

N,N-DIMETHYL ACETAMIDE SOLUTION (40% OR LESS)

DLS

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Acetic acid, dimethylamide Dimethylacetamide	Liquid	Colorless	Slight ammonia-like odor
<p>Keep people away. Avoid contact with liquid and vapor. Shut off ignition sources and call fire department. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Notify local health and pollution control agencies. Protect water intakes.</p>			
Fire	<p>Combustible. Toxic vapors and gases may be generated in fire. Wear full protective clothing and self-contained breathing apparatus. Extinguish with dry chemical, alcohol foam, or carbon dioxide. Use water spray to cool exposed containers.</p>		
Exposure	<p>Call for medical aid.</p> <p>LIQUID Harmful if swallowed, inhaled, or absorbed through skin. Move to fresh air. 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 not breathing, give artificial respiration. If breathing is difficult, give oxygen.</p>		
Water Pollution	<p>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.</p>		

1. CORRECTIVE RESPONSE ACTIONS Dilute and disperse Stop discharge	2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: 10; Amides 2.2 Formula: (CH ₃) ₂ NCOCH ₃ 2.3 IMO/UN Designation: Currently not available 2.4 DOT ID No.: Not listed. 2.5 CAS Registry No.: 127-19-5 2.6 NAERG Guide No.: Not listed 2.7 Standard Industrial Trade Classification: 51471
3. HEALTH HAZARDS	
<p>3.1 Personal Protective Equipment: Wear impervious protective clothing, including boots, gloves, and apron or coveralls to prevent skin contact. Use goggles or face shield where splashing is possible. Do not wear contact lenses when working with this compound.</p> <p>3.2 Symptoms Following Exposure: Inhalation may cause nasal and respiratory irritation. May cause systemic poisoning. Ingestion may cause abdominal spasms, vomiting, sweating, weakness, and headache. Large doses may cause lethargy, disorientation, redness, dermatitis, and sensitization.</p> <p>3.3 Treatment of Exposure: Call for medical aid. EYES: Flush with plenty of water for 15 min., lifting lids occasionally. SKIN: Flush with plenty of water for 15 min. Remove contaminated clothing and shoes. INGESTION: Induce vomiting.</p> <p>3.4 TLV-TWA: 10 ppm 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 2; oral LD₅₀ = 5.63 g/kg (rat) 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Workers repeatedly exposed to 20-25 ppm developed jaundice. Repeated exposures in dogs caused severe fatty infiltration of the liver. Repeated exposures in rats resulted in focal necrosis of the liver. 3.10 Vapor (Gas) Irritant Characteristics: Vapors cause moderate irritation such that personnel will find high concentrations unpleasant. The effect is temporary. 3.11 Liquid or Solid Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin. 3.12 Odor Threshold: 20 ppm. 3.13 IDLH Value: 300 ppm 3.14 OSHA PEL-TWA: 10 ppm 3.15 OSHA PEL-STEL: Not listed. 3.16 OSHA PEL-Ceiling: Not listed. 3.17 EPA AEGL: Not listed</p>	

4. FIRE HAZARDS

- 4.1 Flash Point: 158°F O.C. 145°F C.C.
4.2 Flammable Limits in Air: LEL: 1.8% @ 212°F; UEL: 11.5% @ 320°F.
4.3 Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide
4.4 Fire Extinguishing Agents Not to Be Used: Do not use halogenated extinguishing media or water.
4.5 Special Hazards of Combustion
Products: Emits carbon oxides, nitrogen oxides, and dimethylamine when heated to decomposition.
4.6 Behavior in Fire: Sealed closed containers may rupture from pressure from heat of fire.
4.7 Auto Ignition Temperature: 914°F
4.8 Electrical Hazards: Not listed.
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichiometric Air to Fuel Ratio: 32.1 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 9.5 (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: Incompatible with oxidizing agents and halogenated compounds.
5.3 Stability During Transport: Stable.
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent.
5.5 Polymerization: Will not polymerize.
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:
Bioaccumulation: 0
Damage to living resources: 0
Human Oral hazard: 1
Human Contact hazard: II
Reduction of amenities: XX

7. SHIPPING INFORMATION

- 7.1 Grades of Purity: Technical grades; CP.
7.2 Storage Temperature: Ambient.
7.3 Inert Atmosphere: No requirement.
7.4 Venting: Pressure vacuum valve.
7.5 IMO Pollution Category: D
7.6 Ship Type: 3
7.7 Barge Hull Type: Currently not available

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).....	2
Flammability (Red).....	2
Instability (Yellow).....	0

8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
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: 87.14
9.3 Boiling Point at 1 atm: 331°F = 166°C = 439°K
9.4 Freezing Point: -4°F = -20°C = 253°K
9.5 Critical Temperature: Currently not available
9.6 Critical Pressure: Currently not available
9.7 Specific Gravity: 0.937
9.8 Liquid Surface Tension: Currently not available
9.9 Liquid Water Interfacial Tension: Currently not available
9.10 Vapor (Gas) Specific Gravity: Currently not available
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
	C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E

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
	M I S C I B L E	68	0.029	68	0.00045		C U R R E N T L Y N O T A V A I L A B L E