

CHAPTER 7. REGULATIONS AND GUIDELINES

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

In 2009, disulfoton was cancelled for use in pesticide products in the United States (EPA 2010). Disulfoton is on the list of chemicals appearing in the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA); the Comprehensive Environmental Response, Compensation and Liability Act; and Section 112(r) of the Clean Air Act (EPA 2019a). Disulfoton is considered an extremely hazardous substance (EHS) under 40 CFR part 355, and facilities with disulfoton in quantities greater than or equal to 500 pounds must report (EPA 2018c). Disulfoton was not on the EPCRA Section 313 Chemical List for Reporting Year 2018, and was not reported to TRI (EPA 2019b). Under CERCLA, disulfoton is subject to reporting to the National Response Center in quantities greater than or equal to one pound (EPA 2018d).

Under the Resource Conservation and Recovery Act (RCRA), disulfoton is listed as a hazardous waste when it is a discarded commercial chemical product, off-specification species (e.g., a product that does not meet purity or property specifications), container residue, and spill residue (EPA 2018b).

Table 7-1. Regulations and Guidelines Applicable to Disulfoton

Agency	Description	Information	Reference
Air			
EPA	RfC	No data	IRIS 2002
WHO	Air quality guidelines	No data	WHO 2012

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Agency	Description	Information	Reference
Water & Food			
EPA	Drinking water standards and health advisories 1-Day health advisory (10-kg child) 10-Day health advisory (10-kg child) DWEL Lifetime health advisory 10 ⁻⁴ Cancer risk		EPA 2018a
	National primary drinking water regulations	Not listed	EPA 2009a
	RfD	4x10 ⁻⁵ mg/kg/day ^a	IRIS 2002
	Chronic dietary PAD	1.3x10 ⁻⁴ mg/kg/day	EPA 2006
WHO	Drinking water quality guidelines	No data	WHO 2017
FDA	Substances added to food	Not listed	FDA 2021a
Cancer			
HHS	Carcinogenicity classification	No data	NTP 2021
EPA	Carcinogenicity classification	Group E ^b	EPA 2021
IARC	Carcinogenicity classification	No data	IARC 2021
Occupational			
OSHA	PEL (8-hour TWA) for general industry, shipyards, and construction	No data	OSHA 2021a , 2021b , 2022
NIOSH	REL (up to 10-hour TWA)	0.1 mg/m ³ ^c	NIOSH 2018
Emergency Criteria			
EPA	AEGLs-air	No data	EPA 2018e
DOE	PACs-air		DOE 2018a
	PAC-1 ^d	0.18 mg/m ³	
	PAC-2 ^d	2 mg/m ³	
	PAC-3 ^d	8.8 mg/m ³	
Miscellaneous Federal Guidelines			
EPA	Cancelled for use in pesticides	Cancelled	EPA 2010

^aBased on the LOAEL of 0.04 mg/kg/day for decreased acetylcholinesterase activity in rat pups in a multigenerational feeding study in rats (Hixson and Hathaway 1986).

^bGroup E: evidence of noncarcinogenicity for humans.

^cWith skin designation, indicating the potential for dermal absorption.

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

AEGL = acute exposure guideline levels; HHS = Department of Health and Human Services; DOE = Department of Energy; DWEL = drinking water equivalent level; EPA = Environmental Protection Agency; FDA = Food and Drug Administration; 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; PAD = Population Adjusted Dose; PEL = permissible exposure limit; REL = recommended exposure limit; RfC = inhalation reference concentration; RfD = oral reference dose; TLV = threshold limit values; TWA = time-weighted average; WHO = World Health Organization