

Methacryloxyethyltrimethyl Ammonium Chloride MSDS

1. Product Name and Identification

- **Product Name:** [\[2-\(Methacryloyloxy\)ethyl\]trimethylammonium chloride](#)
- **Synonyms:** MTC, Dimethylaminoethyl methacrylate methyl chloride, ADAMQUAT MC-80
- **CAS Number:** 5039-78-1
- **Chemical Formula:** $C_9H_{18}ClNO_2$
- **Recommended Use:** Monomer for polymer production, flocculant, paper-making auxiliary.
- **Company Identification:** [Enter Supplier Name and Contact Information Here]

2. Composition/Ingredients

- **Component Name:** [2-(Methacryloyloxy)ethyl]trimethylammonium chloride
- **CAS Number:** 5039-78-1
- **Concentration:** Typically supplied as a 75-80% solution in water. Contains a polymerization inhibitor.

3. Hazards Identification

Emergency Overview: This product is a clear to yellowish liquid. It causes serious eye irritation and skin irritation. May cause an allergic skin reaction. Harmful to aquatic life. The product is a monomer and can polymerize if not properly inhibited, especially when heated.

Potential Health Effects:

- **Eye Contact:** Causes serious eye irritation. Symptoms may include significant redness, pain, tearing, and stinging.
- **Skin Contact:** Causes skin irritation. Prolonged or repeated contact may lead to redness, itching, and discomfort. May cause an allergic skin reaction (sensitization) in susceptible individuals.
- **Inhalation:** Mist or vapor may cause irritation to the nose, throat, and respiratory tract.
- **Ingestion:** May be harmful if swallowed. Can cause irritation to the mouth, throat, and stomach, leading to nausea and abdominal pain.

4. First Aid Measures

- **Eye Contact:** Immediately flush eyes with plenty of clean water for at least 15 minutes, holding the eyelids apart to ensure complete rinsing. Remove contact lenses if present and easy to do. Seek prompt medical attention.
- **Skin Contact:** Immediately wash the affected skin with soap and plenty of water. Remove contaminated clothing and shoes. If skin irritation or a rash occurs, get medical advice. Wash clothing before reuse.
- **Inhalation:** Move the exposed person to fresh air. If respiratory symptoms develop, such as coughing or difficulty breathing, seek medical assistance.
- **Ingestion:** Do not induce vomiting. Rinse the mouth thoroughly with water. If the person is conscious, give them a small amount of water to drink. Call a poison control center or doctor for guidance.

5. Handling and Storage

- **Handling:** Avoid contact with skin, eyes, and clothing. Use only in a well-ventilated area. Avoid breathing mists or vapors. Wear appropriate personal protective equipment (see Section 8). Wash hands thoroughly after handling.
- **Storage:** Store in a cool, dry, well-ventilated area, away from direct sunlight, heat, and sources of ignition. Keep the container tightly closed. The product contains a polymerization inhibitor; monitor inhibitor levels and product temperature. Store away from oxidizing agents, reducing agents, and radical initiators.

6. Exposure Controls/Personal Protection

- **Engineering Controls:** Provide effective local exhaust ventilation to control airborne mists and vapors. An emergency eyewash station and safety shower should be readily available.
- **Personal Protective Equipment (PPE):**
 - **Eye/Face Protection:** Wear chemical splash goggles or a face shield.
 - **Skin Protection:** Wear chemical-resistant gloves (e.g., nitrile, neoprene). Wear protective clothing as needed to prevent skin contact.
 - **Respiratory Protection:** If ventilation is inadequate, use a NIOSH-approved respirator with an organic vapor cartridge.
 - **General Hygiene:** Do not eat, drink, or smoke in the work area. Handle in accordance with good industrial hygiene and safety practice.

7. Physical and Chemical Properties

- **Appearance:** Clear to yellowish liquid
- **Odor:** Ester-like
- **pH:** 3 - 6 (for 80% solution)
- **Melting Point:** Approximately -25 °C (-13 °F)

- **Boiling Point:** Approximately 100 °C (212 °F) (Aqueous solution)
- **Flash Point:** > 100 °C (> 212 °F)
- **Solubility in Water:** Completely miscible
- **Specific Gravity:** 1.08 - 1.10
- **Molecular Weight:** 207.7 g/mol

8. Stability and Reactivity

- **Chemical Stability:** Stable under recommended storage conditions with an adequate level of inhibitor.
- **Conditions to Avoid:** High temperatures (above 50 °C), direct sunlight, freezing, and depletion of inhibitor. Uncontrolled polymerization can occur, generating heat and pressure.
- **Incompatible Materials:** Strong oxidizing agents, strong reducing agents, radical initiators (e.g., peroxides), acids, and bases.
- **Hazardous Decomposition Products:** Thermal decomposition can release toxic fumes, including oxides of carbon, nitrogen, and hydrogen chloride gas.
- **Hazardous Polymerization:** May occur if inhibitor is depleted or if exposed to heat, radiation, or contaminants.

9. Toxicological Information

- **Acute Toxicity:**
 - **Oral (LD50, Rat):** 200 - 2000 mg/kg.
 - **Dermal (LD50, Rabbit):** > 2000 mg/kg.
- **Carcinogenicity:** This substance is not listed as a carcinogen by IARC, NTP, or OSHA.
- **Irritation:** Causes serious eye irritation and skin irritation.
- **Sensitization:** May cause an allergic skin reaction (skin sensitizer).

10. Disposal Considerations

- **Waste Disposal:** Dispose of this material and its container as hazardous waste. Disposal must be carried out by a licensed waste management company in accordance with all applicable federal, state, and local regulations. Do not allow the product to enter drains, sewers, or waterways. The user is responsible for proper waste classification and disposal.