thionyl chloride (when spilled in water)	100 m	(300 ft)	0.9 km	(0.6 mi)	2.9 km	(1.8 mi)	800 m	(2500 ft)	9.7 km	(6.0 mi)	11.0+ km	(7.0+ mi)
1838	137	Titanium tetrachloride (when spilled on land)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	30 m	(100 ft)	0.3 km	(0.2 mi)	0.5 km	(0.3 mi)
1838	137	Titanium tetrachloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.7 km	(1.0 mi)
2691	137	Phosphorus pentabromide (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)