

7. REGULATIONS AND ADVISORIES

The international, national, and state regulations and guidelines regarding propylene glycol in air, water, and other media are summarized in Table 7-1. An MRL of 0.009 ppm has been derived for intermediate-duration inhalation exposure (1.5-364 days) to propylene glycol based on a LOAEL of 51 ppm for nasal hemorrhaging (Suber et al. 1989).

Propylene glycol is regulated under Clean Air Act New Source Performance Standards for the synthetic organic chemical manufacturing industry (EPA 1993b). Propylene glycol is regulated by the Clean Water Act Effluent Guidelines for organic chemicals, plastics, and synthetic fibers (OCPSF). The waste water generated by the production of these chemicals has effluent limitations on biochemical oxygen demand (BOD5), total suspended solids (TSS), and pH (EPA 1987d).

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Table 7-1. Regulations and Guidelines Applicable to Propylene Glycol

Agency	Description	Information	Reference
<u>INTERNATIONAL</u>			
Guidelines:			
WHO	Acceptable daily intake	0-25 mg/kg	FAOWHO 1974
<u>NATIONAL</u>			
Regulations and guidelines:			
a. Air			
EPA OAR	App. A – Chemicals defining synthetic organic chemical and polymer manufacturing	Yes	40 CFR 52 EPA 1972a
	Subpart VV – Std. of performance for equipment leaks of VOC in SOCM: Chemicals produced by affected facilities	Yes	40 CFR 60.489 EPA 1983
	Definitions of emissions from polymer manufacturers: Definition of “polymerization reaction section”	Yes	40 CFR 60.561 EPA 1990b
	Subpart NNN – Std. of performance for VOC emissions from SOCM distillation operations: Chemical affected	Yes	40 CFR 60.667 EPA 1990b
	Subpart RRR – Std. of performance for VOC emissions from SOCM process reactors: Chemicals affected	Yes	40 CFR 60.707 EPA 1993b
	New source performance standard	Yes	58 FR45962 EPA 1993c
b. Water			
EPA OW	Bulk organic chemicals under the Clean Water Act	Yes	40 CFR 414.70 EPA 1987d
	App. A – Non-complexed metal-bearing waste	Yes	40 CFR 414 EPA 1987d
EPA OWRS	Pesticide subject to registration and reregistration	Yes	40 CFR 152.146 EPA 1989b EPA 1989a
c. Food			
FDA	Generally recognized as safe	Yes	21 CFR 184.1666 FDA 1982
	2,4-D: Food tolerances for residues 2,4-D Applied in the form of polyethylene glycol and/or propylene glycol		40 CFR 180.142 EPA 1982
	Max. 2,4-D tolerance: Pasture and rangeland grasses Min. 2,4-D tolerance: Blueberries and rice	1,000 ppm 0.1 ppm	

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Agency	Description	Information	Reference
	Inert ingredients exempt from tolerances	Yes	40 CFR 180.1001 EPA 1971
<u>NATIONAL</u> (cont.)			
d. Other			
EPA OPTS	Temperature correction factors for organic solvents	0.043 K°C/mmHg	40 CFR 796.1220 EPA 1985a
	Avian dietary testing procedures – sample diluents	Yes	40 CFR 797.2050 EPA 1985b
	Sample Diluents for Bobwhite reproductive tests	Yes	40 CFR 797.2130 EPA 1985b
	Sample diluents for Mallard reproductive Tests	Yes	40 CFR 797.2150 EPA 1985b
	Sample carriers for avian acute toxicity test	Yes	40 CFR 797.2175 EPA 1985b
<u>STATE</u>			
Regulations and guidelines:			
a. Air:	Acceptable ambient air concentrations		
VA	24 hours	1.10x10 ³ µg/m ³	NATICH 1991

EPA = Environmental Protection Agency; FDA = Food and Drug Administration; NATICH = National Air Toxics Information Clearinghouse; OAR = Office of Air and Radiation; OPTS = Office of Pesticides and Toxic Substances; OW = Office of Water; OWRS = Office of Waste Regulations and Standards; SOCMI = Synthetic Organic Chemical Manufacturing Industry; VOC = Volatile Organic Compound