

7. REGULATIONS AND ADVISORIES

Because of its potential to cause adverse health effects in exposed people, a number of regulations and guidelines have been established for thallium by various national and state agencies. These values are summarized in Table 7-1.

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TABLE 7-1. Regulations and Guidelines Applicable to Thallium and Compounds

Agency	Description	Information	Reference
<u>NATIONAL</u>			
Regulations:			
a. Air:			
OSHA	PEL TWA (soluble compounds, as Tl)	0.1 mg/m ³	OSHA 1989 (29 CFR 1910.1000) Table Z-1-A
b. Water:			
EPA OWRS	General permits under NPDES	Yes	40 CFR 122, Appendix D, Table II
	General pretreatment regulations for existing and new sources of pollution	Yes	40 CFR 403
	Hazardous substance		EPA 1989a
	Thallium sulfate	Yes	(40 CFR 116)
	Reportable quantity		40 CFR 117.3
	Thallium sulfate	100 pounds	
c. Nonspecific media:			
EPA OERR	Reportable quantity		EPA 1989a (40 CFR 302.4)
	Thallium	1,000 pounds	
	Thallium (1) acetate	100 pounds	
	Thallium (1) chloride	100 pounds	
	Thallium (1) nitrate	100 pounds	
	Thallic oxide	100 pounds	
	Thallium (1) sulfate	100 pounds	
	Thallium (1) carbonate	100 pounds	
	Thallium selenite	1,000 pounds	
	Extremely hazardous substance TPQ		EPA 1987b (40 CFR 355)
	Thallium sulfate	100/10,000 pounds	
	Thallic chloride	100/10,000 pounds	
	Thallic sulfate	100/10,000 pounds	
	Thallic carbonate	100/10,000 pounds	
	Thallic malonate	100/10,000 pounds	
EPA OPP	Cancellation of all pesticide products containing thallium sulfate 03/09/72	Yes	EPA 1985b
EPA OSW	Hazardous waste constituent (Appendix VIII) (Thallium and Compounds)	Yes	EPA 1980c (40 CFR 261)
	Groundwater monitoring list (Appendix IX)	Yes	EPA 1987c (40 CFR 264)
	Land disposal restrictions	Yes	EPA 1988d, 1987d (40 CFR 264, 268)
EPA OTS	Toxic chemical release reporting	Yes	EPA 1988c (40 CFR 372)
	Health and safety data reporting rule	Yes	EPA 1988e (40 CFR 716)

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TABLE 7-1 (Continued)

Agency	Description	Information	Reference
Guidelines:			
a. Air:			
ACGIH	TLV TWA (soluble compounds as Tl)	0.1 mg/m ³	ACGIH 1986
NIOSH	IDLH (soluble compounds as Tl)	20 mg/m ³	NIOSH 1985
b. Water:			
EPA OWRS	Ambient water quality criteria		EPA 1980a
	Ingesting water and organisms	13 µg/L	
	Ingesting organisms only	48 µg/L	
c. Other:			
EPA	Carcinogenic classification	Group D ^a	EPA 1988a
	Thallium and salts		
	RFD (oral)		IRIS 1989
	Thallium (insoluble salts)	7x10 ⁻⁵ mg/kg/day	EPA 1991
	Thallium (I) sulfate	8x10 ⁻⁵ mg/kg/day	
	Thallium (I) acetate	9x10 ⁻⁵ mg/kg/day	
	Thallium (I) chloride	8x10 ⁻⁵ mg/kg/day	
	Thallium (I) nitrate	9x10 ⁻⁵ mg/kg/day	
	Thallium (I) carbonate	8x10 ⁻⁵ mg/kg/day	
STATE			
Regulations:			
a. Air:			
	Acceptable ambient air concentration		NATICH 1989
Connecticut		2.0 µg/m ³ (8 hr)	
Florida (Tampa)		0.001 mg/m ³ (8 hr)	
Kansas (Kansas City)		0.238 µg/m ³ (1 yr)	
Nevada		0.002 mg/m ³ (8 hr)	
New York		0.330 µg/m ³ (1 yr)	
North Dakota		0.001 mg/m ³ (8 hr)	
Pennsylvania (Philadelphia)		2.47 µg/m ³ (1 yr)	
Virginia		2.40 µg/m ³ (annual)	
Wisconsin		1.60 µg/m ³ (24 hr)	
		2.4 µg/m ³ (24 hr)	
b. Water:			
	Drinking water		FSTRAC 1988
Kansas		13 µg/L	
Wisconsin		6.5 µg/L	

^a Group D = not classified as to human carcinogenicity. No evidence of carcinogenicity in at least two adequate animal tests in different species or in both adequate epidemiologic and animal studies.

ACGIH = American Conference of Governmental Industrial Hygienists; EPA = Environmental Protection Agency; IDLH = Immediately Dangerous to Life or Health Level; NIOSH = National Institute for Occupational Safety and Health; NPDES = National Pollutant Discharge Elimination System; OERR = Office of Emergency and Remedial Response; OPP = Office of Pesticide Products; OSHA = Occupational Safety and Health Administration; OSW = Office of Solid Wastes; OTS = Office of Toxic Substances; OWRS = Office of Water Regulations and Standards; PEL = Permissible Exposure Limit; TLV = Threshold Limit Value; TPQ = Threshold Planning Quantity; TWA = Time-Weighted Average

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