

## 7. REGULATIONS AND ADVISORIES

National and State regulations and guidelines are listed in Table 7-1.

An acute-duration inhalation MRL for acetone of 26 ppm was derived. The MRL is based on a LOAEL value of 237 ppm for 4 hours for neurobehavioral effects in humans in an experimental study by Dick et al. (1989). Intermediate and chronic inhalation MRLs of 13 ppm were derived based on a LOAEL value of 1,250 ppm for neurological effects in humans in a 6-week study by Stewart et al. (1975).

An intermediate-duration oral MRL for acetone of 2 mg/kg/day was derived. The MRL is based on a NOAEL value of 200 mg/kg/day for macrocytic anemia in rats in the 13-week drinking water study (Dietz et al. 1991; NTP 1991). The LOAEL was 400 mg/kg/day.

EPA has verified a chronic oral reference dose (RfD) for acetone of 0.1 mg/kg/day (IRIS 1992). The RfD is based on the NOAEL of 100 mg/kg/day for increased liver and kidney weights and nephrotoxicity in rats in the 13-week gavage study by American Biogenics Corp. (1986).

## 7. REGULATIONS AND ADVISORIES

TABLE 7-1. Regulations and Guidelines Applicable to Acetone

Agency	Description	Information	References
<b><u>NATIONAL</u></b>			
Regulations:			
a. Air:			
OSHA	PEL TWA STEL	750 ppm (1,800 mg/m <sup>3</sup> ) 1,000 ppm (2,400 mg/m <sup>3</sup> )	OSHA 1989 (29 CFR 1910.1000)
b. Other:			
EPA OERR	RQ	5,000 pounds	EPA 1985 (40 CFR 117 and 302)
Guidelines:			
a. Air:			
ACGIH	TLV TWA STEL	750 ppm (1,780 mg/m <sup>3</sup> ) 1,000 ppm (2,380 mg/m <sup>3</sup> )	ACGIH 1991
NIOSH	REL TWA	250 ppm (590 mg/m <sup>3</sup> )	NIOSH 1992
b. Other:			
EPA	RfD (oral) Carcinogen classification	0.1 mg/kg/day D <sup>a</sup>	IRIS 1992 IRIS 1992
<b><u>STATE</u></b>			
Regulations and Guidelines:			
a. Air:	Acceptable ambient air concentrations		NATICH 1992
Arizona		20.0 mg/m <sup>3</sup> (1-hour average) 14.0 mg/m <sup>3</sup> (24-hour average) 11.8 mg/m <sup>3</sup> (8-hour average)	
Connecticut			
Florida:			
(Tampa)		35.6 mg/m <sup>3</sup> (8-hour average)	
(Fort Lauderdale)		36.0 mg/m <sup>3</sup> (8-hour average)	
(Pinella)		35.6 mg/m <sup>3</sup> (8-hour average)	
(Pinella)		8.54 mg/m <sup>3</sup> (24-hour average)	
Massachusetts		0.161 mg/m <sup>3</sup> (24-hour average) 0.161 mg/m <sup>3</sup> (annual)	
Maine		3.5 mg/m <sup>3</sup> (24-hour average) 0.35 mg/m <sup>3</sup> (annual)	
North Dakota		17.8 mg/m <sup>3</sup> (8-hour average) 23.8 mg/m <sup>3</sup> (1-hour average)	
Nevada		42.4 mg/m <sup>3</sup> (8-hour average)	
New York		35.6 mg/m <sup>3</sup> (1-year average)	
South Dakota		11.8 mg/m <sup>3</sup> (8-hour average)	
Texas		5.9 mg/m <sup>3</sup> (30-minute average) 0.59 mg/m <sup>3</sup> (annual)	
Virginia		30.0 mg/m <sup>3</sup> (24-hour average)	
Vermont		178 mg/m <sup>3</sup> (8-hour average)	
b. Water:	Drinking water quality standards		FSTRAC 1990
Massachusetts		700 µg/L	
Maryland		3,600 µg/L	
Minnesota		700 µg/L	
New Hampshire		700 µg/L	

## 7. REGULATIONS AND ADVISORIES

TABLE 7-1. Regulations and Guidelines Applicable to Acetone (continued)

Agency	Description	Information	References
<u>STATE</u> (continued)			
standards for spent solvents			Treatment CELDS 1992 CaliforniaWaste
waters containing spent acetone	0.05 mg/L		All other
spent acetone wastes	0.59 mg/L		

<sup>a</sup>Not classifiable as to human carcinogenicity

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; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit; REL = Recommended Exposure Limit; RfD = Reference Dose; RQ = Reportable Quantity; STEL = Short-term Exposure Limit; TLV = Threshold Limit Value; TWA = Time-weighted Average

