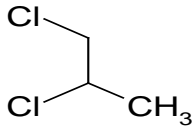


CHAPTER 4. CHEMICAL AND PHYSICAL INFORMATION

4.1 CHEMICAL IDENTITY

Data pertaining to the chemical identity of 1,2-dichloropropane are listed in Table 4-1.

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

Characteristic	Information	Reference
Chemical name	1,2-Dichloropropane	MacBean 2010
Synonym(s)	Propylene dichloride; propylene chloride; PDC; dichloro-1,2- propane; DCP; alpha, beta-dichloropropane; alpha, beta propylene dichloride; dichloropropane	ChemIDplus 2017; MacBean 2010; OECD 2006
Registered trade name(s)	Nematox; Vidden D; Dowfume EB-5; 1,2-D; D-D; Telone; Telone II; Component of: D-D Mixture; Nemex; Vidden D; Vorlex	Ali et al. 1986; Bennett 1981; EPA 1995; NPIRS 2017; OECD 2006
Chemical formula	C ₃ H ₆ Cl ₂	MacBean 2010
Chemical structure		ChemIDplus 2017
Identification numbers:		
CAS Registry Number	78-87-5; 26198-63-0 racemic mixture	ChemIDplus 2017; Haynes et al. 2014

^aIncludes names of those products which contain 1,2-dichloropropane in a mixture of compounds.

CAS = Chemical Abstracts Service

4.2 PHYSICAL AND CHEMICAL PROPERTIES

The physical and chemical properties of 1,2-dichloropropane are presented in Table 4-2.

4. CHEMICAL AND PHYSICAL INFORMATION

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

Property	Information	Reference
Molecular weight	112.98	O'Neil et al. 2013
Color	Colorless	OECD 2006
Physical state	Liquid	Haynes et al. 2014
Melting point	-100.44°C Freezes at -70°C	Langer et al. 2011 MacBean 2010
Boiling point	96.3°C	Larranga et al. 2016
Density at 20°C	1.1583	Larranga et al. 2016
Odor	Chloroform-like	Larranga et al. 2016
Odor threshold:		
Water	0.010 ppm (w/v)	Amoore and Hautala 1983
Air	0.25 ppm (v/v)	Amoore and Hautala 1983
Solubility:		
Water at 20°C	2,700 mg/L	MacBean 2010
Water at 25°C	2,800 mg/L	Horvath 1982
Organic solvents	Soluble in ethanol, diethyl ether, benzene, and chloroform	Haynes et al. 2014
Partition coefficients:		
Log K _{ow}	1.98	EPA 2012
Log K _{ow}	2.28	MacBean 2010
Log K _{oc}	1.67	EPA 2012
Vapor pressure at 20°C	53.3 mm Hg (25°C)	EPA 2012
Henry's law constant at 25°C	2.82x10 ⁻³ at 25°C 2.07x10 ⁻³ atm-m ³ /mol (24°C) 1.67x10 ⁻³ atm-m ³ /mol (24°C)	EPA 1987a Mackay and Yeun 1983 Chiou et al. 1980
Autoignition temperature	557°C	Larranga et al. 2016
Flashpoint	16.1°C 21°C (open cup)	Larranga et al. 2016 O'Neil et al. 2013
Conversion factors	1 mg/m ³ =0.21 ppm (v/v)	
Explosive limits	In air: 3.4–14.5 vol %	Langer et al. 2011