

Material Safety Data Sheet (MSDS)

Methyl Acetoacetate

Revision Date: 26-September-2025

Version: 1.0

Section 1: Product Identification

- **Product Name:** Methyl Acetoacetate
- **Chemical Formula:** C₅H₈O₃
- **CAS No:** 105-45-3
- **Synonyms:** Acetoacetic acid methyl ester
- **Recommended Use:** Intermediate in the manufacture of pharmaceuticals, agrochemicals, and fine chemicals.

Section 2: Hazards Identification

- **Classification (GHS):** Flammable Liquid; Acute Toxicity Oral; Skin Irritant; Eye Irritant
- **Signal Word:** Warning
- **Hazard Statements:**
 - Flammable liquid and vapor
 - Harmful if swallowed
 - Causes skin irritation
 - Causes serious eye irritation

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• **Precautionary Statements:**

- Keep away from heat, sparks, open flames, and hot surfaces
- Wear protective gloves, protective clothing, and eye protection
- Wash thoroughly after handling
- Do not eat, drink, or smoke when using this product
- IF ON SKIN: Wash with plenty of water; if irritation persists, get medical advice
- IF IN EYES: Rinse cautiously with water for several minutes

Section 3: Composition / Information on Ingredients

- **Concentration:** 98%

Section 4: First Aid Measures

- **Inhalation:** Remove person to fresh air. If breathing difficulty occurs, seek medical attention.
- **Skin Contact:** Wash with plenty of soap and water. Remove contaminated clothing. Seek medical advice if irritation develops.
- **Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses if present. Seek medical attention if irritation persists.
- **Ingestion:** Rinse mouth with water. Do not induce vomiting. Seek immediate medical advice.

Section 5: Fire-Fighting Measures

- **Suitable Extinguishing Media:** Alcohol-resistant foam, dry chemical, carbon dioxide, water spray.
- **Specific Hazards:** Vapors may form explosive mixtures with air. Combustion may release carbon oxides and irritating fumes.
- **Protective Equipment:** Firefighters should wear self-contained breathing apparatus and protective clothing.

Section 6: Accidental Release Measures

- **Personal Precautions:** Eliminate ignition sources. Avoid inhalation of vapors and contact with skin/eyes. Wear protective equipment.
- **Environmental Precautions:** Prevent release into drains and waterways.
- **Cleanup Methods:** Contain and absorb with inert material (sand/earth). Collect into suitable containers for disposal. Wash spill area with detergent and water.

Section 7: Handling and Storage

- **Handling:** Avoid inhalation of vapors. Avoid contact with skin and eyes. Use in well-ventilated areas. Ground/bond containers and equipment.
- **Storage:** Store in tightly closed containers in a cool, dry, well-ventilated place away from heat, sparks, and open flame.

Section 8: Exposure Controls / Personal Protection

- **Exposure Limits:** Not established.
- **Engineering Controls:** Provide adequate ventilation, especially in confined areas.
- **Personal Protective Equipment:** Safety goggles, chemical-resistant gloves, protective clothing. Respiratory protection if ventilation is inadequate.

Section 9: Physical and Chemical Properties

- **Appearance:** Colorless to pale yellow liquid
- **Odor:** Fruity odor
- **Boiling Point:** 170 °C
- **Flash Point:** 70 °C
- **Solubility:** Slightly soluble in water; soluble in alcohol and organic solvents
- **Molecular Weight:** 116.12 g/mol

Section 10: Stability and Reactivity

- **Stability:** Stable under recommended storage conditions.
- **Incompatible Materials:** Strong oxidizing agents, strong acids, bases.
- **Hazardous Decomposition Products:** Carbon oxides.
- **Conditions to Avoid:** Heat, flames, sparks, static discharge.

Section 11: Toxicological Information

- **Routes of Exposure:** Inhalation, ingestion, skin and eye contact.
- **Acute Effects:** Harmful if swallowed. Causes skin and eye irritation. Oral LD50 (rat): ~1,320 mg/kg.
- **Chronic Effects:** Prolonged or repeated exposure may cause dermatitis or liver/kidney effects.

Section 12: Ecological Information

- **Ecotoxicity:** Harmful to aquatic life.
- **Persistence and Degradability:** Expected to be biodegradable.
- **Bioaccumulative Potential:** Low to moderate.
- **Mobility in Soil:** Moderate mobility due to partial water solubility.

Section 13: Disposal Considerations

- Dispose of product/container in accordance with local/regional/national regulations. Do not release to the environment. Incineration under controlled conditions preferred.

Section 14: Transport Information

- **UN Number:** UN3272
- **Proper Shipping Name:** Methyl Acetoacetate

- Hazard Class: 3
- Packing Group: III

Section 15: Regulatory Information

- Listed on major chemical inventories (e.g., TSCA, EINECS).
- Classified as hazardous under GHS for flammability, acute toxicity, skin/eye irritation.
- Complies with Indian chemical safety regulations.

Section 16: Other Information

Disclaimer: The information above is believed to be accurate but does not purport to be all-inclusive and shall be used only as a guide. Triveni Chemicals shall not be held liable for any damage resulting from handling or from contact with the product.

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