1-NAPHTHYLAMINE

NAO

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
1-Aminonaphthalene alpha-Naphthylamine	Solid Sinks in water.	Light to dark brown	Weak ammonia-like odor

KEEP PEOPLE AWAY. AVOID CONTACT WITH SOLID AND DUST.
Avoid inhalation.
Wear dust respirator and rubber overclothing (including gloves).
Notify local health and pollution control agencies.
Protect water intakes.

Fire	Combustible. POISONOUS GASES ARE PRODUCED IN FIRE. Irritating gases are produced when heated. Extinguish with water, dry chemicals, foam, or carbon dioxide.
Exposure	CALL FOR MEDICAL AID. DUST POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Irritating to eyes. Move victim to fresh air. If in eyes, hold eyelids open and flush with plenty of water. If breathing is difficult, give oxygen. SOLID POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.
Water Pollution	Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Skim; Dredge
Chemical and Physical Treatment: Absorb
Do not burn
Clean shore line

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: 1-$C_{10}H_7NH_2$
2.3 IMO/UN Designation: 6.1/2077
2.4 DOT ID No.: 2077
2.5 CAS Registry No.: 134-32-7
2.6 NAERG Guide No.: 153
2.7 Standard Industrial Trade Classification: 51454

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Complete protection for respiratory system, eyes, and skin
3.2 Symptoms Following Exposure: Inhalation may cause cyanosis (blue color in lips and under finger nails). Contact with liquid causes local irritation of eyes. Neither ingestion nor contact with skin produces any recognized immediate effects.
3.3 Treatment of Exposure: Persons undergoing severe exposure to this compound should have continuing medical attention for possible development of cancer. INHALATION: obtain medical attention for cyanosis. EYES: flush with water for at least 15 min. SKIN: wash carefully with soap and water. INGESTION: get medical attention.
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; oral LD_{50} = 779 mg/kg (rat), 4,000 mg/kg (mammal)
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Considered cancer-producing, particularly since it may contain up to 0.5% of 2-naphthylamine.
3.10 Vapor (Gas) Irritant Characteristics: Currently not available
3.11 Liquid or Solid Characteristics: Currently not available
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: (combustible solid) 315°F C.C. (molten solid)
4.2 Flammable Limits in Air: Not pertinent
4.3 Fire Extinguishing Agents: Water, dry chemical, carbon dioxide, foam
4.4 Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing.
4.5 Special Hazards of Combustion Products: Toxic nitrogen oxides are produced in a fire.
4.6 Behavior in Fire: Not pertinent
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Not pertinent
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 63.1 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 15.5 (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: No reaction
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent
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: None
6.5 GESAMP Hazard Profile: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: Pure; Technical
7.2 Storage Temperature: Cool ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open. Store containers in well-ventilated area.
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Keep Away From Food
8.2 49 CFR Class: 6.1
8.3 49 CFR Package Group: III
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue).....	2
Flammability (Red).....	1
Instability (Yellow).....	0

8.6 EPA Reportable Quantity: 100 pounds
8.7 EPA Pollution Category: B
8.8 RCRA Waste Number: U167
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Solid
9.2 Molecular Weight: 143.2
9.3 Boiling Point at 1 atm: 572°F = 300°C = 573°K
9.4 Freezing Point: 118–122°F = 48–50°C = 321–323°K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 1.12 at 25°C (solid)
9.8 Liquid Surface Tension: Not pertinent
9.9 Liquid Water Interfacial Tension: Not pertinent
9.10 Vapor (Gas) Specific Gravity: Not pertinent
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: Not pertinent
9.13 Heat of Combustion: –15,290 Btu/lb = –8,495 cal/g = -355.4×10^5 J/kg
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Not pertinent
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
	NOT PERTINENT		NOT PERTINENT	125	0.811		NOT PERTINENT

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
68	0.170		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT