

4. CHEMICAL AND PHYSICAL INFORMATION

4.1 CHEMICAL IDENTITY

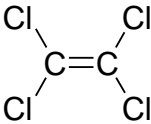
The chemical identity of tetrachloroethylene is shown in Table 4-1.

4.2 PHYSICAL AND CHEMICAL PROPERTIES

The physical and chemical properties of tetrachloroethylene are shown in Table 4-2.

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Table 4-1. Chemical Identity of Tetrachloroethylene

Characteristic	Information	Reference
Chemical name	Tetrachloroethylene	HSDB 2013
Synonym(s)	Ethylene tetrachloride; per; PERC; perchlor; perchloroethylene; perk; 1,1,2,2-tetrachloroethylene; tetrachloroethene; tetrachloroethylene; PCE	HSDB 2013; NIOSH 2013
Registered trade name(s)	Ankilostin; Antisal 1; Dee-Solve; Didakene; Dow-per; ENT 1860; Fedal-Un; Nema; Perclene; Percosolv; Perklone; PerSec; Tetlen; Tetracap; Tetraleno; Tetravec; Tetroguer; Tetropil; Perawin; Tetralex; Dowclene EC	OHM/TADS 1990
Chemical formula	C ₂ Cl ₄	HSDB 2013
Chemical structure		HSDB 2013
Identification numbers:		
CAS registry	127-18-4	HSDB 2013
NIOSH RTECS	kx3850000	HSDB 2013
EPA hazardous waste	U210	HSDB 2013
OHM/TADS	7216847	OHM/TADS 1990
DOT/UN/NA/IMDG shipping	UN1897; IMO 6.1	HSDB 2013
HSDB	49 403 55	HSDB 2013
NCI	NCI-C04580	HSDB 2013

CAS = Chemical Abstracts Service; DOT/UN/NA/IMDG = Department of Transportation/United Nations/North America/International Maritime Dangerous Goods Code; EPA = Environmental Protection Agency; HSDB = Hazardous Substances Data Bank; NCI = National Cancer Institute; NIOSH = National Institute for Occupational Safety and Health; OHM/TADS = Oil and Hazardous Materials/Technical Assistance Data System; RTECS = Registry of Toxic Effects of Chemical Substances

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Table 4-2. Physical and Chemical Properties of Tetrachloroethylene

Property	Information	Reference
Molecular weight	165.83	Lide 2008
Color	Colorless	HSDB 2013
Physical state	Liquid (at room temperature)	HSDB 2013
Melting point	-22.3°C	Lide 2008
Boiling point	121.3°C	Lide 2008
Density at 20 °C	1.6230 g/mL	Lide 2008
Odor	Ethereal	HSDB 2013
Odor threshold:		
Water	0.3 ppm	EPA 1987
Air	1.0 ppm	EPA 1987
Solubility:		
Water at 25 °C	206 mg/L	HSDB 2013
Organic solvents	Miscible with alcohol, ether, chloroform, benzene, solvent hexane, and most of the fixed and volatile oils	HSDB 2013
Partition coefficients:		
Log K _{ow}	3.40	HSDB 2013
Log K _{oc}	2.2–2.54	Friesel et al. 1984; Seip et al. 1986;
Vapor pressure at 20 °C	18.5 mmHg	HSDB 2013
Henry's law constant at 25 °C	1.8x10 ⁻² atm-m ³ /mol	Gossett 1987
Autoignition temperature	No data	
Flashpoint	None	HSDB 2013
Flammability limits	Nonflammable	HSDB 2013
Conversion factors	1 mg/L = 147.4 ppm; 1 ppm = 6.78 mg/m ³	HSDB 2013
Explosive limits	No data	