

8. REGULATIONS, ADVISORIES, AND GUIDELINES

MRLs are substance specific estimates, which are intended to serve as screening levels, are used by ATSDR health assessors and other responders to identify contaminants and potential health effects that may be of concern at hazardous waste sites.

No inhalation or oral MRLs were derived for 1,1-dichloroethane.

The EPA (IRIS 2002) has not derived an oral reference dose (RfD) or an inhalation reference concentration (RfC) for 1,1-dichloroethane.

1,1-Dichloroethane appears on the list of chemicals in “The Emergency Planning and Community Right-to-Know Act of 1986” and has been assigned a reportable quantity (RQ) limit of 1,000 pounds (EPA 2014e). The RQ represents the amount of a designated hazardous substance which, when released to any environmental media, must be reported to the appropriate authority.

The international and national regulations, advisories, and guidelines regarding 1,1-dichloroethane in air, water, and other media are summarized in Table 8-1.

8. REGULATIONS, ADVISORIES, AND GUIDELINES

Table 8-1. Regulations, Advisories, and Guidelines Applicable to 1,1-Dichloroethane

Agency	Description	Information	Reference
INTERNATIONAL			
Guidelines:			
IARC	Carcinogenicity classification	No data	IARC 2015
WHO	Air quality guidelines	No data	WHO 2010
	Drinking water quality guidelines	No data ^a	WHO 2011
NATIONAL			
Regulations and Guidelines:			
a. Air			
ACGIH	TLV (8-hour TWA)	100 ppm	ACGIH 2014
AIHA	ERPGs	No data	AIHA 2014
DOE	PAC-1 and PAC-2 ^b	160 ppm	DOE 2012a
	PAC-3 ^b	4,000 ppm	
EPA	AEGLs	No data	EPA 2014b
	NAAQS	No data	EPA 2012b
NIOSH	REL (10-hour TWA)	100 ppm (400 mg/m ³) ^c	NIOSH 2015
	IDLH	3,000 ppm	
OSHA	PEL (8-hour TWA) for general industry	100 ppm (400 mg/m ³)	OSHA 2013 29 CFR 1910.1000, Table Z-1
	PEL (8-hour TWA) for construction	100 ppm (400 mg/m ³)	OSHA 2014a 29 CFR 1926.55, Appendix A
	PEL (8-hour TWA) for shipyards	100 ppm (400 mg/m ³)	OSHA 2014b 29 CFR 1915.1000
b. Water			
EPA	Designated as hazardous substances in accordance with Section 311(b)(2)(A) of the Clean Water Act	No data	EPA 2013a 40 CFR 116.4
	Drinking water standards and health advisories	No data	EPA 2012a
	Master Testing List	Yes ^d	EPA 2014c
	National primary drinking water standards	No data	EPA 2009
	National recommended water quality criteria: human health for the consumption of	No data	EPA 2013b
	Reportable quantities of hazardous substances designated pursuant to Section 311 of the Clean Water Act	No data	EPA 2013c 40 CFR 117.3

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Table 8-1. Regulations, Advisories, and Guidelines Applicable to 1,1-Dichloroethane

Agency	Description	Information	Reference
NATIONAL (cont.)			
c. Food			
FDA	EAFUS ^e	No data	FDA 2013
d. Other			
ACGIH	Carcinogenicity classification	A4 ^f	ACGIH 2014
EPA	Carcinogenicity classification	C ^g	IRIS 2002
	RfC	No data	
	RfD	No data	
	Identification and listing of hazardous waster	U076	EPA 2013e 40 CFR 261, Appendix VIII
	Inert pesticide ingredients in pesticide products	No data	EPA 2014d
	Superfund, emergency planning, and community right-to-know		
	Designated CERCLA hazardous substance and reportable quantity	1,000 pounds ^h	EPA 2014e 40 CFR 302.4
	Effective date of toxic chemical release reporting	01/01/1994	EPA 2014f 40 CFR 372.65
	Extremely hazardous substances and its threshold planning quantity	No data	EPA 2013d 40 CFR 355, Appendix A
	TSCA chemical lists and reporting periods		EPA 2014g 40 CFR 712.30
	Effective date	03/11/1994	
	Reporting date	05/10/1994	
	TSCA health and safety data reporting		EPA 2014h 40 CFR 716.120
Effective date	06/01/1987		
Reporting date	06/01/1997		
NTP	Carcinogenicity classification	No data	NTP 2014

^aIn view of the very limited database on toxicity and carcinogenicity, the Guidelines concluded that no guideline value for 1,1-dichloroethane should be proposed.

^bDefinitions of PAC terminology are available from U.S. Department of Energy (DOE 2012b).

^cNIOSH recommends that 1,1-dichloroethane be treated in the workplace with caution because of its structural similarity to the four chloroethanes (ethylene dichloride, hexachloroethane, 1,1,2,2-tetrachloroethane, and 1,1,2-trichloroethane) shown to be carcinogenic in animals.

^d1,1-Dichloroethane was recommended to the MTL by the EPA's Office of Water and Office of Drinking Water in 1990 and was later removed in 1995. The initial chemical testing program was for prechronic toxicity (14–28 day) and subchronic toxicity (90 day) health effects.

^eThe EAFUS list of substances contains ingredients added directly to food that FDA has either approved as food additives or listed or affirmed as GRAS.

^fA4: not classifiable as a human carcinogen

^gC: possible human carcinogen

^hDesignated CERCLA hazardous substance pursuant to Section 307(a) of the Clean Water Act, Section 112 of the Clean Air Act, and Section 3001 of RCRA.

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Agency	Description	Information	Reference
<p>ACGIH = American Conference of Governmental Industrial Hygienists; AEGL = acute exposure guideline levels; AIHA = American Industrial Hygiene Association; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; DOE = Department of Energy; EAFUS = Everything Added to Food in the United States; EPA = Environmental Protection Agency; ERPG = emergency response planning guidelines; FDA = Food and Drug Administration; GRAS = Generally Recognized As Safe; IARC = International Agency for Research on Cancer; IDLH = immediately dangerous to life or health; IRIS = Integrated Risk Information System; MTL = Master Testing List; NAAQS = National Ambient Air Quality Standards; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PAC = Protective Action Criteria; PEL = permissible exposure limit; RCRA = Resource Conservation and Recovery Act; REL = recommended exposure limit; RfC = inhalation reference concentration; RfD = oral reference dose; TLV = threshold limit values; TSCA = Toxic Substances Control Act; TSD = treatment, storage, and disposal; TWA = time-weighted average; WHO = World Health Organization</p>			