

Material Safety Data Sheet (MSDS)

Acetoin

Revision Date: 26-September-2025

Version: 1.0

Section 1: Product Identification

- **Product Name:** Acetoin
- **Chemical Formula:** C₄H₈O₂
- **CAS No:** 513-86-0
- **Synonyms:** 3-Hydroxy-2-butanone; Acetylmethylcarbinol
- **Recommended Use:** Used as a flavoring agent in food, fragrance ingredient, and chemical intermediate.

Section 2: Hazards Identification

- **Classification (GHS):** Eye Irritant; Skin Irritant
- **Signal Word:** Warning
- **Hazard Statements:**
 - Causes skin irritation
 - Causes serious eye irritation
- **Precautionary Statements:**
 - Avoid contact with skin and eyes
 - Wear protective gloves, protective clothing, and eye protection
 - Wash thoroughly after handling

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- 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:** 95%

Section 4: First Aid Measures

- **Inhalation:** Move person to fresh air. If respiratory irritation or discomfort 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 medical advice if unwell.

Section 5: Fire-Fighting Measures

- **Suitable Extinguishing Media:** Water spray, foam, dry chemical, carbon dioxide.
- **Specific Hazards:** Combustible liquid; emits carbon oxides under fire conditions.
- **Protective Equipment:** Firefighters should wear self-contained breathing apparatus and protective clothing.

Section 6: Accidental Release Measures

- **Personal Precautions:** Avoid inhalation of vapors and contact with skin/eyes. Ensure proper ventilation. Wear protective equipment.
- **Environmental Precautions:** Prevent release into drains and waterways.

- **Cleanup Methods:** Absorb with inert material. Collect into suitable containers for disposal. Wash spill area thoroughly 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.
- **Storage:** Store in tightly closed containers in a cool, dry, well-ventilated area away from heat and ignition sources.

Section 8: Exposure Controls / Personal Protection

- **Exposure Limits:** Not established.
- **Engineering Controls:** Provide adequate ventilation.
- **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:** Buttery odor
- **Boiling Point:** 148 °C
- **Flash Point:** 57 °C (closed cup)
- **Solubility:** Miscible with water, alcohol, and organic solvents
- **Molecular Weight:** 88.11 g/mol

Section 10: Stability and Reactivity

- **Stability:** Stable under recommended storage and handling conditions.
- **Incompatible Materials:** Strong oxidizing agents.
- **Hazardous Decomposition Products:** Carbon oxides.
- **Conditions to Avoid:** Heat, flames, sparks, and prolonged exposure to light.

Section 11: Toxicological Information

- **Routes of Exposure:** Inhalation, ingestion, skin and eye contact.
- **Acute Effects:** Causes skin and eye irritation. Oral LD50 (rat): ~3,300 mg/kg.
- **Chronic Effects:** Prolonged or repeated exposure may cause dermatitis or respiratory irritation.

Section 12: Ecological Information

- **Ecotoxicity:** Low toxicity to aquatic life.
- **Persistence and Degradability:** Expected to be biodegradable.
- **Bioaccumulative Potential:** Low potential.
- **Mobility in Soil:** High mobility due to water solubility.

Section 13: Disposal Considerations

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

Section 14: Transport Information

- **UN Number:** UN2621
- **Proper Shipping Name:** Acetoin
- **Hazard Class:** 3
- **Packing Group:** III

Section 15: Regulatory Information

- Listed on major chemical inventories (e.g., TSCA, EINECS).
- Classified under GHS for irritation hazards.
- 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.