

7. REGULATIONS AND ADVISORIES

Because of its potential to cause adverse health effects in exposed persons, a number of regulations and advisories have been established for ethylene oxide by various international, national, and state agencies. These regulations and advisories are summarized in Table 7-1.

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TABLE 7-1. Regulations and Guidelines Applicable to Ethylene Oxide

Agency	Description	Value	Reference
IARC	Carcinogenic classification	Group 2A ^a	IARC 1987
<u>National</u>			
Regulations:			
a. Air:			
EPA OAQPS	Hazardous air pollutant notice of intent to list	No data	EPA 1985b
OSHA	PEL		
	TWA	1 ppm	OSHA 1988b
	Excursion limit (15 min)	5 ppm	29 CFR 1910.1047
b. Nonspecific media:			
EPA OERR	Reportable quantity	1 lb	EPA 1985c (40 CFR 302.4)
	Reportable quantity (proposed)	10 lb	EPA 1987a
	Extremely hazardous substance threshold planning quantity	1000 lb	EPA 1987b (40 CFR 355)
EPA OPP	Tolerances for residues on raw agricultural commodities	50 ppm	40 CFR 180.151
EPA OSW	Hazardous waste constituent (Appendix VIII)	No data	EPA 1980 (40 CFR 261)
	Land disposal restrictions	No data	EPA 1989
EPA OTS	Health and safety data reporting rule	No data	EPA 1988a (40 CFR 716.120)
	Preliminary assessment information rule	No data	EPA 1982b (40 CFR 712.30)
	Toxic chemical release reporting	No data	EPA 1988b (40 CFR 372)
FDA	Fumigant for spices permitted		21 CFR 193.200
	Tolerance for residue in ground spices	50 ppm	
	Maximum residue limits in medical devices (proposed)	5-250 ppm	FDA 1978
	Maximum residue limits in drug products (proposed)	5-35 ppm	FDA 1978
	Maximum daily exposure level to residues in drug products (proposed)	30 µg/kg/day 30 days	FDA 1978
Guidelines:			
a. Air:			
ACGIH	TLV TWA Suspected human carcinogen	1 ppm (2 mg/m ³)	ACGIH 1986
NIOSH	IDLH	800 ppm	NIOSH 1985b
	Recommended exposure limits TWA	<0.1 ppm	NIOSH 1988
	Ceiling (10 min/day)	5 ppm	
b. Other:			
EPA	Carcinogenic classification group B1 ^b		EPA 1985a

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TABLE 7-1 (Continued)

Agency	Description	Value	Reference
<u>State</u>			
Regulations:			
a. Air:	Acceptable ambient air concentration		NATICH 1988
Connecticut		20 $\mu\text{g}/\text{m}^3$ (8 hr)	
Indiana		450 $\mu\text{g}/\text{m}^3$ (8 hr)	
Nevada		0.048 mg/m^3 (8 hr)	
New York		6.67 $\mu\text{g}/\text{m}^3$ (1 yr)	
North Carolina		0.10 $\mu\text{g}/\text{m}^3$ (annual)	
North Dakota		0.0 (bact)	
Pennsylvania (Philadelphia)		4.87 $\mu\text{g}/\text{m}^3$ (1 yr)	
Rhode Island		0.01 $\mu\text{g}/\text{m}^3$ (annual)	
South Carolina		10 $\mu\text{g}/\text{m}^3$ (24 hr)	
South Dakota		20 $\mu\text{g}/\text{m}^3$ (8 hr)	
Virginia		20 $\mu\text{g}/\text{m}^3$ (24 hr)	

^a Group 2A: Probably carcinogenic to humans.

^b Group B1: Probable human carcinogen.

IARC = International Agency for Research on Cancer; EPA = Environmental Protection Agency; OAQPS = Office of Air Quality, Planning and Standards; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit; TWA = Time-Weighted Average; OAQPS = Office of Air Quality Planning and Standards; OERR = Office of Emergency and Remedial Response; OPP = Office of Pesticide Programs; OSW = Office of Solid Wastes; OTS = Office of Toxic Substances; FDA = Food and Drug Administration; ACGIH = American Conference of Governmental Industrial Hygienists; TLV = Threshold Limit Value; NIOSH = National Institute for Occupational Safety and Health; IDLH = Immediately Dangerous to Life or Health Level.

