

CHAPTER 7. REGULATIONS AND GUIDELINES

Pertinent international and national regulations, advisories, and guidelines regarding DNPs 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 2,4-DNP.

Table 7-1. Regulations and Guidelines Applicable to Dinitrophenols

Agency	Description	Information	Reference
Air			
EPA	RfC 2,4-Dinitrophenol	Information reviewed but value not estimated	IRIS 2005
WHO	Air quality guidelines	Not listed	WHO 2010
Water & Food			
EPA	Drinking water standards and health advisories	Not listed	EPA 2018a
	National primary drinking water regulations	Not listed	EPA 2009
	RfD 2,4-Dinitrophenol	2x10 ⁻³ mg/kg/day	IRIS 2005
	Provisional Peer Reviewed Toxicity Value 2,4-Dinitrophenol		EPA 2007
	Provisional subchronic RfD	2x10 ⁻² mg/kg/day	
WHO	Drinking water quality guidelines	Not listed	WHO 2017
FDA	Substances Added to Food ^a	Not listed	FDA 2020b
Cancer			
HHS	Carcinogenicity classification	No data	NTP 2016
EPA	Carcinogenicity classification	No data	IRIS 2005
IARC	Carcinogenicity classification	No data	IARC 2020
Occupational			
OSHA	PEL (8-hour TWA) for general industry, shipyards and construction	No data	OSHA 2020a , 2020b , 2020c
NIOSH	REL (up to 10-hour TWA)	No data	NIOSH 2018

7. REGULATIONS AND GUIDELINES

Table 7-1. Regulations and Guidelines Applicable to Dinitrophenols

Agency	Description	Information	Reference
Emergency Criteria			
EPA	AEGLs-air	Not listed	EPA 2018b
DOE	PACs-air		DOE 2018a
	Dinitrophenol		
	PAC-1 ^b	0.25 mg/m ³	
	PAC-2 ^b	2.7 mg/m ³	
	PAC-3 ^b	16 mg/m ³	
	2,3-Dinitrophenol		
	PAC-1 ^b	1.1 mg/m ³	
	PAC-2 ^b	13 mg/m ³	
	PAC-3 ^b	75 mg/m ³	
	2,4-Dinitrophenol		
	PAC-1 ^b	0.61 mg/m ³	
	PAC-2 ^b	6.8 mg/m ³	
	PAC-3 ^b	16 mg/m ³	
	2,6-Dinitrophenol		
	PAC-1 ^b	0.23 mg/m ³	
	PAC-2 ^b	2.5 mg/m ³	
	PAC-3 ^b	15 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 in food, delisted color additives, and some substances "no longer FEMA GRAS".

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

AEGL = acute exposure guideline levels; DOE = Department of Energy; 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; 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; TWA = time-weighted average; WHO = World Health Organization