

# BENZYLTRIMETHYLAMMONIUM CHLORIDE

BMA

## CAUTIONARY RESPONSE INFORMATION

|   |   |
|---|---|
| <b>Common Synonyms</b><br>BTMAC<br>Trimethylbenzylammonium chloride   | Liquid<br>Light yellow<br>Mild almond odor  |
| May float or sink in water.   |   |
| <p>Restrict access.<br/>Avoid contact with liquid.<br/>Notify local health and pollution control agencies.<br/>Protect water intakes.</p> |   |
| <b>Fire</b>   | <p>Combustible.<br/>POISONOUS GASES MAY BE PRODUCED IN FIRE.<br/>Wear goggles and self-contained breathing apparatus.<br/>Extinguish with dry chemicals, foam or carbon dioxide.<br/>Water may be ineffective on fire.</p>  |
| <b>Exposure</b>   | <p>CALL FOR MEDICAL AID.</p> <p>LIQUID<br/>Irritating to skin and eyes.<br/>If swallowed will cause nausea or vomiting.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.</p> |
| <b>Water Pollution</b>  | <p>Effect of low concentrations on aquatic life is unknown.<br/>May be dangerous if it enters water intakes.<br/>Notify local health and wildlife officials.<br/>Notify operators of nearby water intakes.</p>  |

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| <b>1. CORRECTIVE RESPONSE ACTIONS</b><br>Dilute and disperse<br>Stop discharge   | <b>2. CHEMICAL DESIGNATIONS</b><br>2.1 CG Compatibility Group: Not listed.<br>2.2 Formula: $C_8H_9ClN(CH_3)_3Cl \cdot H_2O$<br>2.3 IMO/UN Designation: Not listed<br>2.4 DOT ID No.: Not listed<br>2.5 CAS Registry No.: Currently not available<br>2.6 NAERG Guide No.: Not listed<br>2.7 Standard Industrial Trade Classification: 51129 |
| <b>3. HEALTH HAZARDS</b>   |  |
| <p>3.1 Personal Protective Equipment: Goggles and rubber gloves<br/>3.2 Symptoms Following Exposure: Ingestion causes gastrointestinal disturbances. Contact with liquid irritates eyes and may irritate skin.<br/>3.3 Treatment of Exposure: INGESTION: give large amount of water; get medical attention. EYES: flush with water for at least 15 min.; if irritation continues, get medical attention. SKIN: flush well with water.<br/>3.4 TLV-TWA: Not listed.<br/>3.5 TLV-STEL: Not listed.<br/>3.6 TLV-Ceiling: Not listed.<br/>3.7 Toxicity by Ingestion: Grade 3; LD<sub>50</sub> = 50-500 mg/kg<br/>3.8 Toxicity by Inhalation: Currently not available.<br/>3.9 Chronic Toxicity: Currently not available<br/>3.10 Vapor (Gas) Irritant Characteristics: Currently not available<br/>3.11 Liquid or Solid Characteristics: Currently not available<br/>3.12 Odor Threshold: Currently not available<br/>3.13 IDLH Value: Not listed.<br/>3.14 OSHA PEL-TWA: Not listed.<br/>3.15 OSHA PEL-STEL: Not listed.<br/>3.16 OSHA PEL-Ceiling: Not listed.<br/>3.17 EPA AEGL: Not listed</p> |  |

## 4. FIRE HAZARDS

- 4.1 Flash Point: Not pertinent  
4.2 Flammable Limits in Air: Not pertinent  
4.3 Fire Extinguishing Agents: Not pertinent  
4.4 Fire Extinguishing Agents Not to Be Used: Water may be ineffective on fire.  
4.5 Special Hazards of Combustion Products: Toxic oxides of nitrogen and hydrochloric acid fumes may form in fire.  
4.6 Behavior in Fire: Currently not available  
4.7 Auto Ignition Temperature: Not pertinent  
4.8 Electrical Hazards: Not pertinent  
4.9 Burning Rate: Not pertinent  
4.10 Adiabatic Flame Temperature: Currently not available  
4.11 Stoichiometric Air to Fuel Ratio: 70.2 (calc.)  
4.12 Flame Temperature: Currently not available  
4.13 Combustion Molar Ratio (Reactant to Product): 20.5 (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: Currently not available  
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: None  
6.5 GESAMP Hazard Profile: Not listed

## 7. SHIPPING INFORMATION

- 7.1 Grades of Purity: 50-60% solution in water  
7.2 Storage Temperature: Ambient  
7.3 Inert Atmosphere: No requirement  
7.4 Venting: Open  
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: 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: Not listed  
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: 172 (solute)  
9.3 Boiling Point at 1 atm: Not pertinent (decomposes)  
9.4 Freezing Point: Not pertinent  
9.5 Critical Temperature: Not pertinent  
9.6 Critical Pressure: Not pertinent  
9.7 Specific Gravity: 1.07 at 20°C (liquid)  
9.8 Liquid Surface Tension: Currently not available  
9.9 Liquid Water Interfacial Tension: Not pertinent  
9.10 Vapor (Gas) Specific Gravity: Not pertinent  
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent  
9.12 Latent Heat of Vaporization: Not pertinent  
9.13 Heat of Combustion: Not pertinent  
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<br>SATURATED LIQUID DENSITY |                       | 9.21<br>LIQUID HEAT CAPACITY |                                  | 9.22<br>LIQUID THERMAL CONDUCTIVITY |  | 9.23<br>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 |
| 52                               | 67.349                |                              | N                                |                                     | N  |                          | N          |
| 54                               | 67.280                |                              | O                                |                                     | O  |                          | O          |
| 56                               | 67.209                |                              | T                                |                                     | T  |                          | T          |
| 58                               | 67.139                |                              |                                  |                                     |  |                          |            |
| 60                               | 67.070                |                              | P                                |                                     | P  |                          | P          |
| 62                               | 67.000                |                              | E                                |                                     | E  |                          | E          |
| 64                               | 66.929                |                              | R                                |                                     | R  |                          | R          |
| 66                               | 66.860                |                              | T                                |                                     | T  |                          | T          |
| 68                               | 66.790                |                              | I                                |                                     | I  |                          | I          |
| 70                               | 66.719                |                              | N                                |                                     | N  |                          | N          |
| 72                               | 66.650                |                              | E                                |                                     | E  |                          | E          |
| 74                               | 66.580                |                              | N                                |                                     | N  |                          | N          |
| 76                               | 66.509                |                              | T                                |                                     | T  |                          | T          |
| 78                               | 66.440                |                              |                                  |                                     |  |                          |            |
| 80                               | 66.379                |                              |                                  |                                     |  |                          |            |
| 82                               | 66.309                |                              |                                  |                                     |  |                          |            |
| 84                               | 66.240                |                              |                                  |                                     |  |                          |            |
| 86                               | 66.169                |                              |                                  |                                     |  |                          |            |

| 9.24<br>SOLUBILITY IN WATER |                                      | 9.25<br>SATURATED VAPOR PRESSURE |   | 9.26<br>SATURATED VAPOR DENSITY |   | 9.27<br>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<br>I<br>S<br>C<br>I<br>B<br>L<br>E |                                  | N<br>O<br>T                               |                                 | N<br>O<br>T                               |                                 | N<br>O<br>T                               |
|                             |                                      |                                  | P<br>E<br>R<br>T<br>I<br>N<br>E<br>N<br>T |                                 | P<br>E<br>R<br>T<br>I<br>N<br>E<br>N<br>T |                                 | P<br>E<br>R<br>T<br>I<br>N<br>E<br>N<br>T |