

2-METHYL-2-HYDROXY-3-BUTYNE

MHB

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Dimethylacetylenecarbinol Dimethylethynylcarbinol 1,1-Dimethylpropargyl alcohol Methyl butynol 2-Methyl-2-butynol	Liquid Colorless Characteristic Floats and mixes with water. Flammable 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.	
Fire	FLAMMABLE: Vapor may explode if ignited in an enclosed area. Flashback along vapor trail may occur. Extinguish with alcohol foam or carbon dioxide. Water may be ineffective on fire.
Exposure	CALL FOR MEDICAL AID. Exposure data not available. Flush affected area with plenty of water.
Water Pollution	Effect of low concentration 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

Stop discharge

2. CHEMICAL DESIGNATIONS

- 2.1 CG Compatibility Group: Not listed.
- 2.2 Formula: $(\text{CH}_3)_2(\text{OH})\text{C}\equiv\text{CH}$
- 2.3 IMO/UN Designation: Not listed
- 2.4 DOT ID No.: Not listed
- 2.5 CAS Registry No.: Currently not available
- 2.6 NAERG Guide No.: Not listed
- 2.7 Standard Industrial Trade Classification: 51219

3. HEALTH HAZARDS

- 3.1 Personal Protective Equipment: Rubber gloves, face shield and laboratory coat. An all purpose canister mask should be available if needed.
- 3.2 Symptoms Following Exposure: Currently not available.
- 3.3 Treatment of Exposure: Currently not available.
- 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: 77°F O.C.
- 4.2 Flammable Limits in Air: Currently not available
- 4.3 Fire Extinguishing Agents: Alcohol foam, mist, spray, CO₂.
- 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: Can react with oxidizing materials.
- 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: 30.9 (calc.)
- 4.12 Flame Temperature: Currently not available
- 4.13 Combustion Molar Ratio (Reactant to Product): 9.0 (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: 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: Currently not available
- 6.5 GESAMP Hazard Profile:
 - Bioaccumulation: 0
 - Damage to living resources: 0
 - Human Oral hazard: 1
 - Human Contact hazard: 0
 - Reduction of amenities: 0

7. SHIPPING INFORMATION

- 7.1 Grades of Purity: Currently not available
- 7.2 Storage Temperature: Currently not available
- 7.3 Inert Atmosphere: Currently not available
- 7.4 Venting: Currently not available
- 7.5 IMO Pollution Category: Currently not available
- 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).....	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: 84.11.
- 9.3 Boiling Point at 1 atm: 219.2°F = 104°C = 377.2°K.
- 9.4 Freezing Point: 37.4°F = 3.0°C = 276.2°K.
- 9.5 Critical Temperature: (est.) 553.5°F = 289.7°C = 562.9°K.
- 9.6 Critical Pressure: (est.) 582 psia = 39.6 atm = 4.01 MN/m²
- 9.7 Specific Gravity: 0.8618 at 20°C.
- 9.8 Liquid Surface Tension: 23.8 dynes/cm = 0.0238 N/m at 25°C.
- 9.9 Liquid Water Interfacial Tension: Not pertinent
- 9.10 Vapor (Gas) Specific Gravity: 2.9.
- 9.11 Ratio of Specific Heats of Vapor (Gas): (est.) Greater than one.
- 9.12 Latent Heat of Vaporization: (est.) 165.6 Btu/lb = 92 cal/g = 3.8 X 10⁵ J/kg
- 9.13 Heat of Combustion: Currently not available
- 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
	C U R R E N T L Y N O T A V A I L A B L E	68	0.646		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	45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140	0.125 0.147 0.172 0.201 0.236 0.276 0.323 0.378 0.443 0.519 0.607 0.711 0.833 0.975 1.142 1.338 1.566 1.834 2.148 2.515	45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140	0.00194 0.00225 0.00261 0.00303 0.00352 0.00408 0.00474 0.00550 0.00638 0.00741 0.00859 0.00997 0.01157 0.01343 0.01558 0.01808 0.02098 0.02435 0.02826 0.03279		C U R R E N T L Y N O T A V A I L A B L E