

Dimethylaminoethyl Methacrylate

MSDS

Disclaimer: This Material Safety Data Sheet (MSDS) has been prepared for informational purposes and is intended for use by individuals with appropriate technical training. The user of this product is solely responsible for determining the suitability of this information for their specific application and for complying with all applicable laws and regulations.

1. Product Name and Identification

- **Product Name:** [Dimethylaminoethyl Methacrylate](#)
- **CAS Number:** 2867-47-2
- **Synonyms:** DMAEMA, 2-(Dimethylamino)ethyl methacrylate, Methacrylic acid 2-(dimethylamino)ethyl ester
- **Chemical Formula:** $C_8H_{15}NO_2$

2. Composition/Ingredients

- **Chemical Name:** Dimethylaminoethyl Methacrylate
- **Purity:** Typically supplied at $\geq 99\%$ purity. The product usually contains a polymerization inhibitor.
- **Hazardous Component:** Yes

3. Hazards Identification

- **Physical Hazards:** Combustible liquid. Can undergo hazardous polymerization if not properly inhibited, leading to a dangerous release of heat and pressure.
- **Health Hazards:** Harmful if swallowed or if inhaled. Toxic in contact with skin. Causes severe skin burns and serious eye damage. May cause an allergic skin reaction (sensitization).
- **Environmental Hazards:** Harmful to aquatic life. Releases into waterways and the environment should be avoided.

4. First Aid Measures

- **Inhalation:** Immediately move the exposed individual to an area with fresh air and keep them comfortable for breathing. If respiratory distress occurs, seek immediate medical attention.
- **Skin Contact:** Immediately remove all contaminated clothing. Rinse the affected skin area thoroughly with large amounts of water for at least 15-20 minutes. Seek immediate medical attention due to the corrosive nature of the chemical.

- **Eye Contact:** Immediately and cautiously flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get immediate medical attention, preferably from an eye specialist.
- **Ingestion:** Do NOT induce vomiting. If the person is conscious, rinse their mouth thoroughly with water. Never give anything by mouth to an unconscious person. Seek immediate medical attention or contact a poison control center.

5. Handling and Storage

- **Handling:** Use only in a well-ventilated area, preferably within a chemical fume hood. Avoid breathing vapors or mists. Prevent all contact with skin, eyes, and clothing. Wear appropriate personal protective equipment (PPE). Wash hands and exposed skin thoroughly after handling.
- **Storage:** Store in a cool, dry, and well-ventilated location, away from direct sunlight and sources of heat. Keep the container tightly sealed. The product is stabilized; store under an air (oxygen) atmosphere to ensure inhibitor effectiveness. Store separately from incompatible materials such as acids, oxidizing agents, and polymerization initiators.

6. Exposure Controls/Personal Protection

- **Exposure Limits:** Follow all applicable national and local regulations for occupational exposure limits.
- **Engineering Controls:** Use local exhaust ventilation to maintain airborne concentrations below established exposure limits. Safety showers and eyewash stations must be readily available in the immediate work area.
- **Personal Protective Equipment (PPE):**
 - **Eye/Face Protection:** Wear chemical safety goggles and a full-face shield to protect against splashes.
 - **Skin Protection:** Wear impervious gloves (e.g., butyl rubber) and chemically resistant protective clothing, such as an apron or full suit, to prevent any skin contact.
 - **Respiratory Protection:** If engineering controls are inadequate to control exposures, use a NIOSH-approved respirator with an organic vapor cartridge.

7. Physical and Chemical Properties

- **Appearance:** Clear, colorless to yellowish liquid
- **Odor:** Strong, amine-like (fishy)
- **Boiling Point:** 182-190°C (360-374°F)
- **Melting Point:** Approximately -30°C (-22°F)
- **Flash Point:** 74°C (165°F) (Closed Cup)
- **Solubility:** Soluble in water.

- **Specific Gravity:** Approximately 0.93 g/cm³ @ 20°C (68°F)
- **Vapor Pressure:** 0.6 mmHg @ 20°C (68°F)

8. Stability and Reactivity

- **Stability:** Stable under recommended storage conditions when properly inhibited. Can undergo hazardous polymerization.
- **Reactivity:** Polymerization can be triggered by heat, light, or contact with initiators. Reacts with acids and oxidizing agents.
- **Conditions to Avoid:** Exposure to high temperatures, direct sunlight, UV radiation, and loss of inhibitor. Contact with incompatible materials.
- **Incompatible Materials:** Strong oxidizing agents, strong acids, strong bases, free-radical initiators, and peroxides.
- **Hazardous Decomposition Products:** Upon combustion or thermal decomposition, can emit toxic and irritating fumes, including carbon oxides (CO, CO₂) and nitrogen oxides (NO_x).

9. Toxicological Information

- **Acute Effects:**
 - **Oral:** Harmful if swallowed, causing irritation or burns to the gastrointestinal tract.
 - **Dermal:** Toxic in contact with skin. Causes severe skin burns and can be absorbed through the skin, leading to systemic effects.
 - **Inhalation:** Harmful if inhaled. Vapors can cause severe irritation to the respiratory system.
 - **Eyes:** Causes serious, potentially irreversible eye damage and burns.
- **Chronic Effects:** This material is a known skin sensitizer. Repeated or prolonged contact may lead to an allergic skin reaction (contact dermatitis) in susceptible individuals.

10. Disposal Considerations

- **Disposal Method:** This substance and its container must be disposed of as hazardous waste. All disposal practices must be in strict compliance with federal, state, and local environmental regulations. Do not allow the material to enter drains, sewers, or waterways. Engage a licensed hazardous waste management company for proper disposal.
- **Contaminated Packaging:** Empty containers may retain product residue and are considered hazardous. Do not reuse empty containers. They must be disposed of in the same manner as the product.