

TETRACHLOROETHYLENE

0076
April 2000

CAS No: 127-18-4
RTECS No: KX3850000
UN No: 1897
EC No: 602-028-00-4

1,1,2,2-Tetrachloroethylene
Perchloroethylene
Tetrachloroethene
C₂Cl₄ / Cl₂C=CCl₂
Molecular mass: 165.8

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			

EXPOSURE		STRICT HYGIENE! PREVENT GENERATION OF MISTS!	
Inhalation	Dizziness. Drowsiness. Headache. Nausea. Weakness. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Skin	Dry skin. Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness. Pain.	Safety goggles, face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Abdominal pain. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Give plenty of water to drink. Rest.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Ventilation. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT let this chemical enter the environment. Personal protection: filter respirator for organic gases and vapours.	Xn Symbol N Symbol R: 40-51/53 S: (2-)23-36/37-61 UN Hazard Class: 6.1 UN Pack Group: III Do not transport with food and feedstuffs. Marine pollutant.

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-61S1897 NFPA Code: H2; F0; R0	Separated from metals, (see Chemical Dangers), food and feedstuffs. Keep in the dark. Ventilation along the floor.

IMPORTANT DATA

Physical State; Appearance

COLOURLESS LIQUID, WITH CHARACTERISTIC ODOUR.

Physical dangers

The vapour is heavier than air.

Chemical dangers

On contact with hot surfaces or flames this substance decomposes forming toxic and corrosive fumes (hydrogen chloride, phosgene, chlorine). The substance decomposes slowly on contact with moisture producing trichloroacetic acid and hydrochloric acid. Reacts with metals such as aluminium, lithium, barium, beryllium.

Occupational exposure limits

TLV: 25 ppm as TWA, 100 ppm as STEL; A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued; (ACGIH 2004).

MAK: skin absorption (H); Carcinogen category: 3B; (DFG 2004).

Routes of exposure

The substance can be absorbed into the body by inhalation and by ingestion.

Inhalation risk

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20/C.

Effects of short-term exposure

The substance is irritating to the eyes, the skin and the respiratory tract. If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis. The substance may cause effects on the central nervous system. Exposure at high levels may result in unconsciousness.

Effects of long-term or repeated exposure

Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the liver and kidneys. This substance is probably carcinogenic to humans.

PHYSICAL PROPERTIES

Boiling point: 121/C

Melting point: -22/C

Relative density (water = 1): 1.6

Solubility in water, g/100 ml at 20/C: 0.015

Vapour pressure, kPa at 20/C: 1.9

Relative vapour density (air = 1): 5.8

Relative density of the vapour/air-mixture at 20/C (air = 1): 1.09

Octanol/water partition coefficient as log Pow: 2.9

ENVIRONMENTAL DATA

The substance is toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment.

NOTES

Depending on the degree of exposure, periodic medical examination is suggested.

The odour warning when the exposure limit value is exceeded is insufficient.

Do NOT use in the vicinity of a fire or a hot surface, or during welding.

An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert.

Card has been partly updated in April 2005. See section Occupational Exposure Limits.

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible