

METHYL CHLOROACETATE

MED

CAUTIONARY RESPONSE INFORMATION										
Common Synonyms Chloroacetic acid, methyl ester Methyl monochloroacetate Monochloroacetic acid, methyl ester	Liquid Sinks and mixes with water.	Colorless								
<p>Keep people away. Avoid contact with liquid and vapor. Wear self-contained breathing apparatus and full protective clothing. Notify local health and pollution control agencies.</p>										
Fire	Combustible Emits toxic fumes under fire conditions. Flashback may occur along vapor trail. Wear self-contained breathing apparatus and full protective clothing. Extinguish fires with CO ₂ , dry chemical, or alcohol foam.									
<p>Exposure</p> <p>VAPOR Harmful if inhaled or absorbed through the skin. Irritating to the eyes, nose, and throat. Remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>LIQUID Harmful if swallowed or absorbed through the skin. Corrosive to skin, eyes, nose, throat, and upper respiratory tract. Remove contaminated clothing and shoes. Flush affected areas with water. IF IN EYES: hold eyelids open, flush with running water for at least 15 minutes. IF SWALLOWED: do nothing except keep victim warm. DO NOT INDUCE VOMITING</p>										
Water Pollution	Harmful to aquatic life. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.									
<p>4. FIRE HAZARDS</p> <p>4.1 Flash Point: 125°F C.C. 4.2 Flammable Limits in Air: 7.5-18.5% 4.3 Fire Extinguishing Agents: CO₂, dry chemical, alcohol foam 4.4 Fire Extinguishing Agents Not to Be Used: Water may be ineffective against fire.</p> <p>4.5 Special Hazards of Combustion Products: Toxic fumes of hydrogen chloride</p> <p>4.6 Behavior in Fire: Currently not available</p> <p>4.7 Auto Ignition Temperature: 869°F</p> <p>4.8 Electrical Hazards: Currently not available</p> <p>4.9 Burning Rate: Currently not available</p> <p>4.10 Adiabatic Flame Temperature: Currently not available</p> <p>4.11 Stoichiometric Air to Fuel Ratio: 19.0 (calc.)</p> <p>4.12 Flame Temperature: Currently not available</p> <p>4.13 Combustion Molar Ratio (Reactant to Product): 6.0 (calc.)</p> <p>4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed</p> <p>5. CHEMICAL REACTIVITY</p> <p>5.1 Reactivity with Water: No reaction</p> <p>5.2 Reactivity with Common Materials: No reaction</p> <p>5.3 Stability During Transport: Stable</p> <p>5.4 Neutralizing Agents for Acids and Caustics: Not pertinent</p> <p>5.5 Polymerization: Not pertinent</p> <p>5.6 Polymer Decomposition: Not pertinent</p> <p>5.7 Oxidation-Degradation: Not pertinent</p> <p>5.8 Inhibition: Not pertinent</p> <p>5.9 Incompatibility: Not pertinent</p> <p>5.10 Hazardous Polymerization Initiators: Not pertinent</p> <p>5.11 Chemical Safety Assessment: Not pertinent</p> <p>6. SHIPPING INFORMATION</p> <p>7.1 Grades of Purity: 99+%</p> <p>7.2 Storage Temperature: Currently not available</p> <p>7.3 Inert Atmosphere: None</p> <p>7.4 Venting: None</p> <p>7.5 IMO Pollution Category: Currently not available</p> <p>7.6 Ship Type: Currently not available</p> <p>7.7 Barge Hull Type: Currently not available</p> <p>8. HAZARD CLASSIFICATIONS</p> <p>8.1 49 CFR Category: Poison</p> <p>8.2 49 CFR Class: 6.1</p> <p>8.3 49 CFR Package Group: II</p> <p>8.4 Marine Pollutant: No</p> <p>8.5 NFPA Hazard Classification:</p> <table> <thead> <tr> <th>Category</th> <th>Classification</th> </tr> </thead> <tbody> <tr> <td>Health Hazard (Blue)</td> <td>2</td> </tr> <tr> <td>Flammability (Red)</td> <td>2</td> </tr> <tr> <td>Instability (Yellow)</td> <td>1</td> </tr> </tbody> </table> <p>8.6 EPA Reportable Quantity: Not listed.</p> <p>8.7 EPA Pollution Category: Not listed.</p> <p>8.8 RCRA Waste Number: Not listed</p> <p>8.9 EPA FWPCA List: Not listed</p> <p>9. PHYSICAL & CHEMICAL PROPERTIES</p> <p>9.1 Physical State at 15°C and 1 atm: Liquid</p> <p>9.2 Molecular Weight: 108.52</p> <p>9.3 Boiling Point at 1 atm: 266°F = 129.8°C = 403K</p> <p>9.4 Freezing Point: -26°F = -32.1°C = -241K</p>			Category	Classification	Health Hazard (Blue)	2	Flammability (Red)	2	Instability (Yellow)	1
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<p>1. CORRECTIVE RESPONSE ACTIONS Stop discharge</p> <p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Approved respirator, chemical safety goggles, chemical-resistant gloves, other protective clothing.</p> <p>3.2 Symptoms Following Exposure: Extremely corrosive to the eyes, skin, nose, throat, and upper respiratory tract. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.</p> <p>3.3 Treatment of Exposure: Call a physician. EYES: Hold eyelids open, flush with running water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes. Flush affected areas with water for at least 15 minutes. INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Do nothing except keep victim warm. DO NOT INDUCE VOMITING</p> <p>3.4 TLV-TWA: Not listed.</p> <p>3.5 TLV-STEL: Not listed.</p> <p>3.6 TLV-Ceiling: Not listed.</p> <p>3.7 Toxicity by Ingestion: Grade 3; LD₅₀ = 240 mg/kg (mouse)</p> <p>3.8 Toxicity by Inhalation: Currently not available.</p> <p>3.9 Chronic Toxicity: Currently not available</p> <p>3.10 Vapor (Gas) Irritant Characteristics: Vapors cause severe irritation of eyes and throat and can cause eye and lung injury. They cannot be tolerated even at low concentrations.</p> <p>3.11 Liquid or Solid Characteristics: Severe skin irritant. Causes second and third degree burns on short contact and is very injurious to the eyes.</p> <p>3.12 Odor Threshold: Currently not available</p> <p>3.13 IDLH Value: Not listed.</p> <p>3.14 OSHA PEL-TWA: Not listed.</p> <p>3.15 OSHA PEL-STEL: Not listed.</p> <p>3.16 OSHA PEL-Ceiling: Not listed.</p> <p>3.17 EPA AEGL: Not listed</p>	<p>2. CHEMICAL DESIGNATIONS</p> <p>2.1 CG Compatibility Group: Not listed.</p> <p>2.2 Formula: C1CH₂CO₂CH₃</p> <p>2.3 IMO/UN Designation: 3.3/2295</p> <p>2.4 DOT ID No.: 2295</p> <p>2.5 CAS Registry No.: 96-34-4</p> <p>2.6 NAERG Guide No.: 155</p> <p>2.7 Standard Industrial Trade Classification: 51372</p>
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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: - Damage to living resources: - Human Oral hazard: 2 Human Contact hazard: - Reduction of amenities: -		
7. SHIPPING INFORMATION		
7.1 Grades of Purity: 99+%		
7.2 Storage Temperature: Currently not available		
7.3 Inert Atmosphere: None		
7.4 Venting: None		
7.5 IMO Pollution Category: Currently not available		
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9.4 Freezing Point: -26°F = -32.1°C = 241°K		
9.5 Critical Temperature: Currently not available		
9.6 Critical Pressure: Currently not available		
9.7 Specific Gravity: 1.2337 at 20°C		
9.8 Liquid Surface Tension: Currently not available		
9.9 Liquid Water Interfacial Tension: Currently not available		
9.10 Vapor (Gas) Specific Gravity: 3.8		
9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available		
9.12 Latent Heat of Vaporization: Currently not available		
9.13 Heat of Combustion: Currently not available		
9.14 Heat of Decomposition: Currently not available		
9.15 Heat of Solution: Currently not available		
9.16 Heat of Polymerization: Currently not available		
9.17 Heat of Fusion: Currently not available		
9.18 Limiting Value: Currently not available		
9.19 Reid Vapor Pressure: 0.32 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	77.020		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		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
	C U R R E N T L Y N O T A V A I L A B L E	30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200	0.018 0.040 0.076 0.127 0.198 0.290 0.406 0.549 0.722 0.926 1.164 1.439 1.753 2.109 2.508 2.954 3.448 3.993		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	0.184 0.190 0.196 0.202 0.207 0.213 0.219 0.224 0.230 0.235 0.240 0.246 0.251 0.256 0.261 0.266 0.271 0.276 0.280 0.285 0.289 0.294 0.298 0.302 0.307