

## CHAPTER 7. REGULATIONS AND GUIDELINES

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

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

Agency	Description	Information	Reference
<b>Air</b>			
EPA	RfC	Not evaluated	<a href="#">IRIS 2003</a>
WHO	Air quality guidelines	Not listed	<a href="#">WHO 2010</a>
<b>Water &amp; Food</b>			
EPA	Drinking water standards and health advisories		<a href="#">EPA 2018a</a>
	1-Day health advisory (10-kg child)	0.6 mg/L	
	10-Day health advisory (10-kg child)	0.4 mg/L	
	DWEL	0.1 mg/L	
	Lifetime health advisory	0.003 mg/L	
	10 <sup>-4</sup> Cancer risk	0.06 mg/L	
	National primary drinking water regulations		<a href="#">EPA 2009</a>
	MCL	0.005 mg/L	
	PHG	0.003 mg/L	
	RfD	4x10 <sup>-3</sup> mg/kg/day	<a href="#">IRIS 2003</a>
WHO	Drinking water quality guidelines	No data	<a href="#">WHO 2017</a>
FDA	Substances Added to Food <sup>a</sup>	No data	<a href="#">FDA 2020</a>
	Level permissible in bottled water	0.005 mg/L	<a href="#">FDA 2017</a>
<b>Cancer</b>			
HHS	Carcinogenicity classification	No data	<a href="#">NTP 2016</a>
EPA	Carcinogenicity classification	C <sup>b</sup>	<a href="#">IRIS 2003</a>
IARC	Carcinogenicity classification	Group 3 <sup>c</sup>	<a href="#">IARC 1999</a>
<b>Occupational</b>			
OSHA	PEL (8-hour TWA) for general industry, shipyards and construction	10 ppm (45 mg/m <sup>3</sup> ) <sup>d</sup>	OSHA <a href="#">2019a</a> , <a href="#">2019b</a> , <a href="#">2019c</a>
NIOSH	REL (up to 10-hour TWA)	10 ppm (45 mg/m <sup>3</sup> ) <sup>d,e</sup>	<a href="#">NIOSH 2019</a>
	IDLH	100 ppm <sup>e</sup>	<a href="#">NIOSH 1994</a>

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

Agency	Description	Information	Reference
<b>Emergency Criteria</b>			
EPA	AEGLs-air	Not listed	<a href="#">EPA 2018b</a>
DOE	PACs-air		<a href="#">DOE 2018a</a>
	PAC-1 <sup>f</sup>	30 ppm	
	PAC-2 <sup>f</sup>	180 ppm	
	PAC-3 <sup>f</sup>	500 ppm	

<sup>a</sup>The Substances Added to Food inventory replaces EAFUS and contains the following types of ingredients: food and color additives listed in FDA regulations, flavoring substances evaluated by FEMA or JECFA, GRAS substances listed in FDA regulations, substances approved for specific uses in food prior to September 6, 1958, substances that are listed in FDA regulations as prohibited from use in food, delisted color additives, and some substances "no longer FEMA GRAS."

<sup>b</sup>Group C: possible human carcinogen.

<sup>c</sup>Group 3: not classifiable as to its carcinogenicity to humans.

<sup>d</sup>Skin designation.

<sup>e</sup>Potential occupational carcinogen.

<sup>f</sup>Definitions of PAC terminology are available from U.S. Department of Energy (DOE 2018b).

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; FEMA = Flavor and Extract Manufacturers Association of the United States; 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; JECFA = Joint FAO/WHO Expert Committee on Food Additives; 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; PHG = public health goal; REL = recommended exposure limit; RfC = inhalation reference concentration; RfD = oral reference dose; TWA = time-weighted average; WHO = World Health Organization