

## CHAPTER 7. REGULATIONS AND GUIDELINES

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

**Table 7-1. Regulations and Guidelines Applicable to Bromodichloromethane**

Agency	Description	Information	Reference
<b>Air</b>			
EPA	RfC	Not evaluated	<a href="#">IRIS 2002</a>
	Subchronic p-RfC	0.02 mg/m <sup>3</sup> <sup>a</sup>	<a href="#">EPA 2009a</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)	1 mg/L	
	10-Day health advisory (10-kg child)	0.6 mg/L	
	DWEL	0.1 mg/L	
	Lifetime health advisory	No data	
	10 <sup>-4</sup> Cancer risk	0.1 mg/L	
	National primary drinking water regulations		<a href="#">EPA 2009b</a>
	MCL - Total trihalomethanes	0.080 mg/L	
	MCLG - Bromodichloromethane	0 mg/L	
	RfD	0.02 mg/kg/day <sup>b</sup>	<a href="#">IRIS 2002</a>
Subchronic p-RfD	0.008 mg/kg/day <sup>c</sup>	<a href="#">EPA 2009a</a>	
WHO	Drinking water quality guidelines		<a href="#">WHO 2017</a>
	Guideline value	0.06 mg/L (60 µg/L)	
	TDI	21.4 µg/kg body weight	
FDA	Substances Added to Food	Not listed <sup>d</sup>	<a href="#">FDA 2019</a>
	Allowable level for disinfection byproducts in bottled water – Total trihalomethanes	0.080 mg/L	<a href="#">FDA 2017</a>
<b>Cancer</b>			
HHS	Carcinogenicity classification	Reasonably anticipated to be a human carcinogen	<a href="#">NTP 2016</a>
EPA	Carcinogenicity classification	B2 <sup>e</sup>	<a href="#">IRIS 2002</a>

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Agency	Description	Information	Reference
IARC	Carcinogenicity classification	Group 2B <sup>f</sup>	<a href="#">IARC 1999</a>
<b>Occupational</b>			
OSHA	PEL (8-hour TWA) for general industry	No data	<a href="#">OSHA 2018a</a>
	PEL (8-hour TWA) for shipyards and construction	No data	<a href="#">OSHA 2018b</a>
	PEL (8-hour TWA) for construction	No data	<a href="#">OSHA 2018c</a>
NIOSH	REL (up to 10-hour TWA)	No data	<a href="#">NIOSH 2018</a>
<b>Emergency Criteria</b>			
EPA	AEGLs-air	No data	<a href="#">EPA 2018b</a>
DOE	PACs-air		<a href="#">DOE 2018a</a>
	PAC-1 <sup>g</sup>	1.3 mg/m <sup>3</sup>	
	PAC-2 <sup>g</sup>	14 mg/m <sup>3</sup>	
	PAC-3 <sup>g</sup>	85 mg/m <sup>3</sup>	

<sup>a</sup>The subchronic p-RfC is based on a NOAEL of 20 mg/m<sup>3</sup> for kidney degeneration in mice.

<sup>b</sup>The RfD is based on a LOAEL of 17.9 mg/kg/day for renal cytomegaly in a chronic mouse gavage bioassay.

<sup>c</sup>The subchronic p-RfD is based on pregnancy loss in gavage-treated rats.

<sup>d</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 in food, delisted color additives, and some substances "no longer FEMA GRAS."

<sup>e</sup>B2: probable human carcinogen.

<sup>f</sup>Group 2B: possibly carcinogenic to humans.

<sup>g</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 Extract Manufacturer's Association; GRAS = generally recognized as safe; HHS = Department of Health and Human Services; IARC = International Agency for Research on Cancer; IRIS = Integrated Risk Information System; JECFA = Joint FAO/WHO Expert Committee on Food Additives; LOAEL = lowest-observed-adverse-effect level; 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; PPRTV = provisional peer-reviewed toxicity value; p-RfC = provisional inhalation reference concentration; p-RfD = provisional oral reference dose; REL = recommended exposure limit; RfC = inhalation reference concentration; RfD = oral reference dose; TDI = tolerable daily intake; TLV = threshold limit value; TWA = time-weighted average; WHO = World Health Organization