

CHAPTER 7. REGULATIONS AND GUIDELINES

Pertinent international and national regulations, advisories, and guidelines regarding 1,2-dichloroethane in air, water, and other media are summarized in Table 7-1. This table is not an exhaustive list, and current regulations should be verified by the appropriate regulatory agency.

ATSDR develops MRLs, which are substance-specific guidelines intended to serve as screening levels by ATSDR health assessors and other responders to identify contaminants and potential health effects that may be of concern at hazardous waste sites. See Section 1.3 and Appendix A for detailed information on the MRLs for 1,2-dichloroethane.

Table 7-1. Regulations and Guidelines Applicable to 1,2-Dichloroethane

Agency	Description	Information	Reference
Air			
EPA	RfC	Not evaluated	IRIS 1987
	Provisional peer-reviewed toxicity values		EPA 2010
	Provisional chronic RfC	0.007 mg/m ³ (0.0017 ppm)	
	Provisional subchronic RfC	0.07 mg/m ³ (0.017 ppm)	
WHO	Air quality guidelines	0.7 mg/m ³ ^a	WHO 2000
Water & Food			
EPA	Drinking water standards and health advisories		EPA 2018c
	1-Day health advisory (10-kg child)	0.7 mg/L	
	10-Day health advisory (10-kg child)	0.7 mg/L	
	Lifetime health advisory	No data	
	10 ⁻⁴ Cancer risk	0.04 mg/L	
	National primary drinking water regulations		EPA 2009
	MCL	0.005 mg/L	
	MCLG	0 mg/L	
	RfD	Not evaluated	IRIS 1987
	Provisional peer-reviewed toxicity values		EPA 2010
	Provisional subchronic RfD	0.02 mg/kg/day	
WHO	Drinking water quality guidelines	0.03 mg/L	WHO 2022

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Agency	Description	Information	Reference
FDA	Allowable level in bottled water	0.005 mg/L	FDA 2017
	Concentration limit in pharmaceutical products	5 ppm	FDA 2018
	Substances added to food (formerly EAFUS)	Allowed under certain color, food additive and food contact substance regulations with limitations	FDA 2022
	Food additive levels	Not to exceed:	
	Residues from use as solvent in extraction process of:		
	Whole fish protein concentrate	5 ppm	FDA 2021a
	Modified hop extract	150 ppm	FDA 2021a
	Spice oleoresins	30 ppm	FDA 2021b
	Animal byproducts for use in animal feeds	300 ppm	FDA 2021c
	Use in flume water for washing sugar beets	0.2 ppm	FDA 2021b
Cancer			
HHS	Carcinogenicity classification	Reasonably anticipated to be a human carcinogen	NTP 2021
EPA	Carcinogenicity classification	B2 ^b	IRIS 1987
	Inhalation unit risk	2.6x10 ⁻⁵ per µg/m ³	
	Oral slope factor	9.1x10 ⁻² per mg/kg/day	
IARC	Carcinogenicity classification	Group 2B ^c	IARC 1999
Occupational			
OSHA	PEL (8-hour TWA) for general industry, shipyards, and construction	50 ppm ^d	OSHA 2021a , 2021b , 2021c
	Ceiling concentration for general industry	100 ppm ^e , 200 ppm (peak)	OSHA 2021a
NIOSH	REL (up to 10-hour TWA)	1 ppm ^d	NIOSH 2019
	STEL	2 ppm	
	IDLH	50 ppm	
Emergency Criteria			
EPA	AEGLs-air	No data	EPA 2018d

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Agency	Description	Information	Reference
DOE	PACs-air		DOE 2018a
	PAC-1 ^f	50 ppm	
	PAC-2 ^f	200 ppm	
	PAC-3 ^f	300 ppm	

^a24-hour TWA.

^bB2: probable human carcinogen.

^cGroup 2B: possibly carcinogenic to humans.

^dPotential occupational carcinogen.

^eNot to exceed this concentration at any time during an 8-hour shift, except for up to 5 minutes in any 3 hours, up to the acceptable peak concentration.

^fDefinitions of PAC terminology are available from DOE (2018b).

AEGL = acute exposure guideline levels; DOE = Department of Energy; EAFUS = Everything Added to Food in the United States; EPA = U.S. Environmental Protection Agency; FDA = Food and Drug Administration; HHS = Department of Health and Human Services; IARC = International Agency for Research on Cancer; IDLH = immediately dangerous to life or health; IRIS = Integrated Risk Information System; MCL = maximum contaminant level; MCLG = maximum contaminant level goal; 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; REL = recommended exposure limit; RfC = inhalation reference concentration; RfD = oral reference dose; STEL = short-term exposure limit; TWA = time-weighted average; WHO = World Health Organization