

7. REGULATIONS AND ADVISORIES

The International Register of Potentially Toxic Chemicals (IRPTC 1988) lists regulations imposed by 13 countries for NDMA for occupational exposure, packing, storing and transport, disposal, and warns of its probable human carcinogenicity and its high level of toxicity by ingestion or inhalation.

NDMA is regulated by effluent guidelines under the Clean Water Act for the following industrial point sources: electroplating, steam electric power generation, asbestos products manufacturing, timber products processing, metal finishing, paving and roofing, paint formulating, ink formulating, and carbon black manufacturing (EPA 1988a).

Additional national and state regulations and guidelines pertinent to human exposure to NDMA are summarized in Table 7-1.

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TABLE 7-1. Regulations and Guidelines Applicable to N-Nitrosodimethylamine

Agency	Description	Value	Reference
INTERNATIONAL			
WHO	Cancer Classification	Group 2A ^a	IARC 1987a
NATIONAL			
<u>Regulations</u>			
EPA OERR	Reportable Quantity (Proposed 1987)	10 lbs	EPA 1988a
EPA	Extremely Hazardous Substance Emergency Planning and Release Notification requirements: Reportable Quantity	1 lb	EPA 1987 40 CFR 300 and 355
	Threshold Planning Quantity	1,000 lbs	
OSHA	Cancer Designation	Cancer - suspect agent	29 CFR 1910.1016 (7/1/88)
<u>Guidelines</u>			
a. <u>Air</u>	q ₁ * (inhalation)	51/mg/kg/day	EPA 1988a
b. <u>Water</u>	Ambient Water Quality Criteria for the following lifetime increased cancer risk levels:		EPA 1980 45 FR 79318 (11/28/80)
	(With exposure to water, fish and shellfish)	10 ⁻⁵ 14.0 ng/L 10 ⁻⁶ 1.4 ng/L 10 ⁻⁷ 0.14 ng/L	
	(With exposure to fish and shellfish only)	10 ⁻⁵ 160,000 ng/L 10 ⁻⁶ 16,000 ng/L 10 ⁻⁷ 1,600 ng/L	
c. <u>Food</u>			
FDA	Action Level for NDMA in barley malt	10 ppb	Fed. Reg. 1981 46 FR 39218
d. <u>Other</u>			
EPA	q ₁ * (oral)	51/mg/kg/day	EPA 1988a
EPA	Cancer Classification	Group B2 ^a	EPA 1988a
ACGIH	Cancer Classification	Category A2 ^b	ACGIH 1989

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TABLE 7-1 (continued)

Agency	Description	Value	Reference
STATE			
State	Acceptable Ambient Air Concentrations		
Kansas		0.0018 $\mu\text{g}/\text{m}^3$ (annual avg)	NATICH 1987
North Carolina		0.0000 $\mu\text{g}/\text{m}^3$ (24 hr avg)	NATICH 1987
Pennsylvania-Philadelphia		0.0004 ppb (1 yr avg)	NATICH 1987
Virginia		3.0000 $\mu\text{g}/\text{m}^3$ (24 hr avg)	NATICH 1987
Kentucky		BACT ^c	State of Kentucky 1986
State	Acceptable Drinking Water Concentrations		
Kansas		0.0014 $\mu\text{g}/\text{L}$	FSTRAC 1988
Minnesota		0.014 $\mu\text{g}/\text{L}$	FSTRAC 1988

^aProbable human carcinogen.

^bSuspected human carcinogen. It is noted for NDMA that exposure by the cutaneous route can potentially contribute to overall exposure.

^cBest available control technology. Use of the best available technology to produce the maximum reduction in emissions at a specific emission site is required.