

METHYL BENZOATE

MBZ

CAUTIONARY RESPONSE INFORMATION			
Common Synonyms Benzzoic acid, methyl ester Essence of Niobe Methyl benzene carboxylate Niobe oil Oil of Niobe Oxidate LE	Liquid Sinks in water.	Colorless 	Pleasant, fragrant odor
<p>Keep people away. Avoid contact with liquid and vapor. Wear self-contained breathing apparatus and full protective clothing. Call fire department. Notify local health and pollution control agencies.</p>			
Fire	<p>Combustible Fire may produce irritating gases. Wear self-contained breathing apparatus and full protective clothing. Move container from fire area if you can do it without risk. Extinguish with CO₂, dry chemical, foam, or water spray.</p>		
Exposure	<p>CALL FOR MEDICAL AID</p> <p>VAPOR Irritating to the eyes, nose, and throat. May be harmful if inhaled or absorbed through the skin. Move victim to fresh air If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>LIQUID May be harmful if swallowed or absorbed through the skin. Irritating to skin and eyes. IF IN EYES: immediately flush eyes with running water for at least 15 minutes. Remove and isolate contaminated clothing and shoes at the site. Wash skin with soap and water. IF SWALLOWED: do nothing except keep victim warm. DO NOT INDUCE VOMITING Notify operators of nearby water intakes.</p>		
Water Pollution	<p>Effect of low concentrations on aquatic life are not known. May be dangerous if it enters water intakes. Notify local health and wildlife officials.</p>		

1. CORRECTIVE RESPONSE ACTIONS	2. CHEMICAL DESIGNATIONS
Stop discharge	<p>2.1 CG Compatibility Group: Not listed.</p> <p>2.2 Formula: C₈H₆CO₂H₆</p> <p>2.3 IMO/UN Designation: 5.1/2938</p> <p>2.4 DOT ID No.: 2938</p> <p>2.5 CAS Registry No.: 93-58-3</p> <p>2.6 NAERG Guide No.: 152</p> <p>2.7 Standard Industrial Trade Classification: 51379</p>
3. HEALTH HAZARDS	
<p>3.1 Personal Protective Equipment: Approved respirator, chemical safety goggles, chemical-resistant gloves.</p> <p>3.2 Symptoms Following Exposure: Irritating to the eyes, nose, throat, upper respiratory tract, and skin. May cause allergic skin and respiratory reactions.</p> <p>3.3 Treatment of Exposure: Call a physician. EYES: Flush with plenty of water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. 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 2; LD₅₀ = 1.35 g/kg (rat)</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 moderate irritation such that personnel will find high concentrations unpleasant. The effect is temporary.</p> <p>3.11 Liquid or Solid Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of skin.</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>	

4. FIRE HAZARDS	7. SHIPPING INFORMATION								
<p>4.1 Flash Point: 181°F C.C.</p> <p>4.2 Flammable Limits in Air: Currently not available</p> <p>4.3 Fire Extinguishing Agents: CO₂, dry chemical, foam, or water spray.</p> <p>4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent</p> <p>4.5 Special Hazards of Combustion Products: None</p> <p>4.6 Behavior in Fire: Currently not available</p> <p>4.7 Auto Ignition Temperature: Currently not available</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: 42.8 (calc.)</p> <p>4.12 Flame Temperature: Currently not available</p> <p>4.13 Combustion Molar Ratio (Reactant to Product): 12.0 (calc.)</p> <p>4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed</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>								
8. HAZARD CLASSIFICATIONS									
	<p>8.1 49 CFR Category: Keep Away From Food</p> <p>8.2 49 CFR Class: 6.1</p> <p>8.3 49 CFR Package Group: III</p> <p>8.4 Marine Pollutant: No</p> <p>8.5 NFPA Hazard Classification:</p> <table> <tr> <th>Category</th><th>Classification</th></tr> <tr> <td>Health Hazard (Blue).....</td><td>0</td></tr> <tr> <td>Flammability (Red).....</td><td>2</td></tr> <tr> <td>Instability (Yellow).....</td><td>0</td></tr> </table>	Category	Classification	Health Hazard (Blue).....	0	Flammability (Red).....	2	Instability (Yellow).....	0
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9. PHYSICAL & CHEMICAL PROPERTIES									
	<p>9.1 Physical State at 15° C and 1 atm: Liquid</p> <p>9.2 Molecular Weight: 136.15</p> <p>9.3 Boiling Point at 1 atm: 391°F = 199.6°C = 473°K</p> <p>9.4 Freezing Point: 10°F = -12.3°C = 261°K</p> <p>9.5 Critical Temperature: Currently not available</p> <p>9.6 Critical Pressure: Currently not available</p> <p>9.7 Specific Gravity: 1.0888 at 20°C</p> <p>9.8 Liquid Surface Tension: 37.6 dynes/cm = 0.038 N/m at 20°C</p> <p>9.9 Liquid Water Interfacial Tension: Currently not available</p> <p>9.10 Vapor (Gas) Specific Gravity: 4.7</p> <p>9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available</p> <p>9.12 Latent Heat of Vaporization: Currently not available</p> <p>9.13 Heat of Combustion: -2,432 Btu/lb = -1,351 cal/g = -56 X 10³ J/kg</p> <p>9.14 Heat of Decomposition: Currently not available</p> <p>9.15 Heat of Solution: Currently not available</p> <p>9.16 Heat of Polymerization: Currently not available</p> <p>9.17 Heat of Fusion: Currently not available</p> <p>9.18 Limiting Value: Currently not available</p> <p>9.19 Reid Vapor Pressure: 0.01 psia</p>								

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	67.970	77	0.390		C U R R E N T L Y N O T A V A I L A B L E	59	2.298

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
86	0.016	120 140 160 180 200 220 240 260 280 300 320 340 360 380	0.038 0.082 0.158 0.284 0.478 0.766 1.179 1.752 2.529 3.558 4.898 6.613 8.776 11.471		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	0.197 0.208 0.219 0.229 0.240 0.250 0.260 0.270 0.280 0.290 0.299 0.308 0.318 0.326 0.335 0.344 0.352 0.361 0.369 0.377 0.385 0.392 0.400 0.407 0.415