

Material Safety Data Sheet TETRACHLOROETHYLENE (PERKLONE)

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers and users of this product. The contents and format of this MSDS are in accordance with EC Commission Directive 91/155EEC.

1. Identification

Chemical Name Tetrachloroethylene
 Chemical Family Halogenated Solvent
 Business Phone No 01224 825394

2. Composition of the Preparation

(This may not be a complete list of components.)

Component Name	Percentage	CAS No	EEC-No
Tetrachloroethylene	> 99%	127-18-4	204-825-9

2.2 Information on Components (The following components are hazardous according to European Union classification criteria.)

Hazardous Component(s) Tetrachloroethylene

3. Hazards Identification - Possible risk of irreversible effects.

Risk Phrases R40 Possible risk of irreversible effects

4. First Aid Measures

Route of Exposure

• Inhalation

- If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

• Skin Contact

- Immediately remove contaminated clothing. Wash skin thoroughly with mild soap/water. Flush with lukewarm water for 15 minutes. Seek medical attention if ill effect or irritation develops. Prolonged contact may defat skin.

• Eye Contact

- In case of eye contact, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention.

• Ingestion

- If swallowed, give lukewarm water (½ litre) if victim completely conscious/alert. DO NOT INDUCE VOMITING/risk of damage to lungs exceeds poisoning risk, Obtain emergency medical attention.

Doctor's Emergency Medical Treatment

If swallowed, do not induce vomiting. Gastric lavage and cathartic indicated.

Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

After adequate first aid no further treatment is required unless symptoms reappear.

5. Fire Fighting Measures

Extinguishing Media

Suitable	Alcohol resistant foam Dry chemical CO ₂ Foam	Not to be Used Other Comments	No applicable information available No additional information available
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Fire and Explosion Hazards

When heated above the flash point, releases flammable vapours. When mixed with air and exposed to ignition source, vapours can burn in open or explode if confined. Vapours may be heavier than air. May travel long distances along ground before igniting and flashing back to vapour source. Fine sprays/mists may be combustible at temperatures below normal flash point.

Special Exposure Hazards

Incomplete combustion may produce carbon monoxide and other toxic gases.

Special Firefighting Procedures

Do not enter fire area without proper protection. Fight fire from safe distance/protected location. Heat may build pressure and rupture closed containers, spreading fire. increasing risk of burns/injuries. Use water spray/fog for cooling. Avoid frothing/steam explosion. Burning liquid may float on water. Although water soluble, may not be practical to extinguish fire by water dilution.

Special Protection Equipment

Notify authorities if liquid enters sewers or public waters.
(See personal protection information elsewhere in this document)

6. Accidental Release Measures

Flammable liquid. Release can cause fire or explosion. Liquids or vapours may ignite. Evacuate and limit access. Equip responders with proper protection. Stop release. Extinguish all ignition sources. Notify fire and environmental authorities. Blanket with Firefighting foam. Prevent flow to sewers/public waters. Impound/recover large land spill. Soak up small spill with inert solids. Use suitable disposal containers. On water, material partially soluble - floats. Contain/recover rapidly to minimise dispersion. Disperse residue to reduce aquatic harm. Report per regulatory requirements.

7. Handling and Storage - Handle in well ventilated Area

General Information

Store only in tightly closed, property vented containers away from heat, sparks, open flame and strong oxidising agents. Use only non-sparking tools. Properly ground containers before beginning transfer. All electrical equipment should be grounded and conform to applicable electric codes and regulatory requirements. Handle empty containers with care. Flammable/combustible residue remains after emptying. Store in property lined steel/stainless steel to avoid slight discoloration from mild steel/copper. Some plastics/rubbers are attacked by Glycol Ethers/Ether Esters. This product will absorb water if exposed to air.

Decontamination Procedures

Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair. Remove all ignition sources. Check atmosphere for explosiveness and oxygen deficiencies. If any residual product may be present, total-encapsulating impervious protective suits, gloves, and boots should be worn. Observe precautions pertaining to confined space entry.

8. Exposure controls / personal protection

Occupational Exposure Limits

Exposure Limit Comments No additional Occupational Exposure Limit information available

Personal Protection

Respiratory Protection

No occupational exposure limits have been developed for this material. Where exposure through inhalation may occur from use, approved respiratory protection equipment is recommended.

Skin Protection

When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn. The equipment must be cleaned thoroughly after each use.

Eye Protection

Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapour. Contact lenses must not be worn.

Industrial Hygiene

Work Practices

Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities.

Promptly remove soiled clothing, wash thoroughly before reuse. Shower after work using plenty of soap and water.

Hygienic Practices

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Others

General room or local exhaust ventilation is usually required.

9. Physical and Chemical Properties

Physical State (at 25°C)	Liquid
Viscosity	No Data Available
Colour	Clear
Vapour Pressure	Comb at 20°C
Odour	Odour Ethereal
Solubility in Water (% weight)	Partial
Change in physical state at 1 bar	
Partition Coefficient (n-Octanol/water)	1.15
Melting Point	< -75°C
Decomposition Point	No Data Available
pH Value	Not applicable
Freezing Point	< -75°C
Flash Point	55°C PMCC
Initial Boiling Point	132°C (at 760 mm Hg)
Autoignition Temperature	255°C
Dry Point	No Data Available
Flammability Limits in Air	1.1 - 12% Vol/Vol
Bulk Density	0.840
Evaporation Rate	.22 (butyl acetate = 1)
Relative Vapour Density	

10. Stability and Reactivity

Stability	Stable
Hazardous Decomposition Products	Incomplete combustion may produce oxides of carbon
Materials to Avoid	Strong acids, Strong oxidisers, Phosphorous Compounds
Conditions to Avoid	Heat, sparks, open flame, and other ignition sources
Other Chemical Reactivity	No additional information available
Hazardous Polymerization	Not expected to occur

11. Toxicological information

Acute Toxicity

Route of Exposure

Inhalation

Overexposure may cause coughing, shortness of breath, dizziness, intoxication and collapse.

Skin Contact

May cause minimal irritation

Skin Absorption

Exposure to this material can result in absorption through skin causing anaesthetic effects.

Eye Contact

Liquid, vapour, and mist may cause discomfort in the eye with persistent conjunctivitis seen as slight excess redness of conjunctiva.

Serious corneal injury is not anticipated.

Ingestion

May cause moderate irritation of the mouth, throat, oesophagus and stomach, with abdominal and chest discomfort, nausea, vomiting, diarrhoea, dizziness and faintness.

Chronic Toxicity

Chronic health Effects

Repeated or prolonged skin contact may defat skin and cause progressive dermatitis and may aggravate pre-existing dermatitis.

Repeated or prolonged exposure to vapours may aggravate asthma and other respiratory conditions.

Overexposure may cause incoordination of movements, speech difficulties, headache, loss of consciousness, and possible liver and kidney damage.

Material Toxicity

No additional toxicology information is available for this material.

Special Health Effects

This material or its emissions may affect the central nervous system and/or aggravate pre-existing disorders.

Prolonged observation may be indicated.

12. Ecological Information

Environmental Data:

Parameter

CATEGORY: ACCUMULATION

Predicted Bioconcentration Factor

Log P <3.0

CATEGORY: DEGRADABILITY

BOD 80% after 28 days OECD 301E

(Closed Bottle Test)

CATEGORY: ECOTOXICITY

 EC₅₀ >1000mg/l Daphnia Magna

 LC₅₀ 560-1000mg/l Poecilia Reticulata

Environmental Comments:

Mobility It is soluble in water. It may enter soil and may contaminate water. It is not expected to adsorb onto soils or sediments. This material is likely to evaporate from dry soil but not from water.

Degradability This material is readily biodegradable.

Accumulation This material is not expected to bioaccumulate.

Ecotoxicity This material is expected to be non-hazardous to aquatic species.

Other Adverse Effects No additional Information available

13. Disposal Considerations

Contaminated product, soil, water may be hazardous waste due to potentially low flash point. Landfill solids at permitted sites. Use registered transporters. Burn concentrated liquids in Systems compatible with water soluble wastes. Avoid flameout's. Assure emissions comply with applicable regulations. Dilute aqueous waste may biodegrade. Avoid overloading/poisoning plant biomass. Assure effluent complies with applicable regulations.

14. Transportation Information

UN No	UN 1993	RID/VSG	3, 1 (a)
ADR/VLG	3, 1 (a)	IMO/IMDG	3, 3
Packing Group	III	ICAO/IATA	3
Packing Group	III		

15. Regulatory Information

EC Labelling

Symbol Flammable, Xi, Irritant

R Phrase(s) R10 - Flammable. R36/38 - Irritating to eyes and skin

S Phrase(s) S16-24-26

16. Other Information

This document is generated for the purpose of distributing health, safety, and environmental data. It is not a specification sheet nor should any displayed data be construed as a specification.

Version Date: December 10th 1998

Note = - Equal

Qualifications: < - Less Than

> - Greater Than

~ - Approximately

?? - Unknown

- Trace

N/P - No Applicable Information Found

N/AP - Not Applicable

N/DA - No Data Available

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Rev Date 01.08.07