

DIMETHYLACETAMIDE

DAC

| CAUTIONARY RESPONSE INFORMATION | | | |
|--|---|-----------|-----------------|
| Common Synonyms Acetic acid, dimethylamide N-N-Dimethylacetamide | Liquid | Colorless | Weak fishy odor |
| Mixes with water. | | | |
| | Keep people away. Call fire department. Notify local health and pollution control agencies. Protect water intakes. | | |
| Fire | Combustible. Extinguish with water, dry chemicals, alcohol foam, or carbon dioxide. | | |
| Exposure | Call for medical aid. LIQUID Irritating to skin and eyes. Harmful if swallowed. 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 | 2. CHEMICAL DESIGNATIONS |
|---|--|
| Dilute and disperse Stop discharge | <p>2.1 CG Compatibility Group: Not listed. 2.2 Formula: $\text{CH}_3\text{CON}(\text{CH}_3)_2$ 2.3 IMO/UN Designation: Not listed 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: 51451</p> |
| 3. HEALTH HAZARDS | |
| <p>3.1 Personal Protective Equipment: Goggles or face shield; rubber gloves. 3.2 Symptoms Following Exposure: Liquid causes mild irritation of eyes and skin. Ingestion causes depression, lethargy, confusion and disorientation, visual and auditory hallucinations, perceptual distortions, delusions, emotional detachment, and affective blunting. 3.3 Treatment of Exposure: EYES: flush with plenty of water for 15 min.; get medical attention. SKIN: flush with plenty of water for 15 min. INGESTION: induce vomiting and follow with gastric lavage and saline cathartics; treatment for liver and kidney injury is supportive and symptomatic. 3.4 TLV-TWA: 10 ppm 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 1; oral LD₅₀ = 5.63 g/kg (rat) 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: May produce chronic liver and kidney damage. 3.10 Vapor (Gas) Irritant Characteristics: Currently not available 3.11 Liquid or Solid Characteristics: Currently not available 3.12 Odor Threshold: 46.8 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 | 7. SHIPPING INFORMATION |
|--|--|
| 4.1 Flash Point: 158°F O.C. 4.2 Flammable Limits in Air: 1.5%-11.5% 4.3 Fire Extinguishing Agents: Water, dry chemical, alcohol foam, carbon dioxide 4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent 4.5 Special Hazards of Combustion Products: Not pertinent 4.6 Behavior in Fire: Not pertinent 4.7 Auto Ignition Temperature: 914°F 4.8 Electrical Hazards: Not pertinent 4.9 Burning Rate: 2.8 mm/min. 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 | 7.1 Grades of Purity: Technical 7.2 Storage Temperature: Ambient 7.3 Inert Atmosphere: No requirement 7.4 Venting: Open (flame arrester) 7.5 IMO Pollution Category: D 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)..... 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: U240 8.9 EPA FWCNA List: Not listed | 8.6 EPA Reportable Quantit: Not listed. 8.7 EPA Pollution Category: Not listed. 8.8 RCRA Waste Number: U240 8.9 EPA FWPNA List: Not listed |
| 9. PHYSICAL & CHEMICAL PROPERTIES | |
| 9.1 Physical State at 15°C and 1 atm: Liquid 9.2 Molecular Weight: 87.1 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: Not pertinent 9.6 Critical Pressure: Not pertinent 9.7 Specific Gravity: 0.943 at 20°C (liquid) 9.8 Liquid Surface Tension: 34 dynes/cm = 0.034 N/m at 20°C 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: 214 Btu/lb = 119 cal/g = 4.98 X 10 ⁵ J/kg 9.13 Heat of Combustion: -12,560 Btu/lb = -6,980 cal/g = -292 X 10 ⁵ J/kg 9.14 Heat of Decomposition: Not pertinent 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 | 9.1 Physical State at 15°C and 1 atm: Liquid 9.2 Molecular Weight: 87.1 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: Not pertinent 9.6 Critical Pressure: Not pertinent 9.7 Specific Gravity: 0.943 at 20°C (liquid) 9.8 Liquid Surface Tension: 34 dynes/cm = 0.034 N/m at 20°C 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: 214 Btu/lb = 119 cal/g = 4.98 X 10 ⁵ J/kg 9.13 Heat of Combustion: -12,560 Btu/lb = -6,980 cal/g = -292 X 10 ⁵ J/kg 9.14 Heat of Decomposition: Not pertinent 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 |
| 40 | 59.680 | 40 | 0.470 | 65 | 1.178 | 40 | 1.215 |
| 50 | 59.360 | 50 | 0.473 | 70 | 1.170 | 50 | 1.122 |
| 60 | 59.050 | 60 | 0.476 | 75 | 1.162 | 60 | 1.039 |
| 70 | 58.740 | 70 | 0.479 | 80 | 1.155 | 70 | 0.965 |
| 80 | 58.430 | 80 | 0.482 | 85 | 1.147 | 80 | 0.899 |
| 90 | 58.120 | 90 | 0.485 | 90 | 1.139 | 90 | 0.840 |
| 100 | 57.800 | 100 | 0.488 | 95 | 1.132 | 100 | 0.786 |
| 110 | 57.490 | 110 | 0.490 | 100 | 1.124 | 110 | 0.738 |
| 120 | 57.180 | 120 | 0.493 | 105 | 1.116 | 120 | 0.694 |
| 130 | 56.870 | 130 | 0.496 | 110 | 1.109 | 130 | 0.654 |
| 140 | 56.550 | 140 | 0.499 | 115 | 1.101 | 140 | 0.617 |
| 150 | 56.240 | 150 | 0.502 | 120 | 1.093 | 150 | 0.584 |
| 160 | 55.930 | 160 | 0.505 | 125 | 1.086 | 160 | 0.554 |
| 170 | 55.620 | 170 | 0.508 | 130 | 1.078 | 170 | 0.525 |
| 180 | 55.310 | 180 | 0.511 | 135 | 1.070 | 180 | 0.500 |
| 190 | 54.990 | 190 | 0.514 | 140 | 1.063 | 190 | 0.476 |
| 200 | 54.680 | 200 | 0.516 | 145 | 1.055 | 200 | 0.454 |
| 210 | 54.370 | 210 | 0.519 | 150 | 1.047 | 210 | 0.433 |
| | | | | 155 | 1.040 | | |
| | | | | 160 | 1.032 | | |
| | | | | 165 | 1.024 | | |
| | | | | 170 | 1.016 | | |
| | | | | 175 | 1.009 | | |
| | | | | 180 | 1.001 | | |
| | | | | 185 | 0.993 | | |
| | | | | 190 | 0.986 | | |

| 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 | 130 | | 0.198 | 130 | 0.00272 | 0 | 0.265 |
| I | 140 | | 0.262 | 140 | 0.00355 | 20 | 0.274 |
| S | 150 | | 0.345 | 150 | 0.00459 | 40 | 0.283 |
| C | 160 | | 0.449 | 160 | 0.00588 | 60 | 0.292 |
| I | 170 | | 0.581 | 170 | 0.00748 | 80 | 0.301 |
| B | 180 | | 0.744 | 180 | 0.00944 | 100 | 0.309 |
| L | 190 | | 0.947 | 190 | 0.01182 | 120 | 0.318 |
| E | 200 | | 1.195 | 200 | 0.01470 | 140 | 0.327 |
| | 210 | | 1.499 | 210 | 0.01816 | 160 | 0.336 |
| | 220 | | 1.867 | 220 | 0.02229 | 180 | 0.345 |
| | 230 | | 2.311 | 230 | 0.02719 | 200 | 0.354 |
| | 240 | | 2.843 | 240 | 0.03297 | 220 | 0.363 |
| | 250 | | 3.477 | 250 | 0.03975 | 240 | 0.372 |
| | 260 | | 4.229 | 260 | 0.04768 | 260 | 0.381 |
| | 270 | | 5.115 | 270 | 0.05688 | 280 | 0.390 |
| | 280 | | 6.156 | 280 | 0.06753 | 300 | 0.399 |
| | 290 | | 7.372 | 290 | 0.07979 | 320 | 0.408 |
| | 300 | | 8.787 | 300 | 0.09385 | 340 | 0.417 |
| | 310 | | 10.430 | 310 | 0.10990 | 360 | 0.426 |
| | 320 | | 12.310 | 320 | 0.12820 | 380 | 0.435 |
| | 330 | | 14.490 | 330 | 0.14880 | 400 | 0.444 |
| | | | | | | 420 | 0.453 |
| | | | | | | 440 | 0.461 |