

1,1,1,2-TETRACHLORO-2,2-DIFLUOROETHANE

1420

November 2003

CAS No: 76-11-9
RTECS No: KI1425000

1,1-Difluoro-1,2,2,2-tetrachloroethane
CFC-112a
 $C_2Cl_4F_2$ / ClF_2CCCl_3
Molecular mass: 203.8

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			
Inhalation	Cough. Sore throat. Laboured breathing. Shortness of breath. Cardiac arrhythmia. Confusion. Drowsiness. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention. See Notes.
Skin		Protective gloves.	Rinse and then wash skin with water and soap.
Eyes		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Sweep spilled substance into covered containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.	

EMERGENCY RESPONSE	STORAGE
	See Chemical Dangers. Well closed.

IMPORTANT DATA

Physical State; Appearance

COLOURLESS TO WHITE SOLID IN VARIOUS FORMS, WITH CHARACTERISTIC ODOUR.

Chemical dangers

On contact with hot surfaces or flames this substance decomposes forming toxic fumes including hydrogen chloride, hydrogen fluoride and phosgene. Reacts with alkali metals, powdered aluminium, magnesium and zinc. Attacks plastic, rubber and coatings.

Occupational exposure limits

TLV: 500 ppm as TWA; (ACGIH 2003).
MAK: 1000 ppm, 8500 mg/m³; Peak limitation category: II(8); (DFG 2003).

Routes of exposure

The substance can be absorbed into the body by inhalation of its vapour.

Inhalation risk

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20/C; on spraying or dispersing, however, much faster.

Effects of short-term exposure

Inhalation of the substance at high levels may cause lung oedema (see Notes). The substance may cause effects on the cardiovascular system and central nervous system, resulting in cardiac disorders and central nervous system depression. Exposure could cause lowering of consciousness.

PHYSICAL PROPERTIES

Boiling point: 91.5/C
Melting point: 40.6/C
Density: 1.65 g/cm³ at 25/C
Solubility in water: none

Vapour pressure, kPa at 20/C: 5.3
Relative vapour density (air = 1): 7.0
Octanol/water partition coefficient as log Pow: 3.41

ENVIRONMENTAL DATA

This substance may be hazardous in the environment; special attention should be given to its impact on the ozone layer.

NOTES

Do NOT use in the vicinity of a fire or a hot surface, or during welding.
The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential.

ADDITIONAL INFORMATION

LEGAL NOTICE

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