

POTENTIAL HAZARDS

HEALTH

- **TOXIC:** inhalation, ingestion or skin contact with material may cause severe injury or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause environmental contamination.

FIRE OR EXPLOSION

- Combustible material: may burn but does not ignite readily.
- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.
- Runoff may pollute waterways.
- 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

Small Fire

- Dry chemical, CO₂ or water spray.

Large Fire

- Dry chemical, CO₂, alcohol-resistant foam or water spray.
- If it can be done safely, move undamaged containers away from the area around the fire.
- Dike runoff from fire control for later disposal.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- 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

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

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.
- 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)	
---	153	Buzz (when used as a weapon)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.7 km	(1.1 mi)	400 m	(1250 ft)	2.2 km	(1.4 mi)	8.1 km	(5.0 mi)
---	153	BZ (when used as a weapon)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.7 km	(1.1 mi)	400 m	(1250 ft)	2.2 km	(1.4 mi)	8.1 km	(5.0 mi)
---	153	CN (when used as a weapon)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)
---	153	CS (when used as a weapon)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	100 m	(300 ft)	0.4 km	(0.3 mi)	1.9 km	(1.2 mi)
---	153	DC (when used as a weapon)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	60 m	(200 ft)	0.4 km	(0.3 mi)	1.8 km	(1.1 mi)
---	153	GA (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	100 m	(300 ft)	0.5 km	(0.4 mi)	0.6 km	(0.4 mi)
---	153	GB (when used as a weapon)	60 m	(200 ft)	0.4 km	(0.3 mi)	1.1 km	(0.7 mi)	400 m	(1250 ft)	2.1 km	(1.3 mi)	4.9 km	(3.0 mi)
---	153	GD (when used as a weapon)	60 m	(200 ft)	0.4 km	(0.3 mi)	0.7 km	(0.5 mi)	300 m	(1000 ft)	1.8 km	(1.1 mi)	2.7 km	(1.7 mi)
---	153	GF (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.2 mi)	0.3 km	(0.2 mi)	150 m	(500 ft)	0.8 km	(0.5 mi)	1.0 km	(0.6 mi)
---	153	H (when used as a weapon)	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)
---	153	HD (when used as a weapon)	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)
---	153	HL (when used as a weapon)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	100 m	(300 ft)	0.5 km	(0.3 mi)	1.0 km	(0.6 mi)
---	153	HN-1 (when used as a weapon)	60 m	(200 ft)	0.3 km	(0.2 mi)	0.5 km	(0.3 mi)	200 m	(600 ft)	1.1 km	(0.7 mi)	1.8 km	(1.1 mi)
---	153	HN-2 (when used as a weapon)	60 m	(200 ft)	0.3 km	(0.2 mi)	0.6 km	(0.4 mi)	300 m	(1000 ft)	1.3 km	(0.8 mi)	2.1 km	(1.3 mi)
---	153	HN-3 (when used as a weapon)	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)	0.3 km	(0.2 mi)
---	153	L (Lewisite) (when used as a weapon)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	100 m	(300 ft)	0.5 km	(0.3 mi)	1.0 km	(0.6 mi)
---	153	Lewisite (when used as a weapon)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	100 m	(300 ft)	0.5 km	(0.3 mi)	1.0 km	(0.6 mi)
---	153	Mustard (when used as a weapon)	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)
---	153	Mustard Lewisite (when used as a weapon)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	100 m	(300 ft)	0.5 km	(0.3 mi)	1.0 km	(0.6 mi)
---	153	Sarin (when used as a weapon)	60 m	(200 ft)	0.4 km	(0.3 mi)	1.1 km	(0.7 mi)	400 m	(1250 ft)	2.1 km	(1.3 mi)	4.9 km	(3.0 mi)
---	153	Soman (when used as a weapon)	60 m	(200 ft)	0.4 km	(0.3 mi)	0.7 km	(0.5 mi)	300 m	(1000 ft)	1.8 km	(1.1 mi)	2.7 km	(1.7 mi)
---	153	Tabun (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	100 m	(300 ft)	0.5 km	(0.4 mi)	0.6 km	(0.4 mi)
---	153	Thickened GD (when used as a weapon)	60 m	(200 ft)	0.4 km	(0.3 mi)	0.7 km	(0.5 mi)	300 m	(1000 ft)	1.8 km	(1.1 mi)	2.7 km	(1.7 mi)
---	153	VX (when used as a weapon)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.4 km	(0.2 mi)	0.3 km	(0.2 mi)
2232	153	Chloroacetaldehyde	30 m	(100 ft)	0.2 km	(0.1 mi)	0.3 km	(0.2 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	1.1 km	(0.7 mi)
2232	153	2-Chloroethanal	30 m	(100 ft)	0.2 km	(0.1 mi)	0.3 km	(0.2 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	1.1 km	(0.7 mi)