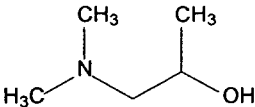


INFORMATION SHEET
1-(Dimethylamino)-2-propanol
108-16-7

11/21/03

<u>NOMINATION DATA:</u>	Ink component that caused ocular effects in workers	
<u>CHEMICAL NAME:</u>	2-Propanol,1-(dimethylamino)- (8CI, 9CI)	
<u>SYNONYMS:</u>	1-(Dimethylamino)propan-2-ol; dimepropanol; dimethylisopropanolamine; 1-(dimethylamino)-2-propanol; dimethyl-(2-hydroxypropyl)amine; Deanol	
<u>P/C PROPERTIES:</u>	Light yellow clear liquid; mol. wt. 103.17; pH 12.1; bp 122-126 °C; soluble in water; ammoniacal fishy odor (Aldrich MSDS; Hawley's CCD; Union Carbide MSDS)	
<u>STRUCTURAL CLASS:</u>	Alcohol amine	
<u>AVAILABILITY:</u>	Sigma-Aldrich (99+%; ≥98%; 77%); Fisher (Acros Organics Product)	

PRODUCTION/EXPOSURE/ENVIRONMENTAL FATE:

- 10 Suppliers (Chem Sources); 1 producer/distributor (Chemyclopedia)
- Listed in the TSCA Inventory
- 19,644 total employees (914 women) potentially exposed (NOES)
- European LPV Chemical (ECB-ESIS)
- Not on EPA HPV or Medium Production Lists (EPA)
- Cited in 196 patents between 1976 and present (USPTO)

USE:

- Synthesis of methadone and other chemicals (Hawley's CCD)
- pH adjuster for water-based inks (Page *et al.*, 2003)
- Component of some water-based automobile paints (Jargot *et al.*, 1999)
- Amine to neutralize carbonic acid in boiler systems (Nalco, 1992)
- Included in two chemical categories: alkyl alkanolamines (DOW, 2004) and isopropanolamines (Cowles, 2004)
- Alkyl alkanolamines (including dimethylaminoethanol) are used in pharmaceutical, water treatment, fabric treatment, coatings industries, and gas treatment (DOW, 2004)
- Isopropanolamines (including monoisopropanolamine, diisopropanolamine, and triisopropanolamine) are used in many applications (DOW, 1998; BASF 1999):
 - Cement
 - Pigments
 - Cosmetics and other personal care products
 - Scouring, wetting, and lubricating agents for textiles
 - Metalworking compounds (buffing, cutting, and cleaning fluids)
 - Agricultural sprays (herbicides, algicides, fungicides, pesticides)
 - Pharmaceuticals (antihistamines, antibiotics, local anesthetics)

- Gas treatment
- Manufacture of polymers (urethanes, rubber, and polyolefins)
- Evaluated as a potential anti-HIV chemical (NIAID, 2004)

TOXICITY:

Humans:

- Blurry vision in workers, one with “film over eyes”; NIOSH Health Hazard Evaluation found that concentrations of dimethylisopropanolamine and dimethylaminoethanol were higher in the line where the affected workers were assigned than in other parts of the plant (NIOSH, 2002).
- Exposure to alkylamines has been associated with reversible vision problems (NIOSH, 2002).

Acute Toxicity:

- LD₅₀: rat, oral; 1,739 mg/kg (RTECS)
- LD₅₀: rat, oral, 1,890 mg/kg (Aldrich MSDS)
- LD₅₀: rat, oral, 1.48-2.83 mL/kg (PMID: 8948072)
- LD₅₀: rabbit, dermal; 1,040 mg/kg (RTECS)
- LD₅₀: rat, oral, in the range of 1.48-2.83 mL/kg (PMID: 8948072)
- Severe eye irritant: rabbit (RTECS)
- Severe eye irritant (PMID: 8948072)
- Moderate skin irritant: rabbit (RTECS)
- Moderate percutaneous toxicity: rat (PMID: 8948072)

Chronic Toxicity:

- No information found in available literature

Genotoxicity:

- No information found in available literature

Structurally-Related Chemical:

Dimethylethanolamine [CAS No. 108-01-0] is an HPV chemical that has been selected for testing by NTP; project leader assigned; study in design. This chemical was listed as negative in *Drosophila* and negative and inconclusive in *Salmonella* by NTP (EPA, NTP TF, NTP Management Status Report).

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CRC Hnbk/POC	✓	DWCP	✓	NCI TF	x	HSDB	✓	TSCA Inventory	✓	TOXLINE	✓
Merck Index	x	OPDCBD	x	NTP TF	x	RTECS	✓	NOES data	x	INTERNET	✓
Sigma-Aldrich	✓	CWBG	x	NCI STTP	x	CCRIS	x	ACGIH TLV	x	MEDLINE	✓
Ullmann's Encyc.	✓	Chemyclopedia	✓	PHS-149	x	GENETOX	x	K-O Encyc.	X	CANCERLIT	✓
Hawley's CCD	✓	Verschueren	x	IARC	x	EMIC/BACK	x	ChemID	✓	USITC	X
CEH Handbook	x	ChemSources	✓	USPTO	✓	EPA	x	ChemFinder	✓	CA EPA	x

✓ = source checked, data found; x = source checked, but no data found