

3. CHEMICAL AND PHYSICAL INFORMATION

3.1 CHEMICAL IDENTITY

Information regarding the chemical identity of chloroethane is located in Table 3-1.

3.2 PHYSICAL AND CHEMICAL PROPERTIES

Information regarding the physical and chemical properties of chloroethane is located in Table 3-2.

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TABLE 3-1. Chemical Identity of Chloroethane

Characteristic	Information	Reference
Chemical name	Ethyl chloride; chloroethane	Lide 1993
Synonym(s)	Aethylis chloridum; chlorethyl; ether chloratus; ether hydrochloric; ether muriatic; ethyl chloride; monochloroethane, chloroethane	HSDB 1997
Registered trade name(s)	Anadynon; Chelen; Chlorylanesthetic; Kelene; Narcotile	HSDB 1997
Chemical formula	C ₂ H ₅ Cl	Budavari 1989
Chemical structure	CH ₃ -CH ₂ -Cl	Lide 1993
Identification numbers:		
CAS registry	75-00-3	OHM/TADS 1998
NIOSH RTECS	KH7525000	RTECS 1998
EPA hazardous waste	C266	Mitre Corp. 1987
OHM/TADS	7216712	OHM/TADS 1998
DOT/UN/NA/IMO shipping	UN 1037; IMO 2.3	HSDB 1997
HSDB	533	HSDB 1997
NCI	CO6224	RTECS 1998

CAS = Chemical Abstract Service; DOT/UN/NA/IMO = Department of Transportation/United Nations/North America/International Maritime Organization; 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 Material/Technical Assistance Data; RTECS = Registry of Toxic Effects of Chemical Substances

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TABLE 3-2. Physical and Chemical Properties of Chloroethane

Property	Information	Reference
Molecular weight	64.52	Budavari 1989
Color	Colorless	Morris and Tasto 1979
Physical state	Gas	Budavari 1989
Melting point	-138.7°C	Budavari 1989
Boiling point	32.5°C at 2 atm	Budavari 1989
Specific gravity	0.9214@0°C/4°C	HSDB 1997
Vapor density	0.8970 (20/4°C)	Morris and Tasto 1979
Odor	Ethereal, pungent	HSDB 1997
Odor threshold:		
Water	0.019 ppm (w/v)	Amoore and Hautala 1983
Air	4.2 ppm (v/v) (11.3 g/L)	Amoore and Hautala 1983
Solubility:		
Water at 20°C	0.574 g/100 mL	Budavari 1989
Organic solvent(s)	Alcohol: 48.3 g/100 mL; miscible with ether	Budavari 1989
Partition coefficients:		
Log K _{ow}	1.43	Hansch and Leo 1985; HSDB 1997
Log K _{oc}	1.52 (estimated using equation 4-7)	Lyman 1982
K _{oc}	143; 33 (using Log K _{oc} of 1.52)	Lyman 1982
Vapor pressure:		
At 20°C	1,008 mmHg	Daubert and Danner 1985
Henry's law constant:		
At 25°C	1.11x10 ⁻² atm•m ³ /mole (24.8 °C)	Gossett 1987
Autoignition temperature	519°C	Morris and Tasto 1979
Flashpoint:		
Open cup	-43°C	Budavari 1989
Closed cup	-50°C	Budavari 1989
Explosive limits in air	3.6–14.8 volume %	Budavari 1989
Conversion factors:		Budavari 1989
ppm (v/v) to mg/m ³ in air (20°C)	ppm (v/v) × 2.68 = mg/m ³	
mg/m ³ to ppm in air (20°C)	mg/m ³ × 0.373 = ppm (v/v)	

v = volume; w = weight

