



SAFETY DATA SHEET

PERCHLOROETHYLENE

1.IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product name:	PERCHLOROETHYLENE
Recommended use:	Chemical for industry.
Manufacturer/Supplier:	MODERN CHEMICAL Co.Ltd. 82/80 Soi Eakamai 22 (Nuan-noi) Sukhumvit Road 63, North Klong Ton, Wattana, Bangkok 10110
Telephone No:	0-2715-0897-9, 0-2392-3410-3
Fax No:	0-2715-0908-9, 0-2391-1571-2
Emergency Telephone No:	0-2715-0897-9, 0-2392-3410-3

2. HAZARDS IDENTIFICATION

Label elements

Pictogram



Signal word

Danger

Hazard statement(s)

- 1.) Causes skin irritation.
- 2.) May be fatal if swallowed and enters airways.
- 3.) May cause drowsiness or dizziness.
- 4.) Toxic to aquatic life with long lasting effects.
- 5.) May damage the unborn child. Suspected of damaging fertility.

Precautionary statement(s)

- 1.) Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- 2.) Avoid release to the environment.



- 3.) IF SWALLOWED: call a doctor/physician. Do NOT induce vomiting.
- 4.) IF IN EYES: Rinse cautiously with water for 15 minutes.
- 5.) IF ON SKIN Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym: Carbon bichloride, Carbon dichloride, Ethylene tetrachloride, Tetrachloroethene, Dowper, Perklone

Ingredients	% (w/w)	CAS NO.
PERCHLOROETHYLENE	100	127-18-4

4. FIRST AID MEASURES

General advice:

Show this safety data sheet to the doctor in attendance.

Inhalation:

Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose.

Skin contact:

Remove contaminated clothing and wash affected skin with soap and water. Obtain medical attention. If signs of poisoning appear, treat as for inhalation. Wash contaminated clothing before reuse.

Eye contact:

If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. Obtain medical attention.

Ingestion:

Do not induce vomiting. Keep patient warm, In case of shortness of breath, give oxygen. Apply respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Use water spray, alcohol – resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media:

No data available



Specific hazards arising from Chemicals:

Non-combustible. Vapors heavier than air. Ambient fire may liberate hazardous vapors. The following may develop in event of fire: Hydrochloric acid, phosgene.

Special protective equipment for fire-fighters:

Wear self contained breathing apparatus for fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Remove all sources of ignition. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

Environmental precautions:

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil or vegetation, advise police.

Methods and Material for Containment and Clean Up:

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silicagel). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

7. HANDLING AND STORAGE

Precautions for Safe Handling & Product Transfer:

Work under hood. Do not inhale substance. Avoid generation of vapors/aerosols.

Conditions for Safe Storage & Unsuitable Materials:

Keep tightly closed at room temperature in a dry, cool and well ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible material. Store in original container. Electrical equipment should be protected to the appropriate standard.



8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:	TWA 10 ppm (70 mg/m ³), OEL 6 ppm (40 mg/m ³)
Appropriate Engineering Controls:	The product should only be used in ventilation hoods and fans
Individual Protection Measures	
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment required when vapor/aerosols are generated: Filter A (acc. To DIN 3181)for vapors of organic compounds.
Hand protection:	Handle with gloves. In case full contact wear gloves from viton material, in splash contact wear gloves from nitrile rubber material. The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.
Eye protection:	Goggles giving complete protection to eyes.
Skin and body protections:	Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.
Hygiene measures:	Keep working clothes separately. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form, Color and Odor : liquid, colorless, Ether like	Evaporation rate : 2.8 (n-Bu Acetate = 1)
Melting Point : -22.7 °C	Specific gravity : 1.600-1.630 g/cm ³ at 25 °C
pH : N/A	Solubility in water : Not Soluble
Boiling point : 120 - 125 °C	Viscosity : N/A
Vapour pressure : 19 mbar at 20 °C	Vapour density : 5.7 g/l
Lower explosive limits : N/A	Upper explosive limits : N/A
Auto-ignition temperature : 255 °C	Flash point: N/A
Odour threshold: N/A	Flammability (solid, gas): N/A
Decomposition temperature: N/A	Solubility in other solvents: N/A
n-octanol/water partition coefficient (log P_{ow}): 3.4	



10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under recommended storage conditions.
Reactions:	Plastics
Possibility of Hazardous Reactions:	no data available
Conditions to avoid:	Heating. Formed could be Hydrochloric acid and phosgene.
Materials to avoid:	Alkali metals, alkali earth metals, metals in powder form, alkali hydroxides, nitrogen oxides.
Hazardous decomposition products:	Hydrochloric acid and phosgene. (Hazardous decomposition products from under fire condition)

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	LD50 (oral, rat): 3853 mg/kg LC50 (inhalation, rat): >34 mg/l /4h LD50 (dermal, rabbit): 5040 mg/kg LDLo (oral, human): 5700 mg/kg
Sensitization:	After inhalation: mucosal irritations, dizziness, drowsiness, unconsciousness, pulmonary oedema. After skin contact: Slightly irritations. After eyes contact: slightly irritations. Risk of corneal clouding. After accidental swallowing the substance may pose a risk of aspiration. Passage into the lung (vomiting) can result in a condition resembling pneumonia (chemical pneumonitis). After long term exposure to the chemical: Possible symptoms: dermatitis. Danger of skin absorption. Drying out effect resulting in rough and chapped skin. After absorption: Headache, nausea, vomiting, CNS disorders, narcosis. Damage liver and kidneys.
Chronic toxicity:	Owing possible carcinogenic effects for man. The Sensitization test (guinea pig) is no sensitizing effect.
Further toxicological information:	The product should be handled with the care usual when dealing with chemicals



12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish: LC50 - Onchorhynchus mykiss - 4.99 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 - Daphnia magna - 22 mg/l/48h

Toxicity to algae: No data available

Toxicity to Bacterial: IC5 - Pseudokirchneriella subcapitata – >45 mg/l/18h

Biodegradability Remarks: According to the results of tests of biodegradability this product is considered as being readily biodegradable.

Bioaccumulative Potential: No data available

Mobility: No data available

Affected in any other way: No data available

13. DISPOSAL CONSIDERATIONS

Material Disposal: There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Container Disposal: Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

14. TRANSPORT INFORMATION

ADR/RID

UN-No: 1897

Class: 6.1

Packing group:III

Proper shipping name: TETRACHLOROETHYLENE



IMDG

UN-No: 1897

Class: 6.1

Packing group: III

Ems: F-A S-A

Marine pollutant: P

Proper shipping name: TETRACHLOROETHYLENE

IATA

UN-No: 1897

Class: 6.1

Packing group: III

Proper shipping name: TETRACHLOROETHYLENE

15. REGULATORY INFORMATION

GHS-Labeling

Hazard statement (s):

H351: Suspected of causing cancer.

H411: Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P281: Use personal protective equipment as required.

P273: Avoid release to the environment.

P391: Collect spillage.

P308 + P313: IF exposed or concerned: Get medical advice/attention.

P405: Store locked up.

Hazard symbol(s)

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R - phrase(s):

R40: Limited evidence of a carcinogenic effect.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S - phrase(s):

S23 : Do not breathe vapors.

S36/37: Wear suitable protective clothing and gloves.

S61: Avoid release to the environment. Refer to special instructions/ safety data sheet.



16. Other Information

Modern Chemical Co.,Ltd. provides the information contained herein in good faith but makes no representation as to its comprehensive or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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