CHAPTER 7. REGULATIONS AND GUIDELINES

Pertinent international and national regulations, advisories, and guidelines regarding 1,2-dibromoethane 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-dibromoethane.

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

Agency	Description	Information	Reference
	Air		
EPA	RfC	$9x10^{-3}$ mg/m^3	IRIS 2004
WHO	Air quality guidelines	No data	WHO 2010
	Water & Food		
EPA	RfD	$9x10^{-3}$ mg/kg/day	IRIS 2004
	Drinking water standards and health advisories		EPA 2012
	1-Day health advisory (10-kg child)	0.008 mg/L	
	10-Day health advisory (10-kg child)	0.008 mg/L	
	DWEL	0.3 mg/L	
	National primary drinking water regulations		EPA 2009
	MCL	0.00005 (mg/L)	
WHO	Drinking water quality guidelines	0.0004 mg/L (0.4 µg/L) (provisional)	WHO 2004, 2017
FDA	EAFUS	No data[a]	FDA 2013
	Allowable level in bottled water	0.00005 mg/L	FDA 2017
	Cancer		
HHS	Carcinogenicity classification	Reasonably anticipated to be a human carcinogen	NTP 2016
EPA	Carcinogenicity classification	Likely to be carcinogenic to humans	IRIS 2004
	Inhalation unit risk, 95% upper bound	$6x10^{-4}$ $(µg/m^3)^{-1}$	
	Oral slope factor, 95% upper bound	$2x10^{0}$ $(mg/kg\text{-}day)^{-1}$	
IARC	Carcinogenicity classification	Group 2A[b]	IARC 1999

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

Agency	Description	Information	Reference
	Occupational		
OSHA	PEL for general industry		OSHA 2016b
	8-hour TWA	20 ppm	
	Acceptable ceiling concentration	30 ppm	
	Maximum peak (5-minute)[c]	50 ppm	
	PEL (ceiling limit) for shipyards and construction	(C)25 ppm[d]	OSHA 2016a, 2017
NIOSH	REL		NIOSH 2016
	TWA (up to 10 hours)	0.045 ppm	
	Ceiling (15-minute)	0.13 ppm	
	IDLH	100 ppm	NIOSH 1994
	Emergency Criteria		
EPA	AEGLs-air		EPA 2016
	AEGL 1		
	10 minute	52 ppm	
	30 minute	26 ppm	
	60 minute	17 ppm	
	4 hour	7.1 ppm	
	8 hour	4.6 ppm	
	AEGL 2		
	10 minute	73 ppm	
	30 minute	37 ppm	
	60 minute	24 ppm	
	4 hour	10 ppm	
	8 hour	6.5 ppm	
	AEGL 3		
	10 minute	170 ppm	
	30 minute	76 ppm	
	60 minute	46 ppm	
	4 hour	17 ppm	
	8 hour	10 ppm	
DOE	PACs-air		DOE 2016b
	PAC-1[e]	17 ppm	
	PAC-2[e]	24 ppm	
	PAC-3[e]	46 ppm	

[a]The EAFUS list of substances contains ingredients added directly to food that FDA has either approved as food additives or listed or affirmed as GRAS.
[b]Group 2A: probably carcinogenic to humans.
[c]Acceptable maximum peak, for a maximum duration of 5 minutes, above the acceptable ceiling concentration for an 8-hour shift.
[d]Skin designation.

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

Agency	Description	Information	Reference

[e]Definitions of PAC terminology are available from U.S. Department of Energy (DOE 2016a).

AEGL = acute exposure guideline levels; DOE = Department of Energy; DWEL = Drinking Water Equivalent Level; EAFUS = Everything Added to Food in the United States; EPA = Environmental Protection Agency; FDA = Food and Drug Administration; GRAS = generally recognized as safe; 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; 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; TWA = time-weighted average; WHO = World Health Organization