

CHAPTER 7. REGULATIONS AND GUIDELINES

Pertinent international and national regulations, advisories, and guidelines regarding hexachlorobutadiene 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 hexachlorobutadiene.

Table 7-1. Regulations and Guidelines Applicable to Hexachlorobutadiene

Agency	Description	Information	Reference
Air			
EPA	RfC	Not evaluated	IRIS 1993
WHO	Air quality guidelines	Not listed	WHO 2010
Water & Food			
EPA	Drinking water standards and health advisories		EPA 2018a
	1-Day health advisory	0.3 mg/L	
	10-Day health advisory	0.3 mg/L	
	DWEL	0.01 mg/L	
	Lifetime health advisory	No data	
	10 ⁻⁴ Cancer risk	0.09 mg/L	
	National primary drinking water regulations	Not listed	EPA 2009
	RfD	Withdrawn	IRIS 1993
	Provisional chronic and subchronic RfD	0.001 mg/kg/day	EPA 2007
WHO	Drinking water quality guidelines		WHO 2017
	Guideline value	0.0006 mg/L (0.6 µg/L)	
	TDI	0.2 µg/kg body weight	
FDA	Substances added to food ^a	No data	FDA 2020
Cancer			
HHS	Carcinogenicity classification	No data	NTP 2016
EPA	Carcinogenicity classification	C ^b	IRIS 1993
IARC	Carcinogenicity classification	Group 3 ^c	IARC 1999
Occupational			
OSHA	PEL (8-hour TWA) for general industry, construction, and shipyards	No data	OSHA 2019a , 2019b , 2019c
NIOSH	REL (up to 10-hour TWA)	0.02 ppm (0.24 mg/m ³) ^{d,e}	NIOSH 2016
	IDLH	No data ^e	

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Table 7-1. Regulations and Guidelines Applicable to Hexachlorobutadiene

Agency	Description	Information	Reference
Emergency Criteria			
EPA	AEGLs-air	Not listed	EPA 2018b
DOE	PACs-air		DOE 2018a
	PAC-1 ^f	1 ppm	
	PAC-2 ^f	3 ppm	
	PAC-3 ^f	10 ppm	

^aThe 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."

^bC: possible human carcinogen.

^cGroup 3: not classifiable as to its carcinogenicity to humans.

^dSkin notation.

^ePotential occupational carcinogen.

^fDefinitions 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 concentrations; IRIS = Integrated Risk Information System; JECFA = Joint FAO/WHO Expert Committee on Food Additives; 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; TDI = tolerable daily intake; TWA = time-weighted average; WHO = World Health Organization