

CHAPTER 7. REGULATIONS AND GUIDELINES

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

Table 7-1. Regulations and Guidelines Applicable to Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene

Agency	Description	Information	Reference
Air			
EPA	RfC		
	Naphthalene	3x10 ⁻³ mg/m ³ (6x10 ⁻⁴ ppm)	IRIS 1998
	Provisional peer-reviewed toxicity values		
	1-Methylnaphthalene		EPA 2024
	Chronic provisional RfC	3x10 ⁻⁶ mg/m ³ (6x10 ⁻⁷ ppm)	
	Subchronic provisional RfC	3x10 ⁻⁵ mg/m ³ (6x10 ⁻⁶ ppm)	
WHO	Indoor air quality guidelines		
	Naphthalene	0.01 mg/m ³ (2x10 ⁻³ ppm) annual average	WHO 2010
Water & Food			
EPA	Drinking water standards and health advisories		EPA 2018a
	Naphthalene		
	1-Day health advisory (10-kg child)	0.5 mg/L	
	10-Day health advisory (10-kg child)	0.5 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	Not listed	EPA 2023c
Chronic RfD (IRIS)			
	Naphthalene	2x10 ⁻² mg/kg/day	IRIS 1998
	2-Methylnaphthalene	4x10 ⁻³ mg/kg/day	IRIS 2003

7. REGULATIONS AND GUIDELINES

Table 7-1. Regulations and Guidelines Applicable to Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene

Agency	Description	Information	Reference
	Provisional peer reviewed toxicity values		
	1-Methylnaphthalene		EPA 2024
	Screening chronic provisional RfD	1x10 ⁻² mg/kg/day	
	Screening subchronic provisional RfD	2x10 ⁻¹ mg/kg/day	
	2-Methylnaphthalene		
	Subchronic provisional RfD	4x10 ⁻³ mg/kg/day	EPA 2007b
	Human health risk assessment in support of registration review (OPP)		
	Naphthalene		EPA 2018b
	Chronic RfD	0.1 mg/kg/day	
	Acute RfD	0.4 mg/kg/day	
WHO	Drinking water quality guidelines	Not listed	WHO 2022
FDA	Substances added to food ^a		
	1-Methylnaphthalene	FEMA GRAS	FDA 2024
Cancer			
HHS	Carcinogenicity classification		
	Naphthalene	Reasonably anticipated to be a human carcinogen	NTP 2021
EPA	Carcinogenicity classification		
	Naphthalene	Group C ^b	IRIS 1998
	Provisional peer reviewed toxicity values		
	1-Methylnaphthalene		EPA 2024
	Cancer WOE descriptor, oral	Suggestive evidence of carcinogenic potential	
	Cancer WOE descriptor, inhalation	Inadequate information to assess carcinogenic potential	
	Screening provisional oral slope factor	0.051 (mg/kg/day) ⁻¹	
IARC	Carcinogenicity classification		
	Naphthalene	Group 2B ^c	IARC 2002
Occupational			
OSHA	PEL (8-hour TWA) for general industry, shipyards, and construction		
	Naphthalene	10 ppm (50 mg/m ³)	OSHA 2023a , 2023b , 2023c
NIOSH	REL and IDLH		
	Naphthalene		
	REL TWA (up to 10-hour TWA)	10 ppm (50 mg/m ³)	NIOSH 2019
	REL ST (15-minute TWA)	15 ppm (75 mg/m ³)	
	IDLH	250 ppm	NIOSH 1994

7. REGULATIONS AND GUIDELINES

Table 7-1. Regulations and Guidelines Applicable to Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene

Agency	Description	Information	Reference
Emergency Criteria			
EPA	AEGLs-air	No data	EPA 2018c
DOE	PACs-air		DOE 2024a
	Naphthalene		
	PAC-1 ^d	15 ppm	
	PAC-2 ^d	83 ppm	
	PAC-3 ^d	500 ppm	
	1-Methylnaphthalene		
	PAC-1 ^d	20 mg/m ³	
	PAC-2 ^d	61 mg/m ³	
	PAC-3 ^d	360 mg/m ³	
	2-Methylnaphthalene		
	PAC-1 ^d	9 mg/m ³	
	PAC-2 ^d	54 mg/m ³	
	PAC-3 ^d	320 mg/m ³	

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

^bGroup C: possible human carcinogen.

^cGroup 2B: possibly carcinogenic to humans.

^dDefinitions of PAC terminology are available from DOE (2024b).

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; FAO = Food and Agriculture Organization; 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; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OPP = Office of Pesticide Programs; 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; ST = short-term; TWA = time-weighted average; WHO = World Health Organization; WOE = weight of evidence