4. CHEMICAL AND PHYSICAL INFORMATION

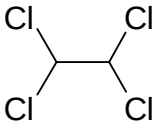
4.1 CHEMICAL IDENTITY

Information regarding the chemical identity of 1,1,2,2-tetrachloroethane is located in Table 4-1.

4.2 PHYSICAL AND CHEMICAL PROPERTIES

Information regarding the physical and chemical properties of 1,1,2,2-tetrachloroethane is located in Table 4-2.

Table 4-1. Chemical Identity of 1,1,2,2-Tetrachloroethane

Characteristics	Information	References
Chemical name	1,1,2,2-Tetrachloroethane	Lide 2005
Synonyms	Tetrachloroethane; acetylene tetrachloride; dichloro-2,2-dichloroethane; s-tetrachloroethane	ChemID 2004
Trade names	Bonoform, Cellon, Westron, Acetosol	ChemID 2004; HSDB 2006
Chemical formula	$C_2H_2Cl_4$	O'Neil et al. 2001
Chemical structure		Lide 2005
Identification numbers:		
CAS registry	79-34-5	ChemID 2004
NIOSH RTECS	KI8575000	RTECS 2006
EPA hazardous waste	U209	RTECS 2006
OHM/TADS	8100014	HSDB 1995
DOT/UN/NA/IMCO shipping	UN 1702; IMO 6.1	HSDB 2006
HSDB	123	HSDB 2006
NCI	NCI-C03554	RTECS 2006

CAS = Chemical Abstracts Service; DOT/UN/NA/IMCO -Department of Transportation/United Nations/North America/ Intergovernmental Maritime Consultive Organization; EPA = Environmental Protection Agency; HSDB = Hazardous Substance Data Bank; NCI = National Cancer Institute; NIOSH = National Institute for Occupational Safety and Health; OHM/TADS = Oil and Hazardous Materials/Technical Assistance Data Base; RTECS = Registry of Toxic Effects of Chemical Substances

Table 4-2. Physical and Chemical Properties of 1,1,2,2-Tetrachloroethane

Property	Tetrachloroethane	References
Molecular weight	167.85	O'Neil et al. 2001
Color	Colorless	Lewis 2001
Physical state	Liquid	Lewis 2001
Melting point	-42.4 °C	O'Neil et al. 2001
Boiling point	116.7 °C	Lide 2005
Density (20 °C)	1.6	Lewis 2001
Odor	Sweetish, suffocating, chloroform-like	O'Neil et al. 2001
Odor threshold		
Water	0.5 ppm	Amoore and Hautala 1983
Air	1.5 ppm	Amoore and Hautala 1983
Solubility		
Water at 25 °C	$2.83x10^3$ mg/L	Horvath et al. 1999
Organic solvents	Miscible with methanol, ethanol, benzene, ether, petroleum ether, carbon tetrachloride, chloroform, carbon disulfide, dimethylformamide, oils	O'Neil et al. 2001
Partition coefficients		
Log octanol/water	2.39	Hansch et al. 1995
K_{oc}	46, 83, 118, 173, 216, 240	Borisover and Graber 1997; Chiou et al. 1979; Chu and Chan 2000; Valsaraj et al. 1999
Vapor pressure		
25 °C	4.62 mmHg	AIChE 1995
Henry's law constant		
atm/m^3-molecule at 25 °C	$3.67x10^{-4}$ $atm-m^3/mol$	Leighton and Calo 1981
Conversion factors		
ppm (v/v) to mg/m^3 in air (20 °C)	1 ppm=6.98 mg/m^3	Verschueren 2001
mg/m^3 to ppm (v/v) in air (20 °C)	1 mg/m^3=0.14 ppm	Verschueren 2001
Bioconcentration factor		
BCF	8, 2	ASTER 1995; Barrows et al. 1980