

Comet Chemical Company Ltd.

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Materials Safety Data - PERCHLOROETHYLENE

Shipping Name	UN - 1897
Transport of Dangerous Goods Class	TETRACHLOROETHYLENE
WHMIS Class	Class 6.1; Packing Group III
Material Use	D 1B; D 2A solvent, cleaner

1. HAZARDOUS INGREDIENTS	CAS NUMBER	%	TWAEV (ppm)	LD ₅₀ ORAL	(mg/kg) SKIN	LC ₅₀ ppm INHALATION
Tetrachloroethylene	127-18-4	100%	25	2600	3200	4600

2. PHYSICAL CHARACTERISTICS

Odour & Appearance	clear, colourless, liquid with mild pleasant odour
Odour Threshold	50 ppm - WARNING: mild odour does not adequately warn of danger!
Vapour Pressure	14mmHg / 1.9kPa (20°C)
Vapour Density (air = 1)	5.8
Boiling Point	121°C
Freezing Point	-22°C
Specific Gravity	1.62
Water Solubility	0.015% (20°C)

3. FLAMMABILITY & REACTIVITY

Flash Point	not flammable
Autoignition Temperature	not flammable - decomposes above 150°C
Flammable Limits	not flammable
Hazardous Combustion Products	chlorine, hydrogen chloride, phosgene (corrosive gases), carbon monoxide
Firefighting Precautions	as for flammables sustaining fire - firefighters must wear SCBA
Sensitivity to Static Discharge	not sensitive
Sensitivity to Mechanical Impact	not sensitive
Chemical Stability	stable; will not polymerize
Reactive With	strong oxidising agents; barium, beryllium, and lithium
Dangerous Decomposition Products	none apart from "Hazardous Combustion Products" (above)

4. TOXICOLOGY

EFFECTS OF ACUTE EXPOSURE

Skin Contact	defatting, drying, may irritate
Skin Absorption	yes; may be toxic by this route
Eye Contact	severely irritating - may damage eyes
Inhalation	irritating to respiratory system; headache, dizziness, drowsiness, nausea, respiratory failure
Ingestion	headache, dizziness, drowsiness, nausea, vomiting, abdominal pain

(Perchloroethylene, cont'd)

EFFECTS OF CHRONIC EXPOSURE

General	prolonged exposure may cause skin cracking and dermatitis repeated exposure may cause liver and kidney damage, depression, lethargy, cardiac arrhythmia, and reduced fertility at below the LD ₅₀
Sensitising	no
Carcinogenic	experimental tumorigen in rodents at below LD ₅₀ , carcinogen by RTECS criteria
Reproductive Effect	mutagen & teratogen in rodents at 300ppm, but only in the presence of maternal toxicity; no reported effects in humans
Synergistic With	ethyl (grain) alcohol, smoking
Estimated LD ₅₀	4000 mg/kg (oral, dog & cat), 2630 mg/kg (oral, rat), 8000 mg/kg (oral, mouse)
	3200 mg/kg (skin, rabbit)
Estimated LC ₅₀	4600 ppm (inhalation, rat), 5200ppm (inhalation, mouse)

5. PROTECTIVE EQUIPMENT

Hands	"Viton", "Barricade", Trelchem", "Responder", or polyvinyl alcohol gloves
Eyes	safety glasses with side shields or chemical goggles
Respirator	not required if ventilation is adequate (see TWAEV, (1) above), or use organic vapour cartridge
Clothing	chemically resistant (above) apron, nitrile boots, long sleeves, if splashing is anticipated

6. ENVIRONMENT

Leak Precaution	dyke to control spillage and prevent environmental contamination
Handling Spill inert	ventilate contaminated area; recover free liquid with explosion-proof pumps; absorb residue on an sorbent (dry sand, earth) and store in closed containers for disposal
Waste Disposal	do not flush to sewer; must be disposed of in a hazardous waste facility or reclaimed by distillation; incinerate ONLY in an approved facility with flue gas scrubbing & monitoring

7. STORAGE & HANDLING

Store and use in a cool dry environment, away from heat and strong oxidising agents. Use with adequate ventilation. This product should only be used in a vapour degreaser or other closed cleaning apparatus. Ensure good ventilation. *This product is absorbed effectively by an organic vapour respirator cartridge, but workers CANNOT rely on a respirator to protect them. The product's mild pleasant odour will not adequately warn you when the cartridge needs replacement. Never smoke near vapours of this product - the heat of the cigarette converts product vapours into extremely hazardous materials (see 3, above).* Do not cut, drill, weld or grind on or near this container. Avoid contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near the workplace.

8. FIRST AID

SKIN:	Wash with soap and plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or laundered.
EYES:	Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.
INHALATION:	Remove from contaminated area promptly. CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.
INGESTION:	Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, keep victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.

NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The risk and danger of this is greater than the risk of poisoning through absorption of this product. The stomach should be emptied under medical supervision, after the installation of an airway to protect the lungs.

Emergency telephone numbers - weekdays from 8:00 - 5:00 (705) 436-5580
at all other times (800) 567-7455 (Philip Environmental)

Prepared for Comet Chemical Co. Ltd., by Nicholas Morgan, November 2002; Revised August 2005

The information herein is given in good faith but no warranty, expressed or implied is made.

PLEASE ENSURE THAT THIS MSDS IS GIVEN TO AND EXPLAINED TO THE PERSON USING THIS PRODUCT.