

7. REGULATIONS AND ADVISORIES

The international, national, and state regulations and guidelines regarding endrin in air, water, and other media are summarized in Table 7-1.

ATSDR has derived an intermediate oral MRL of 0.002 mg/kg/day based on a laboratory animal study showing neurotoxic effects in dogs (Treon et al. 1955).

ATSDR has derived a chronic oral MRL of 0.0003 mg/kg/day based on a laboratory animal study showing neurotoxic effects in dogs (Kettering Lab 1969). The EPA reference dose for endrin is 3×10^{-4} mg/kg/day, and the critical dose is 0.025 mg/kg/day (IRIS 1995). Critical effects were occasional convulsions and mild histological lesions in the liver (Kettering Lab 1969). No EPA reference concentration exists for the compound.

The EPA has determined that endrin is not classified as to its human carcinogenicity (Group D) because the available information is inadequate to allow the classification (IRIS 1995). No cancer classifications exist for the IARC (no adequate data) (IARC 1987). The National Toxicology Program (NTP) has assigned endrin the carcinogen code N (negative) (NTP 1995).

Endrin is on the list of chemicals regulated based on “The Emergency Planning and Community Right-to-Know Act of 1986” (EPCRA) (EPA 1988a). Section 313 of Title III of EPCRA requires owners and operators of certain facilities that manufacture, import, process, or otherwise use the chemicals on this list to report annually their release of those chemicals to any environmental media.

OSHA requires employers of workers who are occupationally exposed to endrin to institute engineering controls and work practices to reduce and maintain employee exposure at or below PELs. The employer must use engineering and work practice controls, if feasible, to reduce exposure to or below an 8-hour TWA of 0.1 mg/m³. Respirators must be provided and used during the time period necessary to install or implement feasible engineering and work practice controls (OSHA 1989). Also, to prevent or reduce skin absorption, an employee’s skin exposure to endrin must be prevented or reduced to the extent necessary in the circumstances through the use of gloves, coveralls, goggles, or other appropriate personal protective equipment, engineering controls, or work practices.

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Endrin is regulated by the Clean Water Effluent Guidelines as stated in Title 40, Section 400-475, of the Code of Federal Regulations. For each point source category, endrin may be regulated as a group of chemicals controlled as Total Toxic Organics or may have a Zero Discharge Limitation. The point source categories for which endrin is controlled as a Total Toxic Organic include electroplating (EPA 1981), metal finishing (EPA 1983a), and aluminum forming (EPA 1983b). The point source category for which endrin has a specific Regulatory Limitation is endrin manufacturing (EPA 1977a). There are no point source categories for which endrin has a Zero Discharge Limitation.

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), a 0 ppm food tolerance restriction is in place for endrin (EPA 1977b).

The Resource Conservation and Recovery Act (RCRA) identifies endrin as a hazardous waste in two ways: (1) when it exceeds a toxicity characteristic leaching procedure test concentration of 0.02 mg/L (EPA 1980a); and (2) when it is discarded as a commercial chemical product, off-specification species, container residue, or spill residue (EPA 1980a).

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Table 7-1. Regulations and Guidelines Applicable to Endrin, Endrin Aldehyde, and Endrin Ketone

Agency	Description	Information	Reference
<u>INTERNATIONAL</u>			
WHO		NA	
IARC	Group (cancer ranking)	Yes	
<u>NATIONAL</u>			
Regulations:			
a. Air:			
OSHA	Permissible Exposure Limit (TWA)	0.1 mg/m ³ (6.4x10 ⁻³ ppm)	29 CFR 1910.1000 OSHA 1974
	Short-term Exposure Limit (STEL)	0.3 mg/m ³ (1.9x10 ⁻² ppm) (15 min)	
	Skin Designation	Yes	29 CFR 1910.1000 OSHA 1974
b. Water:			
EPA/OW	Ambient Water Quality Criterion	1x10 ⁰ µg/L (water & fish)	45 FR 79318 IRIS 1994
	Designation of Hazardous Substances	Yes	40 CFR 116.4 EPA 1978a
	Reportable Quantities of Hazardous Substances: Section 311 of Clean Water Act	1 lb.	40 CFR 117.3 EPA 1979a
	Appendix D--NPDES Permit Application Testing Requirements (122.21)	Yes	40 CFR 122 EPA 1983c
	Form 2D	Yes	40 CFR 122 EPA 1983c
	Instructions - Form 2C	Yes	40 CFR 125 EPA 1979b
	Toxic Pollutant Effluent Standards	Yes	40 CFR 129.4 EPA 1977a
	Endrin Effluent Standards	0.004 µg/L 1.5 µg/L	40 CFR 129.102 EPA 1977a
	Identification of Test Procedures	Yes	40 CFR 136.3 EPA 1973
	Method 608 - Organochlorine Pesticides and PCBs	Yes	40 CFR 136 EPA 1973
	Method 625 - Base/Neutrals and Acids	Yes	40 CFR 136 EPA 1973
	Effluent Guidelines and Standards: Toxic Pollutants	Yes	40 CFR 401 EPA 1979c
	Pretreatment Regulations: Appendix B - 65 Toxic Pollutants	Yes	40 CFR 403 EPA 1986a

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>NATIONAL</u> (cont.)			
	Effluent Guidelines and Standards: Electroplating - Definitions of Total Toxic Organics	>0.01 mg/L	40 CFR 413.02 EPA 1981
	Effluent Guidelines and Standards: Steam Electric Power Generation - Appendix A - 126 Priority Pollutants	Yes	40 CFR 423 EPA 1982
	Effluent Guidelines and Standards: Metal Finishing - Definition of Total Toxic Organics	>0.01 mg/L	40 CFR 433.11 EPA 1983a
	Applicability: Description of the Organic Pesticide Chemicals Manufacturing Subcategory	Yes	40 CFR 455.20 EPA 1978b
	Effluent Guidelines and Standards: Aluminum Forming - Definition of Total Toxic Organics	>0.01 mg/L	40 CFR 467.02 EPA 1983b
EPA/ODW	National Primary Drinking Water Regulations: Effective Dates	Yes	40 CFR 141.6 EPA 1975
	Organic Chemicals Other Than Total Trihalomethanes, Sampling and Analytical Requirements	Yes	40 CFR 141.24 EPA 1975
	Public Notification	NA	40 CFR 141.32 EPA 1975
	National Revised Primary Drinking Water Regulations: Maximum Contaminant Levels for Synthetic Organic Contaminants - Endrin	0.002 mg/L	40 CFR 141.61 EPA 1991a
	Variations and Exemptions From the Maximum Contaminant Levels for Organic and Inorganic Chemicals	NA	40 CFR 142.62 EPA 1976b
c. Food:			
d. Other: CPSC	Consumer product limits	NA	
EPA/OERR/CEPP	Reportable Quantity	1 lb.	40 CFR 302.4 EPA 1985a
	Emergency Planning and Notification: Appendix A - Extremely Hazardous Substances and Threshold Planning Quantities	500/10,000 lbs.	40 CFR 355 EPA 1987a

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>NATIONAL</u> (cont.)			
EPA/OPTS	Pesticides Classified for Restricted Use	≥2%	40 CFR 152.175 EPA 1988b
	TSCA Reporting and Recordkeeping Hexachloronorborene	Yes	40 CFR 704.102 EPA 1985b
	Fish Bioconcentration Test	Yes	40 CFR 797.1520 EPA 1985c
	Hazardous Waste Constituents Subject to Testing	Yes	40 CFR 799.5055 EPA 1984
	Standards for Pesticide Containers and Contaminants (Proposed)	Yes	54 FR 6712 EPA 1994a
EPA/OSW	Criteria for Classification of Solid Waste Disposal Facilities and Practices: Appendix I - Maximum Contaminant Levels (MCLs)	0.0002 mg/L	40 CFR 257 EPA 1979d
	Design Criteria	0.0002 mg/L	40 CFR 258.40 EPA 1991b
	Municipal Solid Waste Landfills: Appendix II - List of Hazardous Inorganic and Organic Constituents	0.1–20 µg/L (Practical Quantitation Limits for 2 Methods)	40 CFR 258 EPA 1991b
	Toxicity Characteristic	0.02 mg/L	40 CFR 261.24 EPA 1980a
	Discarded Commercial Chemical Products, Off-specification Species, Container Residues, and Spill Residues Thereof	Yes	40 CFR 261.33 EPA 1980a
	Identification and Listing of Hazardous Wastes: Appendix III - Chemical Analysis Test Methods	Yes	40 CFR 261 EPA 1980a
	Identification and Listing of Hazardous Wastes: Appendix VIII - Hazardous Constituents	Yes	40 CFR 261 EPA 1980a
	Identification and Listing of Hazardous Wastes: Appendix IX -- Wastes Excluded Under 260.20 and 260.22	Yes	40 CFR 261 EPA 1980a
	Maximum Concentration of Constituents for Ground-water Protection	0.0002 mg/L	40 CFR 264.94 EPA 1980b
	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities: Appendix IX - Ground-water Monitoring List	0.1–10 µg/L (Practical Quantitation Limits for 2 Methods)	40 CFR 264 EPA 1980b

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>NATIONAL (cont.)</u>			
	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities: Appendix III - EPA Interim Primary Drinking Water	0.0002 mg/L	40 CFR 265 EPA 1980c
	Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities: Appendix VII - Health-Based Limits for Exclusion of Waste-Derived Residues	0.0002 mg/kg	40 CFR 266 EPA 1985d
	Identification of Wastes to be Evaluated by May 8, 1990	Yes	40 CFR 268.12 EPA 1986b
	Applicability of Treatment Standards	Yes	40 CFR 268.40 EPA 1987b
	Treatment Standards Expressed as Specified Technologies	Yes	40 CFR 268.42 EPA 1987b
	Treatment standards expressed as waste concentrations	0.13 mg/kg (non-waste waters)	40 CFR 268.43 EPA 1988c
	Land Disposal Restrictions: Appendix III - List of Halogenated Organic Compounds Regulated Under 268.32	Yes	40 CFR 268 EPA 1986d
	Universal Treatment Standards Endrin	0.0028 mg/L (wastewater) 0.13 mg/kg(non wastewater)	40 CFR 268.48 60 FR 242 EPA 1995a
	Endrin aldehyde	0.025 mg/L (wastewater) 0.13 mg/kg(non wastewater)	
Guidelines:			
a. Air:			
ACGIH	Ceiling limit for Occupational Exposure (TLV-TWA)	0.1 mg/m ³ (skin) (6.4x10 ⁻³ ppm)	ACGIH 1988
NIOSH	Recommended Exposure Limit for Occupational exposure (TWA)	0.1 mg/m ³ (skin) (6.4x10 ⁻³ ppm)	NIOSH 1992
	Immediately Dangerous to Life and Health	2,000 mg/m ³ (128.4 ppm)	NIOSH 1990

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>NATIONAL</u> (cont.)			
b. Water:			
EPA	1-d Health Advisory	0.02 mg/L (child)	EPA 1995
	10-d Health Advisory	0.02 mg/L (child)	EPA 1995
	Longer-term Health Advisory	0.003 mg/L (child) 0.01 mg/L (adult)	EPA 1995
	Lifetime Health Advisory	0.002 mg/L (adult)	EPA 1995
	Maximum Contaminant Level	0.002 mg/L	40 CFR 141.61 EPA 1991a
	Maximum Contaminant Level Goal	0.002 mg/L	40 CFR 141.50 EPA 1991a
	Proposed Water Quality Guidance for the Great Lakes System (proposed rule)	Yes	40 CFR 132 58 FR 20802 EPA 1993f
	Acute criteria for protection of aquatic life in ambient water (CMC)	0.09 µg/L	
	Chronic criteria for protection of aquatic life in ambient water (CCC)	0.037 µg/L	
	Bioaccumulative chemicals of concern (BCCs)	Endrin aldehyde	
c. Other			
CPSC	Consumer products limit	NA	
EPA	Cancer classification	Group D ^a	IRIS 1994
	Hazard Ranking	NA	
	RfD (Oral)	0.0003 mg/kd/d	IRIS 1994
NTP	Cancer classification	NA	
<u>STATE</u>			
Regulations and Guidelines			
a. Air:			
	Acceptable Ambient Air Concentration Guidelines or Standards		NATICH 1992
AZ	1 hr avg. time	2.50 µg/m ³ (1.60x10 ⁻⁴ ppm)	
	24 hr avg. time	7.90x10 ⁻¹ µg/m ³ (5.07x10 ⁻⁵ ppm)	
CT	8 hr avg. time	2.00 µg/m ³ (1.28x10 ⁻⁴ ppm)	

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>STATE</u> (cont.)			
FL-PINELLA	8 hr avg. time	1.00x10 ⁻¹ µg/m ³ (6.42x10 ⁻⁵ ppm)	
	24 hr avg. time	2.40x10 ⁻¹ µg/m ³ (1.54x10 ⁻⁵ ppm)	
	Annual avg. time	3.00x10 ⁻¹ µg/m ³ (1.93x10 ⁻⁵ ppm)	
KS	Annual avg. time	2.38x10 ⁻¹ µg/m ³ (1.53x10 ⁻⁵ ppm)	
ND	8 hr avg. time	1.00x10 ⁻³ mg/m ³ (6.42x10 ⁻⁵ ppm)	
NV	8 hr avg. time	2.00x10 ⁻³ mg/m ³ (1.28x10 ⁻⁵ ppm)	
OK	24 hr avg. time	1.00 µg/m ³ (6.42x10 ⁻⁵ ppm)	
PA-PHIL.	1 yr avg. time	7.00x10 ⁻² µg/m ³ (4.49x10 ⁻⁶ ppm)	
	Annual avg. time	7.00 µg/m ³ (4.49x10 ⁻⁴ ppm)	
TX	30 min avg. time	1.00 µg/m ³ (6.42x10 ⁻⁵ ppm)	
	Annual avg. time	1.00x10 ⁻¹ µg/m ³ (6.42x10 ⁻⁶ ppm)	
VA	24 hr avg. time	1.70 µg/m ³ (1.09x10 ⁻⁴ ppm)	
WA-SWEST	24 hr avg. time	3.00x10 ⁻¹ µg/m ³ (1.93x10 ⁻⁵ ppm)	
b. Water:			
Water Quality: Human Health			
AL	Drinking water standard	0.2 µg/L	FSTRAC 1990
AZ	Domestic water source	0.2 µg/L	CELDs 1993
	Drinking water guideline	0.32 µg/L	FSTRAC 1990
	Fish consumption	1.1 µg/L	CELDs 1993
CT	Consumption of organisms only*	0.81	CELDs 1993
	Consumption of water and organisms*	0.76	CELDs 1993

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>STATE</u> (cont.)			
DE	Freshwater fish ingestion only	1.0 µg/L	CELDs 1993
	Freshwater fish and water ingestion	0.2 µg/L	CELDs 1993
	Marine/estuarine fish/shellfish ingestion	0.14 µg/L	CELDs 1993
DC	Raw water source for public water supply	1.0 µg/L	CELDs 1993
FL	Domestic/Drinking water	2.0 µg/L	Sittig 1994
IL	Public and food processing water supply standard	0.0002 mg/L	CELDs 1993
IN	Pt. of water intake - continuous conc. [4 d avg.]	1.0 µg/L	CELDs 1993
KY	Domestic water source	0.001 mg/L	CELDs 1993
LA	Drinking water supply	0.26 µg/L	CELDs 1993
	Non-drinking water supply	0.26 µg/L	CELDs 1993
MA	Drinking water standard	0.2 µg/L	FSTRAC 1990
	Domestic/Drinking water	2.0 µg/L	Sittig 1994
MD	Drinking water	0.2 µg/L	CELDs 1993
ME	Drinking water guideline	0.2 µg/L	FSTRAC 1990
MI	Domestic/Drinking water	1.2 µg/L	Sittig 1994
MN	Drinking water standard	0.2 µg/L	FSTRAC 1990
MS	Organisms only	0.814 µg/L	CELDs 1993
	Water and organisms	0.2 µg/L	CELDs 1993
MO	Fish consumption	0.0023 µg/L	CELDs 1993
	Drinking water supply	0.75 µg/L	CELDs 1993
NE	Water supply	0.0002 mg/L	CELDs 1993
NJ	Domestic/Drinking water	2.0 µg/L	Sittig 1994
NV	Municipal or domestic supply	0.0002 mg/L	CELDs 1993
NY	Class A, A-5, AA, AA-S (Not detectable) Class GA	0.2 µg/L	CELDs 1993
	Class A, A-S, AA, AA-S, B, C, D, SA, SB, SC, SD	0.002 µg/L	CELDs 1993
OH	Public water supply	1 µg/L	EPA 1988d
OK	Public and private water supply	0.0002 mg/L	EPA 1988d

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>STATE</u> (cont.)			
OR	Water and fish ingestion	1 µg/L	CELDs 1993
	Drinking water	0.0002 mg/L	CELDs 1993
RI	Drinking water standard	0.2 µg/L	FSTRAC 1990
	Class A - upper value	0.18 µg/L	EPA 1988d
	Class A - secondary upper limit	0.0023 µg/L	EPA 1988d
SD	Domestic water	0.2 µg/L	CELDs 1993
TN	Domestic raw water supply and industrial water supply	0.2 µg/L	CELDs 1993
	Drinking water	0.0002 mg/L	CELDs 1993
UT	Domestic source	0.2 µg/L	CELDs 1993
VA	Surface public water supply - upper value	0.0002 mg/L	EPA 1988d
VT	Class A or B waters	1 µg/L	CELDs 1993
	Drinking water guideline	0.32 µg/L	FSTRAC 1990
WV	Criterion based on body burden 1.0 µg/L	0.0023	CELDs 1993
Water Quality: Aquatic Life			
AL	Acute-fresh water acute	0.18 µg/L	CELDs 1993
	Chronic-fresh water	0.0023 µg/L	CELDs 1993
	Acute-marine*	0.037	CELDs 1993
	Chronic-marine*	0.0023	CELDs 1993
AR	All classes - upper value	0.18 µg/L	EPA 1988d
	All classes - secondary upper limit	0.0023 µg/L	EPA 1988d
AZ	Acute-cold water fishery*	0.18	CELDs 1993
	Acute-warm water fishery*	0.2	CELDs 1993
	Acute-effluent dominated water*	0.2	CELDs 1993
	Acute-ephemeral*	0.7	CELDs 1993
	Chronic-cold water fishery*	0.002	CELDs 1993
	Chronic-warm water fishery*	0.08	CELDs 1993
	Acute-effluent dominated*	0.08	CELDs 1993
	Acute-ephemeral*	0.3	CELDs 1993

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>STATE</u> (cont.)			
CT	Acute-fresh water*	0.09	CELDs 1993
	Chronic-fresh water*	0.0023	CELDs 1993
	Acute-salt water*	0.0185	CELDs 1993
	Chronic-salt water*	0.0023	CELDs 1993
DE	Acute-fresh water	0.18 µg/L	CELDs 1993
	Chronic-fresh water	0.0023 µg/L	CELDs 1993
	Acute-marine	0.037 µg/L	CELDs 1993
	Chronic-marine	0.0023 µg/L	CELDs 1993
DC		0.0023 µg/L	CELDs 1993
HI	Acute-fresh water	0.18 µg/L	CELDs 1993
	Chronic-fresh water	0.0023 µg/L	CELDs 1993
	Acute-salt water	0.037 µg/L	CELDs 1993
	Chronic-salt water	0.0023 µg/L	CELDs 1993
ID	All classes - upper value	0.0002 mg/L	EPA 1988d
IN	Acute- aquatic-max	0.09 µg/L	CELDs 1993
	Continuous conc. 4-d avg. outside of mixing zone; chronic aquatic for aquatic life*	0.0023	CELDs 1993
KS	Special aquatic life waters - upper value	0.0023 µg/L	EPA 1988d
KY	Acute-warm water	0.18 µg/L	CELDs 1993
	Chronic-warm water	0.0023 µg/L	CELDs 1993
LA	Acute-fresh water	0.18 µg/L	CELDs 1993
	Acute-marine	0.037 µg/L	CELDs 1993
	Chronic-fresh water	0.0023 µg/L	CELDs 1993
	Chronic-marine	0.0023 µg/L	CELDs 1993
MD	Acute-fresh water	0.18 µg/L	CELDs 1993
	Chronic-fresh water	0.0023 µg/L	CELDs 1993
	Acute-salt water	0.037 µg/L	CELDs 1993
	Chronic-salt water	0.0023 µg/L	CELDs 1993
	All waters - upper value	0.004 µg/L	EPA 1988d

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>STATE</u> (cont.)			
MS	Acute-fresh water	0.18 µg/L	CELDs 1993
	Chronic-fresh water	0.0023 µg/L	CELDs 1993
	Acute-salt water*	0.037	CELDs 1993
	Chronic-salt water*	0.0023	CELDs 1993
NC	All fresh surface waters (WS-I-III) - upper value	0.002 µg/L	EPA 1988d
NE	All classes - upper value	0.0002 mg/L	EPA 1988b
NV	"Aquatic Use"	0.00018 mg/L	CELDs 1993
	"Propagation of Wildlife"	0.002 mg/L	CELDs 1993
NJ	Classes FW2, SE, & SC	0.0023 µg/L	CELDs 1993
	Fresh water	0.0023 µg/L	CELDs 1993
	Salt water	0.0023 µg/L	CELDs 1993
ND	Acute	0.18 µg/L	CELDs 1993
	Chronic	0.0023 µg/L	CELDs 1993
OH	Warm water outside mixing zone 30-d avg.	0.002 µg/L	CELDs 1993
	Aquatic life habitat; limited resource-cold water, outside mixing zone, human health	0.002 µg/L	CELDs 1993
OK	Acute	0.18 µg/L	CELDs 1993
	Chronic*	0.0023	CELDs 1993
OR	Acute-fresh water	0.18 µg/L	CELDs 1993
	Chronic-fresh water	0.0023 µg/L	CELDs 1993
	Acute-marine	0.037 µg/L	CELDs 1993
	Chronic-marine	0.0023 µg/L	CELDs 1993
PR	All coastal water classes - upper value	0.001 µg/L	EPA 1988d
	Coastal estuarine waters	0.0023 µg/L	CELDs 1993
RI	Freshwater Classes D and E - upper level	0.18 µg/L	EPA 1988d
	Freshwater Classes D and E - secondary upper limit	0.0023 µg/L	EPA 1988d
	Saline Classes SA, SB and SC - upper level	0.037 µg/L	EPA 1988d
	Saline Classes SA, SB and SC - secondary upper limit	0.0023 µg/L	EPA 1988d

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>STATE</u> (cont.)			
SD	Acute	0.18 µg/L	CELDs 1993
	Chronic	0.0023 µg/L	CELDs 1993
TN	Maximum	0.18 µg/L	CELDs 1993
	Continuous	0.0023 µg/L	CELDs 1993
TX	Acute-fresh water	0.18 µg/L	CELDs 1993
	Chronic-fresh water	0.0023 µg/L	CELDs 1993
	Acute-marine	0.037 µg/L	CELDs 1993
	Chronic-marine	0.0023 µg/L	CELDs 1993
UT	4 d avg.	0.0023 µg/L	CELDs 1993
	1 hr avg.	0.09 µg/L	CELDs 1993
	Aquatic Wildlife Classes 3A-D	0.004 µg/L	EPA 1988d
VT	Acute	0.18 µg/L	CELDs 1993
	Chronic	0.0023 µg/L	CELDs 1993
VA	Chronic-all waters	0.0023 µg/L	CELDs 1993
WI	Great Lakes	0.101 µg/L	CELDs 1993
	Cold water	0.101 µg/L	CELDs 1993
	Warm water sport fish	0.158 µg/L	CELDs 1993
	All others	0.158 µg/L	CELDs 1993
Water Quality: Agricultural Uses			
AZ	Agri irrigation*	0.004	CELDs 1993
	Livestock watering*	0.004	CELDs 1993
NV	Irrigation	0.0002 mg/L	CELDs 1993
	Livestock watering*	0.00018	CELDs 1993
OH	Agri water supply	0.2 µg/L	CELDs 1993
Water Quality: Recreational Use			
AZ	Full and partial body contact	40 µg/L	CELDs 1993
RI	Classes B and C - upper value	0.18 µg/L	EPA 1988d
	Classes B and C - secondary upper limit	0.0023 µg/L	EPA 1988d
	Groundwater Quality Standards		CELDs 1993
AZ		0.0002 mg/L	
CO		0.0002 mg/L	
MA		0.0002 mg/L	

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>STATE</u> (cont.)			
MN	Standards for groundwater at hazardous waste mgt. facilities	0.0002 mg/L	
MO		0.75 mg/L	
NJ	Classes GW1 through 3	0.004 µg/L	
NY		Yes	
NC	Class GS	0.0002 mg/L	
ND		0.0002 mg/L	
OR		0.0002 mg/L	
TN		0.0002 mg/L	
UT		0.0002 mg/L	
WI	Enforcement standard	0.2 µg/L	
	Hazardous waste facility standard	0.0002 mg/L	
	Groundwater Quality Monitoring Parameters		CELDs 1993
CO		0.0002 mg/L	
		Yes	
IL		0.0002 mg/L	
		Yes	
IN		0.0002 mg/L	
LA		0.0002 mg/L	
		Yes	
MN		Yes	
NJ		0.0002 mg/L	
VA		Yes	
WV		Yes	
WI		Yes	
	Preventive action	0.01 µg/L	
	Discharge Limits		CELDs 1993
AR	Chronic toxicity [24 hr avg.]	0.0023 µg/L	
	Acute toxicity [never to exceed]	0.18 µg/L	

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Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>STATE</u> (cont.)			
CA	6-mo median	2 ng/L	
	Daily maximum	4 ng/L	
	Instantaneous maximum	6 ng/L	
NJ	NPDES Permits: Testing Requirements for Organic Toxic Pollutants	Yes	CELDs 1993
CA	Restricted Pesticides	Yes	CELDs 1993
	Toxic Discharge		CELDs 1993
WI	Maximum allowable concentrations for organochlorides and other persistent pesticides (preservation of species dependent on waterbody)	Yes	
OK	Alert	0.3 mg/kg	
SD	Surface Water Discharge Permit Application Requirements: Test Requirements for Organic Toxic Pollutants	Yes	CELDs 1993
c. Other			CELDs 1993
	Hazardous Waste Constituents		
CA		20 wt • wt in mg/kg (total threshold limit conc. in extremely hazardous wastes)	
		Yes	
CO		Yes (App. VIII)	
IL		Yes (App. H)	
LA		Yes	
MA		Yes	
		Yes (LDR)	
MN		Yes	
NH		Yes	
ND		Yes	
WV		Yes (App. VIII)	
WI		Yes (App. IV)	
	Hazardous Waste Toxicity Characteristics		CELDs 1993

7. REGULATIONS AND ADVISORIES

Table 7-1. Regulations and Guidelines Applicable to Endrin/Endrin Aldehyde and Endrin Ketone (continued)

Agency	Description	Information	Reference
<u>STATE</u> (cont.)			
CA	Maximum conc. for toxicity characteristics	0.02 mg/L	
CO		0.02 mg/L	
IL		0.02 mg/L	
LA		0.02 mg/L	
MA		0.02 mg/L	
MN		0.02 mg/L	
ND		0.02 mg/L	
PA		0.02 mg/L	
WV		0.02 mg/L	
WI		0.02 mg/L	

NOTE: Update of drinking water guidelines and other areas in progress.

Units in table reflect values and units of measure designated by each agency in its regulations or advisories.

^a Not classifiable as a human carcinogen

* Unit of measure not specified.

ACGIH = American Conference of Governmental and Industrial Hygienists; CELDs = Computer-aided Environmental Legislative Database; CPSC = Consumer Product Safety Commission; EPA = Environmental Protection Agency; FSTRAC = Federal State Toxicology and Regulatory Alliance Committee; IARC = International Agency for Research on Cancer; IRIS = Integrated Risk Information System; LDR = Land Disposal Restrictions; MCL = Maximum Contaminant Level ; NA = Not available at the present time; NATICH = National Air Toxics Information Clearinghouse; NIOSH = National Institute of Occupational Safety and Health; NPDES = National Pollutant Discharge Elimination System; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; OW = Office of Water; PCB = Polychlorinated Biphenyl; RfD = Reference Dose; STEL = Short-term Exposure Limit; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average; WHO = World Health Organization