

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.		

<p>1. CORRECTIVE RESPONSE ACTIONS Dilute and disperse Stop discharge</p>	<p>2. CHEMICAL DESIGNATIONS</p> <p>2.1 CG Compatibility Group: Not listed. 2.2 Formula: CH₃CON(CH₃)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>	

<p>4. FIRE HAZARDS</p> <p>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</p>	<p>7. SHIPPING INFORMATION</p> <p>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</p> <p>8. HAZARD CLASSIFICATIONS</p> <p>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:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: right; padding-right: 10px;">Category</td> <td style="text-align: right;">Classification</td> </tr> <tr> <td style="text-align: right;">Health Hazard (Blue).....</td> <td style="text-align: right;">2</td> </tr> <tr> <td style="text-align: right;">Flammability (Red).....</td> <td style="text-align: right;">2</td> </tr> <tr> <td style="text-align: right;">Instability (Yellow).....</td> <td style="text-align: right;">0</td> </tr> </table> <p>8.6 EPA Reportable Quantity: Not listed. 8.7 EPA Pollution Category: Not listed. 8.8 RCRA Waste Number: U240 8.9 EPA FWPCA List: Not listed</p>	Category	Classification	Health Hazard (Blue).....	2	Flammability (Red).....	2	Instability (Yellow).....	0
Category	Classification								
Health Hazard (Blue).....	2								
Flammability (Red).....	2								
Instability (Yellow).....	0								
<p>5. CHEMICAL REACTIVITY</p> <p>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</p>	<p>9. PHYSICAL & CHEMICAL PROPERTIES</p> <p>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 10⁵ J/kg 9.13 Heat of Combustion: -12,560 Btu/lb = -6,980 cal/g = -292 X 10⁵ 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</p>								
NOTES									

DIMETHYLACETAMIDE

DAC

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