CHAPTER 7. REGULATIONS AND GUIDELINES

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

Table 7-1. Regulations and Guidelines Applicable to 1,1,1-Trichloroethane

Agency	Description	Information	Reference
	Air		
EPA	RfC		IRIS 2007
	Acute RfCs		
	1 hour	9 mg/m^3 (1.6 ppm)	
	4 hours and 8 hours	7 mg/m^3 (1.3 ppm)	
	24 hours	6 mg/m^3 (1.1 ppm)	
	Short-term RfC	5 mg/m^3 (0.9 ppm)	
	Subchronic RfC	5 mg/m^3 (0.9 ppm)	
	Chronic RfC	5 mg/m^3 (0.9 ppm)	
WHO	Air quality guidelines	No data	WHO 2010
	Water & Food		
EPA	Drinking water standards and health advisories		EPA 2018a
	1-Day health advisory (10-kg child)	100 mg/L	
	10-Day health advisory (10-kg child)	40 mg/L	
	DWEL[a]	70 mg/L	
	National primary drinking water regulations		EPA 2009
	MCL	0.2 mg/L	
	MCLG	0.2 mg/L	
	RfD		IRIS 2007
	Chronic RfD	2 mg/kg/day	
	Subchronic RfD	7 mg/kg/day	

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Agency	Description	Information	Reference
WHO	Drinking water quality guidelines	Not established	WHO 2022
FDA	Substances added to food (formerly EAFUS)	Not listed	FDA 2023
	Allowable level in bottled water	0.20 mg/L	FDA 2022
	Cancer		
HHS	Carcinogenicity classification	No data	NTP 2021
EPA	Carcinogenicity classification	No data[b]	IRIS 2007
IARC	Carcinogenicity classification	Group 2A[c]	IARC 2022
	Occupational		
OSHA	PEL (8-hour TWA) for general industry, construction, and shipyards	350 ppm (1,900 mg/m^3)	OSHA 2021a, 2021b, 2021c
NIOSH	15-minute ceiling REL	350 ppm (1,900 mg/m^3)[d]	NIOSH 2019
	Emergency Criteria		
NIOSH	IDLH	700 ppm	NIOSH 2019
EPA	AEGLs-air		EPA 2018c
	AEGL 1[e]		
	10-minute, 30-minute, 60-minute, 4-hour, 8-hour	230 ppm	
	AEGL 2[e]		
	10-minute	930 ppm	
	30-minute	670 ppm	
	60-minute	600 ppm	
	4-hour	380 ppm	
	8-hour	310 ppm	
	AEGL 3[e]		
	10-minute	4,200 ppm	
	30-minute	4,200 ppm	
	60-minute	4,200 ppm	
	4-hour	2,700 ppm	
	8-hour	2,100 ppm	

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Agency	Description	Information	Reference
DOE	PACs-air		DOE 2000
	PAC-1[f]	230 ppm	
	PAC-2[f]	600 ppm	
	PAC-3[f]	4,200 ppm	

[a]DWEL: A lifetime exposure level, assuming 100% exposure from drinking water, at which adverse, noncarcinogenic health effects would not be expected to occur.
[b]Inadequate information to assess carcinogenic potential.
[c]Group 2A: probably carcinogenic to humans.
[d]NIOSH recommends that 1,1,1-trichloroethane be treated in the workplace with caution because of its structural similarity to four chloroethanes shown to be carcinogenic in animals (NIOSH 2018).
[e]Definitions of AEGL terminology are available from EPA (2018b).
[f]Definitions of PAC terminology are available from DOE (2023).

AEGL = acute exposure guideline level; 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; 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; TWA = time-weighted average; WHO = World Health Organization