

CHAPTER 7. REGULATIONS AND GUIDELINES

Pertinent international and national regulations, advisories, and guidelines regarding aldrin or dieldrin 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 aldrin and dieldrin.

Table 7-1. Regulations and Guidelines Applicable to Aldrin/Dieldrin

Agency	Description	Information	Reference
Air			
EPA	RfC	Not evaluated	IRIS 1987 , 1988
WHO	Air quality guidelines	Not listed	WHO 2010
Water & Food			
EPA	Drinking water standards and health advisories		EPA 2018a
	1-Day health advisory (10-kg child)		
	Aldrin	0.0003 mg/L	
	Dieldrin	0.0005 mg/L	
	10-Day health advisory (10-kg child)		
	Aldrin	0.0003 mg/L	
	Dieldrin	0.0005 mg/L	
	DWEL		
	Aldrin	0.001 mg/L	
	Dieldrin	0.002 mg/L	
	Lifetime health advisory	No data	
	10 ⁻⁴ Cancer risk		
	Aldrin	0.0002 mg/L	
	Dieldrin	0.0002 mg/L	
	National primary drinking water regulations	No data	EPA 2009

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Table 7-1. Regulations and Guidelines Applicable to Aldrin/Dieldrin

Agency	Description	Information	Reference
	RfD		
	Aldrin	3x10 ⁻⁵ mg/kg/day	IRIS 1987
	Dieldrin	5x10 ⁻⁵ mg/kg/day	IRIS 1988
	Provisional peer reviewed toxicity value		EPA 2005b
	Provisional subchronic RfD		
	Aldrin	4x10 ⁻⁵ mg/kg/day	
WHO	Drinking water quality guidelines		WHO 2017
	Guideline value, aldrin and dieldrin combined	0.00003 mg/L	
	Provisional tolerable daily intake, aldrin and dieldrin combined	0.1 µg/kg body weight	
FDA	Substances Added to Food	Not listed ^a	FDA 2022
Cancer			
HHS	Carcinogenicity classification	No data	NTP 2021
EPA	Carcinogenicity classification		IRIS 1987 , 1988
	Aldrin and dieldrin	B2 ^b	
	Inhalation unit risk		
	Aldrin	4.9x10 ⁻³ per µg/m ³	
	Dieldrin	4.6x10 ⁻³ per µg/m ³	
	Oral slope factor		
	Aldrin	1.7x10 ¹ per mg/kg-day	
	Dieldrin	1.6x10 ¹ per mg/kg-day	
IARC	Carcinogenicity classification		IARC 2019
	Dieldrin, and aldrin metabolized to dieldrin	Group 2A ^c	
Occupational			
OSHA	PEL (8-hour TWA) for general industry, shipyards and construction		OSHA 2021a , 2021b , 2022
	Aldrin and dieldrin	0.25 mg/m ^{3 d}	
NIOSH	REL (up to 10-hour TWA)		NIOSH 2019a , 2019b
	Aldrin and dieldrin	0.25 mg/m ^{3 d,e}	
	IDLH		
	Aldrin	25 mg/m ^{3 e}	NIOSH 2019a
	Dieldrin	50 mg/m ^{3 e}	NIOSH 2019b
Emergency Criteria			
EPA	AEGLs-air	No data	EPA 2018b
DOE	PACs-air		DOE 2018a
	Aldrin		
	PAC-1 ^f	0.91 mg/m ³	
	PAC-2 ^f	10 mg/m ³	
	PAC-3 ^f	100 mg/m ³	
	Dieldrin		
	PAC-1 ^f	0.3 mg/m ³	

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Table 7-1. Regulations and Guidelines Applicable to Aldrin/Dieldrin

Agency	Description	Information	Reference
	PAC-2 ^f	6.8 mg/m ³	
	PAC-3 ^f	450 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."

^bB2: probable human carcinogen.

^cGroup 2A: probably carcinogenic to humans.

^dSkin designation.

^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; IRIS = Integrated Risk Information System; JECFA = Joint FAO/WHO Expert Committee on Food Additives; LOAEL = lowest-observed-adverse-effect level; NIOSH = National Institute for Occupational Safety and Health; NOAEL = no-observed-adverse-effect level; 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