TRIMETHYLACETIC ACID

1. CORRECTIVE RESPONSE ACTIONS

1.1 Personal Protective Equipment: Wear self-contained positive breathing apparatus and full protective clothing.

1.2 Chemical and Physical Treatment: Neutralize.

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 4, Organic acids

2.2 Formula: (CH₃)₂C(OH)₂

2.3 IM0/UN Designation: Not listed

2.4 DOT ID No.: Not listed

2.5 CAS Registry No.: 51377

2.6 NAEMG Guide No.: Not listed

2.7 Standard Industrial Trade Classification: 51377

3. HEALTH HAZARDS

3.1 Liquid or Solid Characteristics: Solid. Used:

3.2 Symptoms Following Exposure: Irritation of eyes and skin. Harmful if swallowed. IF IN EYES OR ON SKIN, flush with running water for at least 15 minutes; hold eyelids open if necessary. Wash skin with soap and water.

3.3 Treatment of Exposure: NAVIGATION. Remove victim to fresh air, get medical attention. If irritation persists, EYES: Hold eyelids open and flush with plenty of water for at least 15 minutes and get medical attention. SKIN: Contaminated skin should be washed with soap and water.

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 = 900 mg/kg (rat)

3.8 Toxicity by Inhalation: Currently not available.

3.9 Chronic Toxicity: Tumorigenic in animal studies (mouse).

3.10 Vapor (Gas) Irritating Characteristics: At elevated temperatures, vapor is irritating to eyes and skin.

3.11 Liquid or Solid Characteristics: Solid is irritating to eyes and 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 AEL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: 147.2°F C.C.

4.2 Flammable Limits in Air: Currently not available.

4.3 Fire Extinguishing Agents: Small fires: dry chemical, CO₂, 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: Contains acid smoke and fumes.

4.6 Behavior in Fire: Decomposes to produce acid smoke and fumes.

4.7 Auto Ignition Temperature: Currently not available

4.8 Electrical Hazards: Currently not available

4.9 Burning Rate: Currently not available

4.10 Abnormal Flame Temperature: Currently not available

4.11 Stoichiometric Air to Fuel Ratio: 30.9 (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

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: Cover contaminated surfaces with soda ash or sodium bicarbonate; add water to form slurry. Remove slurry and rinse area with soda ash solution.

5.5 Polymerization: Not pertinent

5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: 400-357 mg/l [pH 5]/ 24-96 hr [pH 7]/ 24 hr [pH 7]/ 24 hr [pH 7]

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

7. SHIPPING INFORMATION

7.1 Grades of Purity: 99%

7.2 Storage Temperature: Currently not available

7.3 Inert Atmosphere: Currently not available

7.4 Venting: Currently not available

7.5 IMO Pollution Category: D

7.6 Ship Type: 3

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 HPPA Hazard Classification: Not listed

8.6 EPA Reportable Quantity: Not listed

8.7 EPA Pollution Category: Not listed

8.8 RCRW 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: Solid

9.2 Molecular Weight: 102.13

9.3 Boiling Point at 1 atm: 325-327°F = 163-164°C = 438-437°C

9.4 Freezing Point: 91-95°F = 33-35°C = 306-308°C

9.5 Critical Temperature: Currently not available

9.6 Critical Pressure: Currently not available

9.7 Specific Gravity: 0.905 at 50°C

9.8 Liquid Surface Tension: Not pertinent

9.9 Liquid Water Interfacial Tension: Not pertinent

9.10 Vapor (Gas) Specific Gravity: 3.5 (est.)

9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent

9.12 Latent Heat of Vaporization: Currently not available

9.13 Heat of Combustion: Currently not available

9.14 Heat of Decomposition: Not pertinent

9.15 Heat of Solution: Currently not available

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

JUNE 1999
## 9.20 SATURATED LIQUID DENSITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per cubic foot</th>
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<tr>
<td>122</td>
<td>56.500</td>
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## 9.21 LIQUID HEAT CAPACITY

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<th>Temperature (degrees F)</th>
<th>British thermal unit per pound-F</th>
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## 9.22 LIQUID THERMAL CONDUCTIVITY

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<th>Temperature (degrees F)</th>
<th>British thermal unit inch per hour-square foot-F</th>
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## 9.23 LIQUID VISCOSITY

<table>
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<th>Temperature (degrees F)</th>
<th>Centipoise</th>
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## 9.24 SOLUBILITY IN WATER

<table>
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<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per 100 pounds of water</th>
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<td>2.500</td>
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## 9.25 SATURATED VAPOR PRESSURE

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<th>Temperature (degrees F)</th>
<th>Pounds per square inch</th>
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## 9.26 SATURATED VAPOR DENSITY

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<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per cubic foot</th>
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## 9.27 IDEAL GAS HEAT CAPACITY

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<th>British thermal unit per pound-F</th>
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JUNE 1999