

7. REGULATIONS AND ADVISORIES

The international, national, and state regulations and guidelines regarding chloroethane in air and water are summarized in Table 7-1.

IARC considers chloroethane to be a Group 3 carcinogen, not classifiable (IARC 1991). A carcinogenic assessment of chloroethane has not been completed by the EPA (IRIS 1997). ACGIH considers chloroethane to be an animal carcinogen of unknown relevance to humans (ACGIH 1998).

Toxicity data for chloroethane are limited to inhalation data. Therefore, estimates of safe exposure concentrations are only available for air. The QSHA permissible exposure limit (PEL) for chloroethane is 1,000 ppm (OSHA 1998). ACGIH recommends an occupational exposure threshold limit value timeweighted average (TLV-TWA) of 100 ppm (skin) (ACGIH 1998).

ATSDR has derived an acute-duration inhalation MRL of 15 ppm with an uncertainty factor of 100, based on a NOAEL of 1,504 ppm for fetotoxicity in mice that was observed at 4,946 ppm (Scortichini et al. 1986). The EPA reference concentration (RfC) of 10 mg/m³ (4 ppm) is based on the same study. EPA used uncertainty factors of 10 to account for sensitive populations, 3 for interspecies extrapolation with dosimetric adjustment of the inhaled concentration, and 10 for database deficiencies (the lack of a multigeneration study).

7. REGULATIONS AND ADVISORIES

TABLE 7-1. Regulations and Guidelines Applicable to Chloroethane

Agency	Description	Information	References
<u>INTERNATIONAL</u>			
IARC	Carcinogenic classification	Group 3 ^a	IARC 1991
<u>NATIONAL</u>			
Regulations:			
a. Air:			
OSHA	Permissible Exposure Limit–Time Weighted Average	1,000 ppm (2,600 mg/m ³)	OSHA 1998 (29 CFR 1910.1000)
b. Other:			
EPA	Reportable Quantity	45.4 kg (100 pounds)	EPA 1998b (40 CFR 302.4)
	Required Reporting Under Title III SARA	Yes	EPA 1998c (40 CFR 372)
	Designated as a hazardous substance	No	EPA 1998a (40 CFR 116.4)
Guidelines:			
a. Air:			
ACGIH	TLV-TWA	100 ppm (skin) (264 mg/m ³)	ACGIH 1998
EPA	Carcinogenic Classification RfC (inhalation)	Group A3 ^b 10 mg/m ³ (4 ppm)	ACGIH 1998 IRIS 1997
b. Water:			
EPA	MCLG	None listed	EPA 1998f
	MCL	None listed	EPA 1998f
	Health Advisories:		EPA 1998f
	1-day (child)	None listed	
	10-day (child)	None listed	
	Longer Term (child and adult)	None listed	
	Lifetime	None listed	
	DWEL	None listed	EPA 1998f
b. Other:			
ACGIH	Biological Exposure Index	None listed	ACGIH 1998
EPA	RfD (oral)	None listed	EPA 1998f

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**TABLE 7-1. Regulations and Guidelines Applicable to Chloroethane
(continued)**

Agency	Description	Information	References
<u>STATE</u>			
Regulations:			
a. Air:			
	Acceptable Ambient Air Concentrations		
Connecticut	(30 minute)	$2.60 \times 10^5 \mu\text{g}/\text{m}^3$	CT DEP 1998
	(8 hour)	$5.20 \times 10^4 \mu\text{g}/\text{m}^3$	
Florida	(8 hour)	$5.20 \times 10^4 \mu\text{g}/\text{m}^3$	NATICH 1994
	(24 hour)	$1.25 \times 10^4 \mu\text{g}/\text{m}^3$	
Idaho	(24-hour)	$1.32 \times 10^5 \mu\text{g}/\text{m}^3$	ID DHW 1998
Louisiana	(8 hour)	$6.29 \times 10^4 \mu\text{g}/\text{m}^3$	NATICH 1994
Massachusetts	(24 hour)	$7.18 \times 10^2 \mu\text{g}/\text{m}^3$	NATICH 1994
	(1 year)	$3.59 \times 10^2 \mu\text{g}/\text{m}^3$	
North Dakota	(8 hour)	$2.64 \times 10^4 \mu\text{g}/\text{m}^3$	NATICH 1994
Nevada	(8 hour)	$6.40 \times 10^4 \mu\text{g}/\text{m}^3$	NATICH 1994
New Hampshire	(24 hour)	$1.00 \times 10^4 \mu\text{g}/\text{m}^3$	NH SDES 1998
	(1 year)	$1.00 \times 10^4 \mu\text{g}/\text{m}^3$	
New York	(1 year)	$5.20 \times 10^4 \mu\text{g}/\text{m}^3$	NATICH 1994
Oklahoma	(24 hour)	$2.60 \times 10^5 \mu\text{g}/\text{m}^3$	NATICH 1994
South Carolina	(24-hour)	$2.64 \times 10^4 \mu\text{g}/\text{m}^3$	SC DHEC 1998
Texas	(30 minute)	$5.00 \times 10^2 \mu\text{g}/\text{m}^3$	NATICH 1994
	(20 minute)	$2.60 \times 10^4 \mu\text{g}/\text{m}^3$	
	(1 year)	$5.00 \times 10^1 \mu\text{g}/\text{m}^3$	
	(1 year)	$2.60 \times 10^3 \mu\text{g}/\text{m}^3$	
Virginia	(24 hour)	$4.40 \times 10^4 \mu\text{g}/\text{m}^3$	NATICH 1994
Washington	(24 hour)	$1.00 \times 10^4 \mu\text{g}/\text{m}^3$	WA DE 1998
Wisconsin	(1 year)	$1.00 \times 10^4 \mu\text{g}/\text{m}^3$	NATICH 1994

^aIARC Group 3: not classifiable

^bACGIH Group A3: animal carcinogen of unknown relevance to humans

ACGIH = American Conference of Governmental Industrial Hygienists; DWEL = drinking water equivalent level; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; MCL = maximum contaminant level; MCLG = maximum contaminant level goal; NATICH = OSHA = Occupational Safety and Health Administration; RfC = reference concentration; RfD = Reference Dose; SARA = Superfund Amendments and Reauthorization Act; TLV-TWA = Threshold Limit Value-Time-Weighted Average

