

METHYL BENZOATE

MBZ

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Benzoic acid, methyl ester Essence of Niobe Methyl benzenecarboxylate Niobe oil Oil of Niobe Oxidate LE		Liquid	Colorless	Pleasant, fragrant odor
Sinks in water.				
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.				
Fire	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 CO ₂ , dry chemical, foam, or water spray.			
Exposure	CALL FOR MEDICAL AID 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. 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.			
Water Pollution	Effect of low concentrations on aquatic life are not known. May be dangerous if it enters water intakes. Notify local health and wildlife officials.			

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge

2. CHEMICAL DESIGNATIONS

- 2.1 CG Compatibility Group: Not listed.
- 2.2 Formula: C₈H₈CO₂CH₃
- 2.3 IMO/UN Designation: 5.1/2938
- 2.4 DOT ID No.: 2938
- 2.5 CAS Registry No.: 93-58-3
- 2.6 NAERG Guide No.: 152
- 2.7 Standard Industrial Trade Classification: 51379

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Approved respirator, chemical safety goggles, chemical-resistant gloves.
- 3.2 **Symptoms Following Exposure:** Irritating to the eyes, nose, throat, upper respiratory tract, and skin. May cause allergic skin and respiratory reactions.
- 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.
- 3.4 **TLV-TWA:** Not listed.
- 3.5 **TLV-STEL:** Not listed.
- 3.6 **TLV-Ceiling:** Not listed.
- 3.7 **Toxicity by Ingestion:** Grade 2; LD₅₀ = 1.35 g/kg (rat)
- 3.8 **Toxicity by Inhalation:** Currently not available.
- 3.9 **Chronic Toxicity:** Currently not available
- 3.10 **Vapor (Gas) Irritant Characteristics:** Vapors cause moderate irritation such that personnel will find high concentrations unpleasant. 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 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:** 181°F C.C.
- 4.2 **Flammable Limits in Air:** Currently not available
- 4.3 **Fire Extinguishing Agents:** CO₂, dry chemical, foam, or water spray.
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** None
- 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:** 42.8 (calc.)
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** 12.0 (calc.)
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** None
- 5.2 **Reactivity with Common Materials:** None
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Dry lime, soda ash
- 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: 3
 Human Oral hazard: 1
 Human Contact hazard: 1
 Reduction of amenities: 0

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
- 7.6 **Ship Type:** Currently not available
- 7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Keep Away From Food
- 8.2 **49 CFR Class:** 6.1
- 8.3 **49 CFR Package Group:** III
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue)	0
Flammability (Red)	2
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:** 136.15
- 9.3 **Boiling Point at 1 atm:** 391°F = 199.6°C = 473°K
- 9.4 **Freezing Point:** 10°F = -12.3°C = 261°K
- 9.5 **Critical Temperature:** Currently not available
- 9.6 **Critical Pressure:** Currently not available
- 9.7 **Specific Gravity:** 1.0888 at 20°C
- 9.8 **Liquid Surface Tension:** 37.6 dynes/cm = 0.038 N/m at 20°C
- 9.9 **Liquid Water Interfacial Tension:** Currently not available
- 9.10 **Vapor (Gas) Specific Gravity:** 4.7
- 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:** -2,432 Btu/lb = -1,351 cal/g = -56 X 10³ J/kg
- 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:** 0.01 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	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	0.038		C U R R E N T L Y N O T A V A I L A B L E	0	0.197
		140	0.082			25	0.208
		160	0.158			50	0.219
		180	0.284			75	0.229
		200	0.478			100	0.240
		220	0.766			125	0.250
		240	1.179			150	0.260
		260	1.752			175	0.270
		280	2.529			200	0.280
		300	3.558			225	0.290
		320	4.898			250	0.299
		340	6.613			275	0.308
		360	8.776			300	0.318
		380	11.471			325	0.326
						350	0.335
						375	0.344
						400	0.352
						425	0.361
						450	0.369
						475	0.377
						500	0.385
						525	0.392
						550	0.400
						575	0.407
						600	0.415