

# DI-N-BUTYL KETONE

DBK

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> 5-Nonanone S-Noranone		Liquid Colorless to light yellow  Floats on water. Freezing point is 21°F.
<p>Keep people away. Shut off ignition sources. Call fire department. Avoid contact with liquid and vapor. Notify local health and pollution control agencies. Protect water intakes.</p>		
<b>Fire</b>	Combustible. Extinguish with dry chemicals, foam or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water.	
<b>Exposure</b>	CALL FOR MEDICAL AID.  VAPOR Irritating to eyes, nose and throat. If inhaled will cause coughing or difficult breathing. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.  LIQUID Irritating to skin and eyes. If swallowed will cause nausea and vomiting. 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. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.	
<b>Water Pollution</b>	Effect of low concentrations on aquatic life is unknown. Fouling to shoreline. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.	

<b>1. CORRECTIVE RESPONSE ACTIONS</b> Dilute and disperse Stop discharge Contain Collection Systems: Skim Chemical and Physical Treatment: Absorb Clean shore line Salvage waterfowl	<b>2. CHEMICAL DESIGNATIONS</b> 2.1 CG Compatibility Group: Not listed. 2.2 Formula: CH <sub>3</sub> (CH <sub>2</sub> ) <sub>4</sub> CO(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub> 2.3 IMO/UN Designation: Not listed 2.4 DOT ID No.: 1224 2.5 CAS Registry No.: Currently not available 2.6 NAERG Guide No.: 127 2.7 Standard Industrial Trade Classification: 51625
<b>3. HEALTH HAZARDS</b> 3.1 Personal Protective Equipment: Rubber gloves; goggles or face shield 3.2 Symptoms Following Exposure: Inhalation causes irritation of nose and throat. Ingestion causes irritation of mouth and stomach. Contact with eyes or skin causes irritation. 3.3 Treatment of Exposure: INHALATION: remove to fresh air; administer artificial respiration if needed. EYES: flush with water for at least 15 min. SKIN: flush with water. 3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Currently not available 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 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: Currently not available
- 4.2 Flammable Limits in Air: Currently not available
- 4.3 Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide
- 4.4 Fire Extinguishing Agents Not to Be Used: Water may be ineffective.
- 4.5 Special Hazards of Combustion Products: Currently not available
- 4.6 Behavior in Fire: Currently not available
- 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 Stoichiometric Air to Fuel Ratio: 61.9 (calc.)
- 4.12 Flame Temperature: Currently not available
- 4.13 Combustion Molar Ratio (Reactant to Product): 18.0 (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: May attack some forms of plastics.
- 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: Currently not available

## 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: T  
 Damage to living resources: 3  
 Human Oral hazard: 1  
 Human Contact hazard: 1  
 Reduction of amenities: X

## 7. SHIPPING INFORMATION

- 7.1 Grades of Purity: 98 + %
- 7.2 Storage Temperature: Ambient
- 7.3 Inert Atmosphere: No requirement
- 7.4 Venting: Open (flame arrester)
- 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: 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: Not listed
- 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: 142
- 9.3 Boiling Point at 1 atm: 370°F = 188°C = 461°K
- 9.4 Freezing Point: 21°F = -6°C = 267°K
- 9.5 Critical Temperature: Not pertinent
- 9.6 Critical Pressure: Not pertinent
- 9.7 Specific Gravity: 0.822 at 20°C (liquid)
- 9.8 Liquid Surface Tension: 26.60 dynes/cm = 0.0266 N/m at 21.1°C
- 9.9 Liquid Water Interfacial Tension: Currently not available
- 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: 161 Btu/lb = 89.6 cal/g = 3.75 X 10<sup>5</sup> J/kg
- 9.13 Heat of Combustion: -16,080 Btu/lb = -8,930 cal/g = -374 X 10<sup>5</sup> 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
35	51.430		N	51	1.048		N
40	51.410		O	52	1.048		O
45	51.400		T	53	1.048		T
50	51.390			54	1.048		
55	51.370		P	55	1.048		P
60	51.360		E	56	1.048		E
65	51.340		R	57	1.048		R
70	51.330		T	58	1.048		T
75	51.320		I	59	1.048		I
80	51.300		N	60	1.048		N
85	51.290		E	61	1.048		E
90	51.270		N	62	1.048		N
95	51.260		T	63	1.048		T
100	51.250			64	1.048		
				65	1.048		
				66	1.048		
				67	1.048		
				68	1.048		
				69	1.048		
				70	1.048		
				71	1.048		
				72	1.048		
				73	1.048		
				74	1.048		
				75	1.048		
				76	1.048		

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
	I	130	0.294	130	0.00660		N
	N	140	0.368	140	0.00813		O
	S	150	0.458	150	0.00994		T
	O	160	0.566	160	0.01208		
	L	170	0.694	170	0.01458		P
	U	180	0.846	180	0.01749		E
	B	190	1.024	190	0.02086		R
	L	200	1.234	200	0.02474		T
	E	210	1.477	210	0.02918		I
		220	1.760	220	0.03425		N
		230	2.086	230	0.04000		E
		240	2.460	240	0.04651		R
		250	2.888	250	0.05383		T
		260	3.375	260	0.06204		I
		270	3.928	270	0.07120		N
		280	4.552	280	0.08141		E
		290	5.255	290	0.09273		N
		300	6.044	300	0.10520		T
		310	6.926	310	0.11900		
		320	7.909	320	0.13420		
		330	9.001	330	0.15080		
		340	10.210	340	0.16890		
		350	11.550	350	0.18860		
		360	13.020	360	0.21010		
		370	14.640	370	0.23340		