

BENZENETHIOL

BZT

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Mercaptobenzene Phenyl mercaptan Phenylthiol Thiophenol	Liquid Colorless to light yellow Burnt rubber, garlic like, stench
Sinks in water.	
<p>KEEP PEOPLE AWAY. AVOID CONTACT WITH LIQUID AND VAPOR. Wear positive pressure breathing apparatus and special chemical protective clothing. Shut off ignition sources and call fire department. Stay upwind and use water spray to knock down vapor. Notify local health and pollution control agencies. Protect water intakes.</p>	
Fire	<p>COMBUSTIBLE POISONOUS GASES ARE PRODUCED IN FIRE OR WHEN HEATED. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Wear positive pressure breathing apparatus and special chemical protective clothing. Extinguish small fire with: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. Cool exposed containers with water. Combat fires from safe distance or protected location (behind barriers) with unmanned monitor nozzle.</p>
Exposure	<p>CALL FOR MEDICAL AID.</p> <p>VAPOR Poisonous. May be fatal if inhaled or absorbed through skin. Irritating to eyes, skin and mucous membranes. Over exposure may cause headache, dizziness, coughing, difficulty in breathing, nausea, and vomiting. Symptoms may be delayed. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>LIQUID Poisonous. May be fatal if swallowed or absorbed through skin. May burn skin and eyes. Speed in removing material from skin is extremely important. IF IN EYES OR ON SKIN, immediately flush with running water for at least 15 minutes; hold eyelids open occasionally if appropriate. Remove and isolate contaminated clothing and shoes at the site. Effects may be delayed; keep victim under observation. IF SWALLOWED and victim is CONSCIOUS, have victim drink several glasses of water and induce vomiting by touching back of throat. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.</p>
Water Pollution	<p>Effects 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.</p>

<p>1. CORRECTIVE RESPONSE ACTIONS Stop discharge Contain Collection Systems: Skim; Pump; Dredge Do not burn</p>	<p>2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: Not listed. 2.2 Formula: C₆H₆S 2.3 IMO/UN Designation: 6.1/2337 2.4 DOT ID No.: 2337 2.5 CAS Registry No.: 108-98-5 2.6 NAERG Guide No.: 131 2.7 Standard Industrial Trade Classification: 51549</p>
<p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Wear positive pressure breathing apparatus and special chemical protective clothing.</p> <p>3.2 Symptoms Following Exposure: Poisonous; may be fatal if inhaled, swallowed or absorbed through skin. Causes eye burns and skin irritation. It is capable of producing severe irritation of the eyes, skin, respiratory and digestive tract. Over exposure may cause headache, dizziness, coughing, difficulty in breathing, nausea, and vomiting. Inhalation of high doses may cause lung damage, prolonged or repeated contact with the skin may cause dermatitis. Symptoms may not appear until several hours after exposure and they are made more severe by physical effort.</p> <p>3.3 Treatment of Exposure: INHALATION: Move victim to fresh air; call emergency medical care. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Immediately flush eyes or skin with running water for at least 15 minutes. Hold upper and lower eyelids open occasionally if appropriate. Speed in removing material from skin is extremely important. Remove and isolate contaminated clothing and shoes at the site. Keep victim quiet and maintain normal body temperature. Effects may be delayed; keep victim under observation. INGESTION: If CONSCIOUS, have victim drink several glasses of water and induce vomiting by touching the back of the throat with a finger; repeat until vomitus is clear. If UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.</p> <p>3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 4; LD₅₀ = 46 mg/kg (rat) 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Lung, liver and kidney changes were found in mice after inhalation of high doses. 3.10 Vapor (Gas) Irritant Characteristics: Vapors cause severe irritation of eyes and throat and can cause eye and lung injury. 3.11 Liquid or Solid Characteristics: Severe eye and skin irritant. Corrosive to eyes and skin. 3.12 Odor Threshold: 0.062 mg/m³ 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</p>	

<p>4. FIRE HAZARDS</p> <p>4.1 Flash Point: 127°F C.C. 4.2 Flammable Limits in Air: Currently not available 4.3 Fire Extinguishing Agents: Small fires: Dry chemical, carbon dioxide, water spray or foam. Large fires: Water spray, fog or foam. 4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent 4.5 Special Hazards of Combustion Products: Contain toxic hydrogen sulfide gas, and vapors which are irritating to the respiratory tract and may cause pulmonary edema. Effects may be delayed several hours or longer. 4.6 Behavior in Fire: May be ignited by heat, sparks or flames. Containers may explode in heat of fire. Vapor, explosion and poison hazard indoors, outdoors or in sewers. 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: Data not available 4.11 Stoichiometric Air to Fuel Ratio: 40.5 (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</p> <p>5. CHEMICAL REACTIVITY</p> <p>5.1 Reactivity with Water: No reaction 5.2 Reactivity with Common Materials: Mildly corrosive to carbon steel. 5.3 Stability During Transport: In the absence of air, it is stable to 392°F (200°C); it oxidizes in air to yield diphenyl disulfide. Other oxidizing agents react similarly. 5.4 Neutralizing Agents for Acids and Caustics: For small spills: soak up with absorbent; remove absorbent; treat spill area with sodium carbonate slurry. Remove it and treat area with sodium hypochlorite solution (commercial bleach); absorb liquid and remove. 5.5 Polymerization: Not pertinent 5.6 Inhibitor of Polymerization: Not pertinent</p> <p>6. WATER POLLUTION</p> <p>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: Not listed</p>	<p>7. SHIPPING INFORMATION</p> <p>7.1 Grades of Purity: 97%; 99+% 7.2 Storage Temperature: Ambient 7.3 Inert Atmosphere: Not listed 7.4 Venting: Not listed 7.5 IMO Pollution Category: Currently not available 7.6 Ship Type: Currently not available 7.7 Barge Hull Type: Currently not available</p> <p>8. HAZARD CLASSIFICATIONS</p> <p>8.1 49 CFR Category: Poison 8.2 49 CFR Class: 6.1 8.3 49 CFR Package Group: I 8.4 Marine Pollutant: No 8.5 NFPA Hazard Classification: Not listed 8.6 EPA Reportable Quantity: 100 pounds 8.7 EPA Pollution Category: B 8.8 RCRA Waste Number: P014 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 9.2 Molecular Weight: 110.18 9.3 Boiling Point at 1 atm: 334.4°F = 168°C = 441.2°K 9.4 Freezing Point: 5°F = -15°C = 258.2°K 9.5 Critical Temperature: 778°F = 415°C = 688°K (est.) 9.6 Critical Pressure: 51.9 psia = 35.3 atm = 3.58 MN/m² (est.) 9.7 Specific Gravity: 1.075 at 20°C 9.8 Liquid Surface Tension: 39.0 dynes/cm = 0.039 N/m at 20°C 9.9 Liquid Water Interfacial Tension: Currently not available 9.10 Vapor (Gas) Specific Gravity: 3.8 (calculated) 9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available 9.12 Latent Heat of Vaporization: 156 Btu/lb = 86.5 cal/g = 3.6 X 10⁶ 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</p>
<p>NOTES</p>	

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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	67.100		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	68	1.239

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
59	0.050	75	0.022	75	0.00183		C U R R E N T L Y
		100	0.074	100	0.00285		N O T
		125	0.185	125	0.00445		A V A I L A B L E
		150	0.393	150	0.00694		
		175	0.744	175	0.01081		
		200	1.293	200	0.01685		
		225	2.104	225	0.02627		
		250	3.252	250	0.04095		
		275	4.824	275	0.06384		
		300	6.912	300	0.09951		
		325	9.624	325	0.15512		