

CHAPTER 7. REGULATIONS AND GUIDELINES

Pertinent international and national regulations, advisories, and guidelines regarding chlorobenzene 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 referring to 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 chlorobenzene.

Table 7-1. Regulations and Guidelines Applicable to Chlorobenzene

Agency	Description	Information	Reference
Air			
EPA	RfC	Not evaluated	IRIS 2003
	Provisional Peer Reviewed Toxicity Value		EPA 2006
	Provisional chronic RfC	5x10 ⁻² mg/m ³ (0.01 ppm)	
	Provisional subchronic RfC	5x10 ⁻¹ mg/m ³ (0.1 ppm)	
WHO	Air quality guidelines	Not listed	WHO 2010
Water & Food			
EPA	Drinking water standards and health advisories		EPA 2018b
	1-Day health advisory (10-kg child)	4 mg/L	
	10-Day health advisory (10-kg child)	4 mg/L	
	DWEL	0.7 mg/L	
	Lifetime health advisory	0.1 mg/L	
	10 ⁻⁴ Cancer risk	No data	
	National primary drinking water regulations		EPA 2009
	MCL	0.1 mg/L	
	PHG	0.1 mg/L	
	RfD	2x10 ⁻² mg/kg/day	EPA 2018b ; IRIS 2003
EPA	Provisional Peer Reviewed Toxicity Value		EPA 2006
	Provisional subchronic RfD	7x10 ⁻² mg/kg/day	
WHO	Drinking water quality guidelines	Guideline value not established	WHO 2017
FDA	Substances Added to Food ^a	Not listed	FDA 2020
	Allowable level in bottled water	0.1 mg/L	FDA 2017

7. REGULATIONS AND GUIDELINES

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Agency	Description	Information	Reference
Cancer			
HHS	Carcinogenicity classification	No data	NTP 2016
EPA	Carcinogenicity classification	D ^b	IRIS 2003
IARC	Carcinogenicity classification	No data	IARC 2020
Occupational			
OSHA	PEL (8-hour TWA) for general industry, shipyards and construction	75 ppm (350 mg/m ³)	OSHA 2019a , 2019b , 2019c
NIOSH	REL (up to 10-hour TWA)	No data ^c	NIOSH 2019
	IDLH	1,000 ppm	NIOSH 1994
Emergency Criteria			
EPA	AEGLs-air		EPA 2018c
	AEGL 1 ^d		
	10-minute	10 ppm	
	30-minute	10 ppm	
	60-minute	10 ppm	
	4-hour	10 ppm	
	8-hour	10 ppm	
	AEGL 2 ^d		
	10-minute	430 ppm	
	30-minute	300 ppm	
	60-minute	150 ppm	
	4-hour	150 ppm	
	8-hour	150 ppm	
	AEGL 3 ^d		
	10-minute	1,100 ppm	
	30-minute	800 ppm	
	60-minute	400 ppm	
	4-hour	400 ppm	
8-hour	400 ppm		
DOE	PACs-air		DOE 2018a
	PAC-1 ^e	10 ppm	
	PAC-2 ^e	150 ppm	
	PAC-3 ^e	400 ppm	

^bThe 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 in food, delisted color additives, and some substances "no longer FEMA GRAS."

^bGroup D: not classifiable as to human carcinogenicity.

^cAfter reviewing available published literature, NIOSH provided comments to OSHA on August 1, 1988, regarding the "Proposed Rule on Air Contaminants" (29 CFR 1910, Docket No. H-020). In these comments, NIOSH questioned whether proposed PELs for certain chemicals including chlorobenzene (TWA 75 ppm) were adequate to protect workers from recognized health hazards (NIOSH 2018b).

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^dDefinitions of AEGL terminology are available from U.S. Environmental Protection Agency (EPA 2018d).

^eDefinitions of PAC terminology are available from U.S. Department of Energy (DOE 2018b).

AEGL = acute exposure guideline levels; CFR = Code of Federal Regulations; 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 concentrations; 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