

DIETHYL KETONE

DEK

CAUTIONARY RESPONSE INFORMATION

Common Synonyms		Liquid	Colorless	Acetone-like odor
DEK Dimethyl acetone Ethyl propionyl Metacetone Methacetone 3-Pentanone Propione		Floats and mixes with water. Flammable, irritating vapor is produced.		
Keep people away. Shut off ignition sources and call fire department. Stay upwind and use water spray to "knock down" vapor. Avoid contact with liquid and vapor. Notify local health and pollution control agencies. Protect water intakes.				
Fire	FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Water may be ineffective on fire. Extinguish with dry chemical, alcohol foam, or carbon dioxide. Cool exposed containers with water.			
Exposure	Call for medical aid. VAPOR Irritating to eyes, nose and throat. If inhaled, will cause nausea, vomiting, headache, dizziness, difficult breathing, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID Will burn 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.			
Water Pollution	Dangerous to aquatic life in high concentrations. 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
 Chemical and Physical Treatment: Burn;
 Absorb
 Clean shoreline
 Salvage waterfowl
 Salvage waterfowl

2. CHEMICAL DESIGNATIONS

2.1 **CG Compatibility Group:** Not listed.
 2.2 **Formula:** CH₃CH₂COCH₂CH₃
 2.3 **IMO/UN Designation:** 3.2/1156
 2.4 **DOT ID No.:** 1156
 2.5 **CAS Registry No.:** 96-22-0
 2.6 **NAERG Guide No.:** 127
 2.7 **Standard Industrial Trade Classification:** 51625

3. HEALTH HAZARDS

3.1 **Personal Protective Equipment:** Organic canister or air pack; plastic gloves; goggles or face shield.
 3.2 **Symptoms Following Exposure:** Liquid causes eye burn. Vapor irritates eyes, nose and throat; can cause headache, dizziness, nausea, weakness, and loss of consciousness.
 3.3 **Treatment of Exposure:** INHALATION: remove victim to fresh air; if breathing is irregular or has stopped, start resuscitation and administer oxygen. EYES: wash with plenty of water for at least 15 min. and call physician.
 3.4 **TLV-TWA:** 200 ppm
 3.5 **TLV-STEL:** Not listed.
 3.6 **TLV-Ceiling:** Not listed.
 3.7 **Toxicity by Ingestion:** Grade 2; LD₅₀ = 2.14 g/kg (rat)
 3.8 **Toxicity by Inhalation:** Currently not available.
 3.9 **Chronic Toxicity:** None
 3.10 **Vapor (Gas) Irritant Characteristics:** Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. 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:** 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:** 55°F.C.C.
 4.2 **Flammable Limits in Air:** 1.6-6.4%
 4.3 **Fire Extinguishing Agents:** Alcohol foam, dry chemical, or carbon dioxide.
 4.4 **Fire Extinguishing Agents Not to Be Used:** Water may be ineffective.
 4.5 **Special Hazards of Combustion Products:** Not pertinent
 4.6 **Behavior in Fire:** Not pertinent
 4.7 **Auto Ignition Temperature:** 842°F
 4.8 **Electrical Hazards:** Class 1, Group D
 4.9 **Burning Rate:** Currently not available
 4.10 **Adiabatic Flame Temperature:** Currently not available
 4.11 **Stoichiometric Air to Fuel Ratio:** 33.3 (calc.)
 4.12 **Flame Temperature:** Currently not available
 4.13 **Combustion Molar Ratio (Reactant to Product):** 10.0 (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:** 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:** TL₉₆: 100-1,000 ppm
 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:** 99.5 + %
 7.2 **Storage Temperature:** Ambient
 7.3 **Inert Atmosphere:** No requirement
 7.4 **Venting:** Open (flame arrester) or pressure-vacuum
 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:** Flammable liquid
 8.2 **49 CFR Class:** 3
 8.3 **49 CFR Package Group:** II
 8.4 **Marine Pollutant:** No
 8.5 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue).....	1
Flammability (Red).....	3
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:** 86.13
 9.3 **Boiling Point at 1 atm:** 216°F = 102°C = 375°K
 9.4 **Freezing Point:** -44°F = -42°C = 231°K
 9.5 **Critical Temperature:** 550.4°F = 288°C = 561.2°K
 9.6 **Critical Pressure:** 543 psia = 36.9 atm = 3.74 MN/m²
 9.7 **Specific Gravity:** 0.8159 at 19°C (liquid)
 9.8 **Liquid Surface Tension:** 25.33 @ 15°C
 9.9 **Liquid Water Interfacial Tension:** Currently not available
 9.10 **Vapor (Gas) Specific Gravity:** 2.96
 9.11 **Ratio of Specific Heats of Vapor (Gas):** Currently not available
 9.12 **Latent Heat of Vaporization:** 163.4 Btu/lb = 90.8 cal/g = 3.8 X 10⁵ J/kg
 9.13 **Heat of Combustion:** -15373 Btu/lb = -8541 cal/g = -357 X 10⁵ J/kg
 9.14 **Heat of Decomposition:** (est) -1542 Btu/lb = -857 cal/g = -35.9 X 10⁵ J/kg
 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:** 0.5 psia

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
68	50.800	77	0.530		C U R R E N T L Y N O T A V A I L A B L E	60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210	0.495 0.467 0.441 0.417 0.394 0.372 0.351 0.332 0.313 0.296 0.279 0.264 0.249 0.235 0.222 0.210

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	4.700	10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200	0.031 0.042 0.057 0.078 0.107 0.147 0.201 0.275 0.377 0.516 0.706 0.966 1.323 1.810 2.478 3.391 4.642 6.353 8.696 11.902		C U R R E N T L Y N O T A V A I L A B L E	0 25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400 425 450 475 500 525 550 575 600	0.318 0.329 0.339 0.349 0.360 0.370 0.381 0.391 0.401 0.412 0.422 0.433 0.443 0.453 0.464 0.474 0.485 0.495 0.505 0.516 0.526 0.537 0.547 0.557 0.568