

CHAPTER 4. CHEMICAL AND PHYSICAL INFORMATION

4.1 CHEMICAL IDENTITY

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

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

Characteristic	Information	Reference
Chemical name	1,2-Dibromoethane	Windholz 1983
Synonym(s) and registered trade name(s)	Ethylene dibromide; dibromoethane; ethylene bromide; ethane, 1,2-dibromo-; EDB; α -, β -dibromoethane; sym-dibromoethane; glycol bromide; glycol dibromide; 1,2-dibromoethano (Italian); bomoro ei etile (Italian); 1,2-dibroomethaan (Dutch); althylenbromid (German); dibromure d'ethylene (French); dwubromoetan (Polish); Bromofume; Dowfume W85; Dowfume EDB; Dowfume 40, W-10, W-15, W-40; Dowfume MC-2; Iscobrome D; ENT 15, 349; Netis; Pestmaster EDB-85; Santryuum; Unifume; EDB-85; Fumogas; Icopfume soilbrom-85; soilfume; DBE	HSDB 1989; Weiss 1986; Windholz 1983
Chemical formula	$C_2H_4Br_2$; $BrCH_2CH_2Br$	Windholz 1983
Chemical structure	$\begin{array}{c} H & H \\ & \\ Br-C & -C-Br \\ & \\ H & H \end{array}$	
CAS Registry Number	106-93-4	Weiss 1986

CAS = Chemical Abstracts Service

4.2 PHYSICAL AND CHEMICAL PROPERTIES

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

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

Property	Information	Reference
Molecular weight	187.86	Weiss 1986
	187.88	Windholz 1983
	188.0	NIOSH 1985
Color	Colorless	Weiss 1986
Physical state at 15°C, 1 atm	Liquid	Weiss 1986
Melting point	10°C	NIOSH 1978
Boiling point	131–132°C	Windholz 1983
Density at 25°C	2.172 g/cm ³	Windholz 1983
Odor	Mild sweet odor, like chloroform	Weiss 1986
Odor threshold:		
Water	No data	
Air	No data	
Solubility:		
Water at 20°C	0.4 g/100 g water	Weiss 1986
Water at 25°C	0.429 g/100 g water	Parrish 1983
Organic solvents	Miscible with alcohol, ether	Windholz 1983
Partition coefficients:		
Log K _{ow}	86	Steinberg et al. 1987
Log K _{oc}	66	Rogers and Mcfarlane 1981
Vapor pressure at 25°C	11 mmHg	Windholz 1983
Henry's law constant at 20°C	8.2x10 ⁻⁴ atm m ³ /mol	Rathbun and Tai 1986
Autoignition temperature	Not flammable	Weiss 1986
Flashpoint	Not flammable	Weiss 1986
Flammability limits	Not flammable	Weiss 1986
Conversion factors	No data	
Explosive limits	No data	