

7. REGULATIONS AND ADVISORIES

International, national, and state regulations and guidelines pertinent to human exposure to white phosphorus are summarized in Table 7-1. No regulations or guidelines for white phosphorus smoke were identified.

A chronic oral reference dose (RfD) of 0.00002 mg/kg/day has been derived and verified by EPA for white phosphorus (IRIS 1993). The RfD is based on a NOAEL of 0.015 mg/kg/day for parturition mortality and forelimb hair loss in rats gavaged with 0.015 mg/kg/day in a one-generation reproduction study (Condray 1985).

7. REGULATIONS AND ADVISORIES

TABLE 7-1. Regulations and Guidelines Applicable to White Phosphorus

Agency	Description	Information	Reference
<u>NATIONAL</u>			
Regulations:			
a. Air:			
EPA	Listed as Hazardous Air Pollutant	Yes	EPA 1990
OSHA	PEL TWA	0.1 mg/m ³	HSDB 1995
b. Other:			
EPA OERR	Reportable quantity Extremely Hazardous Substance TPQ	1 pound ^a 1/100 pounds	IRIS 1995 EPA 1992c (40 CFR 355, APP A)
EPA OPP	Intent to Cancel, Restrict or Require Reregistration of Pesticide Products Containing Phosphorus	Yes ^b	HSDB 1995
EPA OSW	Designation as Hazardous Substance	Yes	HSDB 1995
EPA OTS	Listing as hazardous waste: (D003) Toxic Chemical Release Reporting: Community Right To Know	Yes ^c Yes	HSDB 1995 HSDB 1995
Guidelines:			
a. Air:			
ACGIH	TLV TWA	0.1 mg/m ³	ACGIH 1992
NIOSH	REL TWA	0.1 mg/m ³	NIOSH 1992
b. Other:			
EPA	Oral RfD Carcinogen classification	2×10 ⁻⁵ mg/kg/day Group D ^d	IRIS 1995 IRIS 1995
<u>STATE</u>			
Regulations and Guidelines:			
a. Air:			
	Acceptable ambient concentration guidelines or standards		NATICH 1991
Connecticut		2.00 µg/m ³ 8 hour	
Florida/Fort Lauderdale		1.00×10 ⁻³ µg/m ³ 8 hour	
Florida/Pinella		1.00 µg/m ³ 8 hour	
Florida/Tampa		2.40×10 ⁻¹ µg/m ³ 24 hour	
Nevada		1.00×10 ⁻³ mg/m ³ 8 hour	
New York		2.00×10 ⁻³ mg/m ³ 8 hour	
North Dakota		3.30×10 ⁻¹ µg/m ³ 1 year	
Oklahoma		1.00×10 ⁻³ mg/m ³ 8 hour	
Texas		1.00×10 ⁺¹ µg/m ³ 24 hour	
Virginia		1.00 µg/m ³ 30 minutes 1.00×10 ⁻¹ µg/m ³ annual 1.70 µg/m ³ 24 hour	
b. Water:			
Florida Ohio	Restriction in marine waters Criteria for nuisance prevention and water supply use designation	≤0.1 µg/L <i>Note 1</i>	CELDS 1992

7. REGULATIONS AND ADVISORIES

**TABLE 7-1. Regulations and Guidelines Applicable to White Phosphorus
(continued)**

Agency	Description	Information	Reference
STATE (Cont.)			
c. Other:			
Connecticut	Registration & use prohibited as pesticide	Yes	CELDS 1992
Hawaii	Restricted usage	Yes	
Iowa	Restricted usage	Yes	
Maine	Special provisions for waste managements	Yes	

^aBased on aquatic toxicity

^bList "C" reregistration status: Case #3111, Awaiting data/data in review. Reregistration is supported.

^cA solid waste containing yellow and white phosphorus may become characterized as a hazardous waste when subjected to testing for reactivity as stipulated in 40 CFR 261.23 and, if so characterized, must be managed as a hazardous waste (40 CFR 261.23 [7/1/90]).

^dGroup D = Not classifiable as to carcinogenicity in humans

ACGIH = American Conference of Governmental Industrial Hygienists; EPA = Environmental Protection Agency; NIOSH = National Institute for Occupational Safety and Health; OERR = Office of Emergency and Remedial Response; OPP = Office of Pesticide Programs; OSHA = Occupational Safety and Health Administration; OSW = Office of Solid Waste; OTS = Office of Toxic Substances; PEL = Permissible Exposure Limit; REL = Recommended Exposure Limit; RfD = Reference Dose; TLV = Threshold Limit Value; TPQ = Threshold Planning Quantity; TWA = Time-Weighted Average

Note 1: Total phosphorus as P shall be limited to the extent necessary to prevent nuisance growth of algae, weeds, and slimes that result in a violation of the water quality criteria. Phosphorus discharges shall not exceed a daily average of one milligram per liter as total P, or stricter requirements imposed by Ohio Environmental Protection Agency.

