

3. CHEMICAL AND PHYSICAL INFORMATION

3.1 CHEMICAL IDENTITY

Table 3-1 lists common synonyms, trade names and other pertinent identification information for BCME.

3.2 PHYSICAL AND CHEMICAL PROPERTIES

Table 3-2 lists important physical and chemical properties of BCME.

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TABLE 3-1. Chemical Identity of BCME

Property	Value	References
Chemical Name	Bis(chloromethyl) ether	NLM 1988
Synonyms	Oxybis(chloromethane); dichlorodimethyl ether; monochloromethyl ether	NLM 1988
Trade Name (s)	--(a)	
Chemical Formula	C ₂ H ₄ Cl ₂ O	Weast 1985
Chemical Structure	$ \begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{Cl}-\text{C}-\text{O}-\text{C}-\text{Cl} \\ \quad \\ \text{H} \quad \text{H} \end{array} $	
Identification Numbers:		
CAS Registry	542-88-1	NLM 1988
NIOSH RTECS	KN1575000	HSDB 1988
EPA Hazardous Waste	P016	NLM 1988
OHM-TADS	8200174	HSDB 1988
DOT/UN/NA/IMCO Shipping	UN2249	NLM 1988
HSDB	501	NLM 1988
NCI	--(a)	

CAS - Chemical Abstracts Service

NIOSH - National Institute for Occupational Safety and Health

RTECS - Registry of Toxic Effects of Chemical Substances

OHM-TADS - Oil and Hazardous Materials/Technical Assistance Data System

DOT/UN/NA/IMCO - Department of Transportation/United Nations/North America/

International Maritime Dangerous Goods Code

HSDB - Hazardous Substances Data Bank

NCI - National Cancer Institute

(a)-- = No data located.

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TABLE 3-2. Physical and Chemical Properties of BCME

Property	Value	References
Molecular weight	114.96	Weast 1985
Color	colorless	Windholz 1983
Physical state	liquid	Windholz 1983
Melting point, °C	-41.5	Weast 1985
Boiling point, °C	104	Weast 1985
Density, 20/4	1.328	Weast 1985
Odor	--(a)	
Odor threshold		
Water	--	
Air, ppm	--	
Solubility		
Water, mg/L, 25°C	22,000 ^(b)	Mabey et al. 1982
Organic solvents	miscible	Weast 1985
Partition coefficients		
Log octanol/water	-0.38 ^(b)	Mabey et al. 1982
Log k_{oc}	0.08	Mabey et al. 1982
Vapor pressure, mm Hg, 20°C	30	Mabey et al. 1982
Henry's law constant, atm-m ³ /mol	2.1×10^{-4}	Mabey et al. 1982
Autoignition temperature, °C	--	
Flash point, °C	19	HSDB 1988
Flammability limits	--	
Conversion factors		
ppm (v/v) to mg /m ³ in air (20°C)	1 ppm = 4.7 mg/m ³ 1 mg/m ³ = 0.21 ppm	ACGIH 1986

(a)-- = data not located.

(b) Calculated values. Due to the rapid hydrolysis of BCME in water, significant concentrations in water would not be expected to occur.

