

MATERIAL SAFETY DATA SHEET

Perchloroethylene

Section 1 - Chemical Product and Company Identification

MSDS Name:	Perchloroethylene
Synonyms:	Tetrachloroethylene
Company Identification: (INDIA)	Veritas House, 70 Mint Road, Fort, Mumbai - 400 001. INDIA
For information in the INDIA, call:	Tel: +91 - 22 - 2275 5555 / 6184 0000, Fax: +91 - 22 - 2275 5556 / 6184 0001

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
127-18-4	Tetrachloroethylene	99%	204-825-9

Hazard Symbols:	XN N
	
Risk Phrases:	40 51/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Limited evidence of a carcinogenic effect. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential Health Effects

Eye:	Causes mild eye irritation. Causes redness and pain.
Skin:	Causes severe skin irritation. May be absorbed through the skin.
Ingestion:	Aspiration hazard. May cause central nervous system depression, kidney damage, and liver damage. Symptoms may include: headache, excitement, fatigue, nausea, vomiting, stupor, and coma. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.
Inhalation:	Inhalation of vapor may cause respiratory tract irritation. May cause central nervous system effects including vertigo, anxiety, depression, muscle incoordination, and emotional instability.
Chronic:	Possible cancer hazard based on tests with laboratory animals. Prolonged or repeated skin contact may cause defatting and dermatitis. May cause respiratory tract cancer. May cause adverse nervous system effects including muscle tremors and incoordination. May cause liver and kidney damage. May cause reproductive and fetal effects.

Section 4 - First Aid Measures

Eyes:	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin:	Get medical aid if irritation develops or persists. Flush skin with plenty of soap & water.
Ingestion:	If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.
Inhalation:	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Section 5 - Fire Fighting Measures

General Information:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
Extinguishing Media:	Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Section 6 - Accidental Release Measures

General Information:	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:	Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling:	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not reuse this container. Avoid prolonged or repeated contact with skin. Avoid breathing vapors from heated material. Avoid contact with skin and eyes. Keep container tightly closed. Avoid ingestion and inhalation. Use only in a chemical fume hood. Keep away from flames and other sources of high temperatures that may cause material to form vapors.
Storage:	Keep away from heat and flame. Store in a cool, dry place. Do not store in direct sunlight. Keep containers tightly closed.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:	Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Exposure Limits	CAS# 127-18-4: United Kingdom, WEL - TWA: 50 ppm TWA; 345 mg/m ³ TWA United Kingdom, WEL - STEL: 100 ppm STEL; 689 mg/m ³ STEL United States OSHA: 100 ppm TWA; 200 ppm Ceiling Belgium-TWA:25ppm VLE;172mg/m ³ VLE Belgium-STEL:100ppm VLE;695mg/m ³ VLE France - VME: 50 ppm VME; 335 mg/m ³ VME Germany: 50 ppm TWA; 345 mg/m ³ TWA Germany: skin notation Malaysia: 25 ppm TWA; 170 mg/m ³ TWA Netherlands: 35 ppm MAC; 240 mg/m ³ MAC Russia: 10 mg/m ³ TWA (vapour) Spain:25 ppm VLA-ED;172mg/m ³ VLA-ED Spain:100ppm VLA-EC;689 mg/m ³ VLA-EC

Personal Protective Equipment

Eyes:	Wear chemical splash goggles.
Skin:	Wear appropriate protective gloves to prevent skin exposure.
Clothing:	Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.	

Section 9 - Physical and Chemical Properties

Physical State:	Clear liquid
Color:	APHA: 15 max
Odor:	sweetish odor
pH:	Not available
Vapor Pressure:	18mbar @20 deg C
Viscosity:	0.89 mPas @20 deg C
Boiling Point:	120 - 122 deg C @760mmHg
Freezing/Melting Point:	-22 deg C (-7.60°F)
Autoignition Temperature:	Not available
Flash Point:	Not available
Explosion Limits: Lower:	Not available
Explosion Limits: Upper:	Not available
Decomposition Temperature:	
Solubility in water:	0.15 g/l (20°C)
Specific Gravity/Density:	1.625
Molecular Formula:	C2Cl4
Molecular Weight:	165.83

Section 10 - Stability and Reactivity

Chemical Stability:	Stable under normal temperatures and pressures.
Conditions to Avoid:	Incompatible materials, light, excess heat, temperatures above 150°C.
Incompatibilities with Other Materials	Metals, strong oxidizing agents, strong bases, liquid oxygen, nitric acid, sodium hydroxide, dinitrogen tetraoxide.
Hazardous Decomposition Products	Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide.
Hazardous Polymerization	Will not occur.

Section 11 - Toxicological Information

RTECS#:	CAS# 127-18-4: KX3850000
LD50/LC50:	RTECS: CAS# 127-18-4: Draize test, rabbit, eye: 162 mg Mild; Draize test, rabbit, eye: 500 mg/24H Mild; Draize test, rabbit, skin: 810 mg/24H Severe; Draize test, rabbit, skin: 500 mg/24H Mild; Inhalation, mouse: LC50 = 5200 ppm/4H; Inhalation, mouse: LC50 = 35000 mg/m3/4H; Inhalation, mouse: LC50 = 20200 mg/m3/6H; Inhalation, rat: LC50 = 34200 mg/m3/8H; Inhalation, rat: LC50 = 4100 ppm/6H; Oral, mouse: LD50 = 8100 mg/kg;

	Oral, mouse: LD50 = 6400 mg/kg; Oral, rat: LD50 = 2629 mg/kg; Other:
Carcinogenicity:	Tetrachloroethylene - ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans California: carcinogen, initial date 4/1/88 NTP: Suspect carcinogen IARC: Group 2A carcinogen
Other:	See actual entry in RTECS for complete information. Mutagenicity: Ames-test: negative.

Section 12 - Ecological Information

Ecotoxicity:	Fish: Fathead Minnow: LC50: 6.8 mg/l; 96 h Daphnia: Daphnia: EC50: 7,5mg/l; 48h; . Fish: Sheep head minnow: LC50 8.8mg/l; 96h;
Other:	Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	TETRACHLOROETHYLENE	TETRACHLOROETHYLENE	TETRACHLOROETHYLENE
Hazard Class:	6.1	6.1	6.1
UN Number:	1897	1897	1897
Packing Group:	III	III	III
USA RQ: CAS# 127-18-4: 100 lb final RQ; 45.4 kg final RQ			
Marine Pollutant			

Section 15 - Regulatory Information

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: XN N
Risk Phrases:
➤ R 40 Limited evidence of a carcinogenic effect.
➤ R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Phrases:
➤ S 23 Do not inhale gas/fumes/vapour/spray.
➤ S 36/37 Wear suitable protective clothing and gloves.
➤ S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

- CAS# 127-18-4: 3

Canada

- CAS# 127-18-4 is listed on Canada's DSL List

US Federal

- TSCA
- CAS# 127-18-4 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date:	July 24, 2015
----------------------------	---------------

Revision #0 Date	
-------------------------	--

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
