

Methacryloethyl Trimethyl Ammonium Chloride (DMC) MSDS

1. Product Name and Identification

Product Name: [Methacryloethyl Trimethyl Ammonium Chloride \(DMC\)](#)

Synonyms: DMC, Methacrylic Acid Quaternary Ammonium Chloride Ester

CAS Number: 5039-78-1

Chemical Formula: C₉H₁₈ClNO₂

Manufacturer/Distributor Contact Information:

(Address and emergency phone number should be specified by the supplier)

2. Composition/Ingredients

Substance: Pure substance

Chemical Name: Methacryloethyl Trimethyl Ammonium Chloride

Concentration: 100%

CAS Number: 5039-78-1

No hazardous impurities detected in the composition.

3. Hazards Identification

Classification

- **GHS Classification:**
 - Skin irritation (Category 2)
 - Eye irritation (Category 2A)
- **Health Hazards:**
 - Irritating to the eyes, skin, and respiratory system upon prolonged exposure.

Label Elements

- **Signal Word:** Warning
- **Hazard Statements:**
 - H315: Causes skin irritation
 - H319: Causes serious eye irritation
- **Precautionary Statements:**
 - P280: Wear protective gloves, clothing, and eye/face protection.
 - P264: Wash skin thoroughly after handling.
 - P302+P352: If on skin, wash with plenty of water.
 - P305+P351+P338: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

4. First Aid Measures

General Advice

Seek medical attention in all cases of prolonged or severe exposure.

- **Eyes:** Flush eyes immediately with water for 15 minutes. Remove contact lenses if applicable. Seek medical attention for persistent irritation.
- **Skin:** Wash thoroughly with soap and water. Remove contaminated clothing. Seek medical advice if symptoms arise.
- **Inhalation:** Move the individual to fresh air. If symptoms persist or breathing becomes difficult, seek medical help immediately.
- **Ingestion:** Rinse mouth with water and do not induce vomiting. Obtain medical assistance promptly.

5. Handling and Storage

Handling

- Handle in a well-ventilated area.
- Avoid contact with skin, eyes, and clothing.
- Use appropriate personal protective equipment.

Storage

- Keep containers tightly closed in a cool, dry, and well-ventilated place.
- Store away from heat sources, moisture, and incompatible materials such as strong oxidizers.

6. Exposure Controls/Personal Protection

Engineering Controls

- Provide adequate ventilation to minimize exposure to aerosols or vapors.

Personal Protective Equipment (PPE)

- **Eye Protection:** Use safety goggles or a face shield.
- **Skin Protection:** Wear chemical-resistant gloves and protective clothing.
- **Respiratory Protection:** Use an approved mask if dust or vapor levels are excessive.

General Hygiene Measures

- Wash hands and face thoroughly after handling the substance.
- Avoid eating, drinking, or smoking while working with the material.

7. Physical and Chemical Properties

- **Appearance:** Clear to pale yellow viscous liquid
- **Odor:** Slightly pungent
- **Molecular Weight:** 207.7 g/mol
- **Melting Point:** Not applicable
- **Boiling Point:** >200°C
- **Solubility in Water:** Fully soluble
- **pH (aqueous solution):** 5.0–7.0
- **Density:** ~1.2 g/cm³
- **Flash Point:** >100°C
- **Flammability:** Not classified as flammable

8. Stability and Reactivity

Chemical Stability

- Stable under normal temperature and storage conditions.

Reactivity

- Reacts with strong oxidizing agents and acids.

Conditions to Avoid

- Avoid high temperatures, direct sunlight, and moisture.

Hazardous Decomposition Products

- May emit toxic fumes such as nitrogen oxides, carbon monoxide, and carbon dioxide when decomposed by heat.

9. Toxicological Information

Acute Toxicity

- **Oral (LD50/Rat):** >2000 mg/kg (low acute toxicity)

Skin and Eye Irritation

- Causes mild to moderate skin and eye irritation. Prolonged contact may cause redness or discomfort.

Respiratory Effects

- Overexposure to vapors or aerosols may cause mild irritation of the respiratory tract.

Carcinogenicity

- Not classified as a carcinogen by IARC, NTP, or OSHA.

Chronic Effects

- Prolonged exposure may lead to sensitization or irritation of the skin and eyes.

10. Disposal Considerations

- Dispose of this material in compliance with local, regional, and national regulations.
- Do not discharge into waterways or drains.
- Contaminated packaging should be properly rinsed and treated as hazardous waste before disposal or recycling.