POTENTIAL HAZARDS

HEALTH

- **TOXIC; may be fatal if inhaled, ingested or absorbed through skin.**
- Inhalation or contact with some of these materials will irritate or burn skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or asphyxiation.
- Runoff from fire control or dilution water may cause environmental contamination.

FIRE OR EXPLOSION

- **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.**

CAUTION: Methanol (UN1230) will burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)

- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks, etc.).
- Vapor explosion and poison hazard indoors, outdoors or in sewers.
- Those substances designated with a **(P)** may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids will float on water.

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 for at least 50 meters (150 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 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

CAUTION: The majority of these products have a very low flash point. Use of water spray when fighting fire may be inefficient.

CAUTION: Methanol (UN1230) will burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)

Small Fire

- Dry chemical, CO_2, water spray or alcohol-resistant foam.

Large Fire

- Water spray, fog or alcohol-resistant foam.
- If it can be done safely, move undamaged containers away from the area around the fire.
- Dike runoff from fire control for later disposal.
- Avoid aiming straight or solid streams directly onto the product.

Fire Involving Tanks or Car/Trailer Loads

- 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.
- 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 master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor-suppressing foam may be used to reduce vapors.

Small Spill

- Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
- Use clean, non-sparking tools to collect absorbed material.

Large Spill

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor, but may not prevent ignition in closed spaces.

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.
- Wash skin with soap and water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to 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)	
1098	**131**	Allyl alcohol	30 m	(100 ft)	0.2 km	(0.1 mi)	0.3 km	(0.2 mi)	60 m	(200 ft)	0.7 km	(0.5 mi)	1.2 km	(0.8 mi)
1135	**131**	Ethylene chlorohydrin	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)	0.1 km	(0.1 mi)
1163	**131**	Dimethylhydrazine, unsymmetrical	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)	100 m	(300 ft)	1.0 km	(0.6 mi)	1.8 km	(1.1 mi)
1239	**131**	Methyl chloromethyl ether	60 m	(200 ft)	0.5 km	(0.3 mi)	1.5 km	(0.9 mi)	300 m	(1000 ft)	3.1 km	(2.0 mi)	5.8 km	(3.6 mi)
1244	**131**	Methylhydrazine	30 m	(100 ft)	0.3 km	(0.2 mi)	0.6 km	(0.4 mi)	100 m	(300 ft)	1.4 km	(0.9 mi)	2.1 km	(1.3 mi)
1259	**131**	Nickel carbonyl	100 m	(300 ft)	1.3 km	(0.8 mi)	5.0 km	(3.1 mi)	1000 m	(3000 ft)	10.8 km	(6.8 mi)	11.0+ km	(7.0+ mi)
1569	**131**	Bromoacetone	30 m	(100 ft)	0.4 km	(0.3 mi)	1.2 km	(0.7 mi)	150 m	(500 ft)	1.6 km	(1.0 mi)	3.2 km	(2.0 mi)
1695	**131**	Chloroacetone, stabilized	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.4 km	(0.3 mi)	0.6 km	(0.4 mi)
2334	**131**	Allylamine	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.4 mi)	150 m	(500 ft)	1.4 km	(0.9 mi)	2.5 km	(1.6 mi)
2337	**131**	Phenyl mercaptan	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)	0.4 km	(0.2 mi)
2382	**131**	Dimethylhydrazine, symmetrical	30 m	(100 ft)	0.2 km	(0.1 mi)	0.3 km	(0.2 mi)	60 m	(200 ft)	0.7 km	(0.5 mi)	1.3 km	(0.8 mi)
2438	**131**	Trimethylacetyl chloride	60 m	(200 ft)	0.5 km	(0.3 mi)	1.0 km	(0.6 mi)	200 m	(600 ft)	2.1 km	(1.3 mi)	3.3 km	(2.1 mi)
2477	**131**	Methyl isothiocyanate	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)	0.4 km	(0.3 mi)
2668	**131**	Chloroacetonitrile	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)	0.4 km	(0.2 mi)
3023	**131**	2-Methyl-2-heptanethiol	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.5 km	(0.4 mi)	0.8 km	(0.5 mi)
3275	**131**	Nitriles, poisonous, flammable, n.o.s.	30 m	(100 ft)	0.3 km	(0.2 mi)	0.7 km	(0.5 mi)	150 m	(500 ft)	1.6 km	(1.0 mi)	2.7 km	(1.7 mi)
3275	**131**	Nitriles, toxic, flammable, n.o.s.	30 m	(100 ft)	0.3 km	(0.2 mi)	0.7 km	(0.5 mi)	150 m	(500 ft)	1.6 km	(1.0 mi)	2.7 km	(1.7 mi)
3279	**131**	Organophosphorus compound, poisonous, flammable, n.o.s.	30 m	(100 ft)	0.4 km	(0.3 mi)	1.1 km	(0.7 mi)	200 m	(600 ft)	2.4 km	(1.5 mi)	4.1 km	(2.6 mi)
3279	**131**	Organophosphorus compound, toxic, flammable, n.o.s.	30 m	(100 ft)	0.4 km	(0.3 mi)	1.1 km	(0.7 mi)	200 m	(600 ft)	2.4 km	(1.5 mi)	4.1 km	(2.6 mi)
3294	**131**	Hydrogen cyanide, solution in alcohol, with not more than 45% Hydrogen cyanide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	200 m	(600 ft)	0.5 km	(0.3 mi)	1.9 km	(1.2 mi)
3383	**131**	Poisonous by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone A)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.5 km	(0.9 mi)	300 m	(1000 ft)	3.1 km	(2.0 mi)	5.8 km	(3.6 mi)
3383	**131**	Toxic by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone A)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.5 km	(0.9 mi)	300 m	(1000 ft)	3.1 km	(2.0 mi)	5.8 km	(3.6 mi)
3384	**131**	Poisonous by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone B)	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)	1.0 km	(0.6 mi)
3384	**131**	Toxic by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone B)	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)	1.0 km	(0.6 mi)
3488	**131**	Poisonous by inhalation liquid, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)	100 m	(300 ft)	0.9 km	(0.6 mi)	2.0 km	(1.2 mi)	400 m	(1250 ft)	4.8 km	(3.0 mi)	7.5 km	(4.7 mi)
3488	**131**	Toxic by inhalation liquid, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)	100 m	(300 ft)	0.9 km	(0.6 mi)	2.0 km	(1.2 mi)	400 m	(1250 ft)	4.8 km	(3.0 mi)	7.5 km	(4.7 mi)
3489	**131**	Poisonous by inhalation liquid, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)	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)	1.0 km	(0.6 mi)
3489	**131**	Toxic by inhalation liquid, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)	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)	1.0 km	(0.6 mi)
3492	**131**	Poisonous by inhalation liquid, corrosive, flammable, n.o.s. (Inhalation Hazard Zone A)	100 m	(300 ft)	0.9 km	(0.6 mi)	2.0 km	(1.2 mi)	400 m	(1250 ft)	4.8 km	(3.0 mi)	7.5 km	(4.7 mi)
3492	**131**	Toxic by inhalation liquid, corrosive, flammable, n.o.s. (Inhalation Hazard Zone A)	100 m	(300 ft)	0.9 km	(0.6 mi)	2.0 km	(1.2 mi)	400 m	(1250 ft)	4.8 km	(3.0 mi)	7.5 km	(4.7 mi)
3493	**131**	Poisonous by inhalation liquid, corrosive, flammable, n.o.s. (Inhalation Hazard Zone B)	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)	1.0 km	(0.6 mi)
3493	**131**	Toxic by inhalation liquid, corrosive, flammable, n.o.s. (Inhalation Hazard Zone B)	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)	1.0 km	(0.6 mi)
3494	**131**	Petroleum sour crude oil, flammable, poisonous	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.2 mi)	60 m	(200 ft)	0.5 km	(0.3 mi)	0.7 km	(0.5 mi)
3494	**131**	Petroleum sour crude oil, flammable, toxic	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.2 mi)	60 m	(200 ft)	0.5 km	(0.3 mi)	0.7 km	(0.5 mi)