

### 3. CHEMICAL AND PHYSICAL INFORMATION

#### 3.1 CHEMICAL IDENTITY

The chemical formula, structure, synonyms, and identification numbers for 1,2-dibromoethane are listed in Table 3-1.

#### 3.2 PHYSICAL AND CHEMICAL PROPERTIES

Important physical and chemical properties of 1,2-dibromoethane are listed in Table 3-2.

## 3. CHEMICAL AND PHYSICAL INFORMATION

TABLE 3-1. Chemical Identity of 1,2-Dibromoethane

Characteristic	Information	Reference
Chemical name	1,2-Dibromoethane	Windholz 1983
Synonyms	Ethylene dibromide; dibrom- oethane; ethylene bromide; ethane, 1,2-dibromo-; EDB; $\alpha$ -, $\beta$ -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)	HSDB 1989; Weiss 1986; Windholz 1983
Trade names	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	HSDB 1989; Weiss 1986; Windholz 1983
Chemical Formula	$C_2H_4Br_2$ $BrCH_2CH_2Br$	Windholz 1983 Windholz 1983
Chemical structure	$  \begin{array}{c}  H & H \\    &   \\  Br-C & -C-Br \\    &   \\  H & H  \end{array}  $	

## 3. CHEMICAL AND PHYSICAL INFORMATION

TABLE 3-1 (Continued)

Characteristic	Information	Reference
Identification numbers:		
CAS registry	106-93-4	Weiss 1986
NIOSH RTECS	NIOSH/KH 9275000	NIOSH 1985
EPA hazardous waste	U067	HSDB 1989
OHM/TADS	7216716	HSDB 1989
DOT/UN/NA/IMCO shipping	DOT 1605; UN 1605; IMO 6.1	HSDB 1989
HSDB	536	HSDB 1989
NCI	COO522	HSDB 1989

CAS - Chemical Abstracts Services; DOT/UN/NA/IMCO - 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 Chemicals Substances

## 3. CHEMICAL AND PHYSICAL INFORMATION

TABLE 3-2. Physical and Chemical Properties of 1,2-Dibromoethane

Property	Information	Reference
Molecular weight	187.86 187.88 188.0	Weiss 1986 Windholz 1983 NIOSH 1985
Color	Colorless	Weiss 1986
Physical state at 15°C, 1 atm	Liquid	Weiss 1986
Melting point (centigrade)	10°C	NIOSH 1978
Boiling point (centigrade)	131°-132°C	Windholz 1983
Density at 25°C	2.172 g/cm <sup>3</sup>	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	NIOSH 1978
Water at 25°C	0.429 g/100 g water	Parrish 1983
Organic solvents	Miscible with alcohol, ether	Windholz 1983
Partition coefficients:		
Octanol/water	86	Steinberg et al. 1987
K <sub>oc</sub>	66	Rogers and McFarlane 1981
Vapor pressure at 25°C	11 mmHg	Windholz 1983
Henry's law constant: at 20°C	8.2x10 <sup>-4</sup> atm m <sup>3</sup> /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	