

Isobutyl Methacrylate MSDS

1. Product Name and Identification

- **Product Name:** [Isobutyl Methacrylate](#)
- **Synonyms:** IBMA, 2-Methylpropyl methacrylate
- **CAS Number:** 97-86-9
- **Chemical Formula:** C₈H₁₄O₂
- **Recommended Use:** Monomer for polymer synthesis, component in coatings, resins, and adhesives.
- **Company Identification:** [Enter Supplier Name and Contact Information Here]

2. Composition/Ingredients

- **Component Name:** Isobutyl Methacrylate
- **CAS Number:** 97-86-9
- **Concentration:** ≥99%. Typically contains a polymerization inhibitor (e.g., MEHQ).

3. Hazards Identification

Emergency Overview: This product is a clear, colorless liquid with a characteristic ester-like odor. It is a flammable liquid and vapor. Causes skin irritation and may cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. The product is a monomer and may polymerize violently if not properly inhibited or if exposed to heat.

Potential Health Effects:

- **Eye Contact:** Causes serious eye irritation, characterized by redness, pain, and watering.
- **Skin Contact:** Causes skin irritation. Prolonged or repeated contact can lead to dermatitis. May cause an allergic skin reaction (sensitization), leading to a rash upon subsequent exposure.
- **Inhalation:** Vapors or mists may cause respiratory tract irritation, leading to coughing, sore throat, and shortness of breath.
- **Ingestion:** May cause gastrointestinal irritation, nausea, and vomiting if swallowed.

4. First Aid Measures

- **Eye Contact:** Immediately flush eyes with plenty of clean water for at least 15 minutes, holding the eyelids open. Remove contact lenses if present and easy to do. Continue rinsing. Get immediate medical attention.

- **Skin Contact:** Immediately remove contaminated clothing and shoes. Wash the affected skin area thoroughly with soap and water. If skin irritation or a rash occurs, seek medical advice. Wash clothing before reuse.
- **Inhalation:** Move the exposed person to fresh air. If the person is not breathing, give artificial respiration. If breathing is difficult, provide oxygen. Seek medical assistance if symptoms persist.
- **Ingestion:** Do not induce vomiting. Rinse the mouth with water. Call a poison control center or doctor immediately for guidance. Never give anything by mouth to an unconscious person.

5. Handling and Storage

- **Handling:** Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Use only in a well-ventilated area. Avoid breathing vapors or mist. Avoid contact with skin, eyes, and clothing. Wear appropriate personal protective equipment (see Section 8). Ground and bond containers when transferring material.
- **Storage:** Store in a cool, dry, well-ventilated area away from direct sunlight and sources of ignition. Keep container tightly closed. This product contains an inhibitor to prevent polymerization; store below 25°C (77°F) to maintain inhibitor effectiveness. Store separately from incompatible materials like oxidizing agents and radical initiators.

6. Exposure Controls/Personal Protection

- **Engineering Controls:** Use explosion-proof ventilation equipment. Provide effective local exhaust ventilation to control airborne vapors below exposure limits. An emergency eyewash station and a safety shower must be available in the work area.
- **Personal Protective Equipment (PPE):**
 - **Eye/Face Protection:** Wear chemical splash goggles and a face shield.
 - **Skin Protection:** Wear chemical-resistant gloves (e.g., butyl rubber, Viton). Wear protective clothing to prevent skin contact.
 - **Respiratory Protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits, a NIOSH-approved respirator with an organic vapor cartridge is required.
 - **General Hygiene:** Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of the workday.

7. Physical and Chemical Properties

- **Appearance:** Clear, colorless liquid
- **Odor:** Sharp, ester-like
- **pH:** Not applicable
- **Melting Point:** -35 °C (-31 °F)

- **Boiling Point:** 155 °C (311 °F)
- **Flash Point:** 49 °C (120 °F) (Tag Closed Cup)
- **Solubility in Water:** Slightly soluble (0.06 g/L)
- **Vapor Density:** 4.9 (Air = 1)
- **Specific Gravity:** 0.886 g/cm³
- **Molecular Weight:** 142.20 g/mol

8. Stability and Reactivity

- **Chemical Stability:** Stable under recommended storage conditions, provided the inhibitor level is maintained.
- **Conditions to Avoid:** Exposure to heat, sparks, open flames, UV light, and loss of inhibitor.
- **Incompatible Materials:** Strong oxidizing agents, strong acids, strong bases, and polymerization initiators (e.g., peroxides, azo compounds).
- **Hazardous Decomposition Products:** Thermal decomposition can produce carbon monoxide and carbon dioxide.
- **Hazardous Polymerization:** May occur if exposed to heat or contaminants, or if the inhibitor is depleted. Polymerization can be rapid and violent, generating significant heat and pressure.

9. Toxicological Information

- **Acute Toxicity:**
 - **Oral (LD50, Rat):** 9,590 mg/kg.
 - **Inhalation (LC50, Rat):** 49.1 mg/L (4 hours).
- **Carcinogenicity:** Not classified as a carcinogen by IARC, NTP, or OSHA.
- **Irritation:** Causes skin irritation and serious eye irritation. May cause respiratory irritation.
- **Sensitization:** May cause an allergic skin reaction.

10. Disposal Considerations

- **Waste Disposal:** This material is a hazardous waste due to its flammability. Disposal must be handled by a licensed professional waste disposal service in strict accordance with all applicable federal, state, and local environmental regulations. Do not dispose of into sewers or waterways. Empty containers may retain product residue and vapor and should be treated as hazardous.