

## CHAPTER 7. REGULATIONS AND GUIDELINES

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

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

Agency	Description	Information	Reference
<b>Air</b>			
EPA	RfC 4-Nitrophenol	Information reviewed but value not derived	<a href="#">IRIS 2002</a>
	Provisional peer reviewed toxicity values 2-Nitrophenol Provisional subchronic RfC	0.0005 mg/m <sup>3</sup> (0.00009 ppm)	<a href="#">EPA 2007b</a>
WHO	Air quality guidelines	No data	<a href="#">WHO 2010</a>
<b>Water &amp; Food</b>			
EPA	Drinking water standards and health advisories 4-Nitrophenol 1-Day health advisory (10-kg child) 10-Day health advisory (10-kg child) DWEL Lifetime health advisory	0.8 mg/L 0.8 mg/L 0.3 mg/L 0.06 mg/L	<a href="#">EPA 2018b</a>
	National primary drinking water regulations	Not listed	<a href="#">EPA 2009b</a>
	RfD 4-Nitrophenol	Not assessed	<a href="#">IRIS 2002</a>
WHO	Drinking water quality guidelines	No data	<a href="#">WHO 2017</a>
FDA	Substances added to food (formerly EAFUS)	Not listed	<a href="#">FDA 2022</a>

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Agency	Description	Information	Reference
<b>Cancer</b>			
HHS	Carcinogenicity classification	No data	<a href="#">NTP 2021</a>
EPA	Carcinogenicity classification		
	4-Nitrophenol	Not assessed	<a href="#">IRIS 2002</a>
	2-Nitrophenol	Inadequate information to assess carcinogenic potential	<a href="#">EPA 2007b</a>
IARC	Carcinogenicity classification	No data	<a href="#">IARC 2022</a>
<b>Occupational</b>			
OSHA	PEL (8-hour TWA) for general industry, shipyards, and construction	No data	OSHA <a href="#">2021a</a> , <a href="#">2021b</a> , <a href="#">2021c</a>
NIOSH	REL (up to 10-hour TWA)	No data	<a href="#">NIOSH 2018</a>
<b>Emergency Criteria</b>			
EPA	AEGs-air	No data	<a href="#">EPA 2018a</a>
DOE	PACs-air		<a href="#">DOE 2018a</a>
	2-Nitrophenol		
	PAC-1 <sup>a</sup>	2.1 mg/m <sup>3</sup>	
	PAC-2 <sup>a</sup>	23 mg/m <sup>3</sup>	
	PAC-3 <sup>a</sup>	140 mg/m <sup>3</sup>	
	3-Nitrophenol		
	PAC-1 <sup>a</sup>	2.8 mg/m <sup>3</sup>	
	PAC-2 <sup>a</sup>	31 mg/m <sup>3</sup>	
	PAC-3 <sup>a</sup>	180 mg/m <sup>3</sup>	
	4-Nitrophenol		
	PAC-1 <sup>a</sup>	0.69 mg/m <sup>3</sup>	
	PAC-2 <sup>a</sup>	7.6 mg/m <sup>3</sup>	
	PAC-3 <sup>a</sup>	46 mg/m <sup>3</sup>	

<sup>a</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; HHS = Department of Health and Human Services; IARC = International Agency for Research on Cancer; IRIS = Integrated Risk Information System; 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