N-PROPANOLAMINE

PLA

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Liquid	Colorless to pale yellow	Fishy odor
3-Amino-1-propanol 3-Propanolamine 1-Propanol, 3-amino	Liquid floats and mixes with water.		

Keep people away. Avoid contact with vapor or liquid.
Wear self-contained breathing apparatus and full protective clothing for emergency action.
Shut off ignition sources and call fire department.
Notify local health and pollution control agencies.
Protect water intakes.

Fire

Combustible
TOXIC FUMES PRODUCED AT DECOMPOSITION TEMPERATURE.
Wear self-contained breathing apparatus and full protective clothing.
Small fires: Dry chemical, CO_2, water spray, or alcohol foam.
Large fires: Water spray, fog, or alcohol foam.
Cool exposed containers with water until fire is well out.

Exposure

CALL FOR MEDICAL AID

VAPOR
May be harmful if inhaled.
Move victim to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
Irritating to eyes and skin.
May cause burns.
Remove and isolate contaminated clothing and shoes.
IF IN EYES: hold eyelids open and flush with plenty of running water for at least 15 minutes.
Flush other affected areas for at least 15 minutes with plenty of running water.
Keep victim quiet and maintain normal body temperature.

Water Pollution

Effect of low concentration on aquatic life is unknown.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of local water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Dilute and disperse
Stop discharge
Collection Systems: Dredge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 8; Alkanolamines
2.2 Formula: $H_2NCH_2CH_2CH_2OH$
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: Not listed
2.5 CAS Registry No.: 156-87-6
2.6 NAERG Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 51467

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Wear butyl rubber gloves and face shield or all-purpose canister respirator for spills. Wear self-contained breathing apparatus and full protective clothing for fires.
3.2 Symptoms Following Exposure: If inhaled may be harmful. Contact may cause burns to skin and eyes. (Organic base.)
3.3 Treatment of Exposure: INHALATION: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. SKIN AND EYES: Immediately flush skin or eyes with running water for at least 15 minutes; hold eyelids open if necessary. Remove and isolate contaminated clothing and shoes. Maintain normal body temperature.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 2; LD_{50} = 2.8 g/kg (rat)
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: Vapors are moderately irritating such that personnel will usually not tolerate moderate or high concentrations
3.11 Liquid or Solid Characteristics: Fairly severe skin irritant. May cause pain and second-degree burns after a few minutes' contact.
3.12 Odor Threshold: Currently not available
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: 175°F C.C.
4.2 Flammable Limits in Air: Currently not available
4.3 Fire Extinguishing Agents: Small fires: Dry chemical, CO_2, water spray or alcohol foam. Large fires: Water spray, fog or alcohol foam.
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire.
4.6 Behavior in Fire: May produce toxic oxides of nitrogen.
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Currently not available
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 27.4 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 8.5 (calc.)
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: Currently not available
5.3 Stability During Transport: Currently not available
5.4 Neutralizing Agents for Acids and Caustics: Cover spilled material with sodium bisulfate. Flush with water.
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: Currently not available
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): Currently not available
6.4 Food Chain Concentration Potential: Currently not available
6.5 GESAMP Hazard Profile: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: 98%, 99+%
7.2 Storage Temperature: Currently not available
7.3 Inert Atmosphere: Currently not available
7.4 Venting: Currently not available
7.5 IMO Pollution Category: C
7.6 Ship Type: 3
7.7 Barge Hull Type: 3

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Not listed
8.2 49 CFR Class: Not pertinent
8.3 49 CFR Package Group: Not listed.
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue).....	3
Flammability (Red).....	2
Instability (Yellow).....	0

8.6 EPA Reportable Quantity: 5000 pounds
8.7 EPA Pollution Category: D
8.8 RCRA Waste Number: U194
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Liquid
9.2 Molecular Weight: 75.11
9.3 Boiling Point at 1 atm: 369.5°F = 187.8°C = 460.5°K
9.4 Freezing Point: 52°F = 11°C = 284.2°K
9.5 Critical Temperature: Currently not available
9.6 Critical Pressure: Currently not available
9.7 Specific Gravity: 0.982 at 20°C
9.8 Liquid Surface Tension: Currently not available
9.9 Liquid Water Interfacial Tension: Currently not available
9.10 Vapor (Gas) Specific Gravity: 2.6 (est)
9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available
9.12 Latent Heat of Vaporization: Currently not available
9.13 Heat of Combustion: Currently not available
9.14 Heat of Decomposition: Currently not available
9.15 Heat of Solution: Currently not available
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
78	61.330		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE	0	0.381
						25	0.390
						50	0.399
						75	0.408
						100	0.417
						125	0.426
						150	0.435
						175	0.444
						200	0.452
						225	0.461
						250	0.470
						275	0.479
						300	0.488
						325	0.497
						350	0.506
						375	0.515
						400	0.524
						425	0.533
						450	0.542
						475	0.551
						500	0.560
						525	0.569
						550	0.578
						575	0.587
						600	0.595