

## Material Safety Data Sheet (MSDS)

### Diacetyl

Revision Date: 29-August-2025

Version: 1.0

### Section 1: Product Identification

- **Product Name:** Diacetyl
- **Chemical Formula:** C<sub>4</sub>H<sub>6</sub>O<sub>2</sub>
- **CAS No:** 431-03-8
- **Synonyms:** 2,3-Butanedione, Biacetyl
- **Recommended Use:** Used as a flavoring agent (buttery flavor), in food, fragrance, and chemical synthesis.

### Section 2: Hazards Identification

- **Classification (GHS):** Acute Toxicity (Inhalation, Category 3), Skin Irritant (Category 2), Eye Irritant (Category 2A), Respiratory Sensitizer (Category 1).
- **Signal Word:** Danger
- **Hazard Statements:**

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- Toxic if inhaled
- Causes skin irritation
- Causes serious eye irritation
- May cause respiratory sensitization and lung damage

• **Precautionary Statements:**

- Avoid breathing vapors
- Use only in well-ventilated areas or with respiratory protection
- Wear protective gloves, clothing, and eye protection
- Wash thoroughly after handling

## Section 3: Composition / Information on Ingredients

- **Chemical Name:** Diacetyl
- **Synonyms:** 2,3-Butanedione, Biacetyl
- **CAS Number:** 431-03-8
- **Concentration:**  $\geq 99\%$  (typical commercial grade)

## Section 4: First Aid Measures

- **Inhalation:** Remove to fresh air immediately. Seek urgent medical attention if breathing difficulty occurs.
- **Skin Contact:** Wash thoroughly with soap and water. Remove contaminated clothing. Seek medical attention if irritation persists.
- **Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses if present. Seek immediate medical attention.
- **Ingestion:** Rinse mouth. Do not induce vomiting. Seek immediate medical attention.

## Section 5: Fire-Fighting Measures

- **Suitable Extinguishing Media:** Water spray, foam, dry chemical, carbon dioxide (CO<sub>2</sub>).
- **Specific Hazards:** Flammable liquid and vapor. Vapors may form explosive mixtures with air. Emits toxic fumes of carbon oxides under fire conditions.
- **Protective Equipment:** Firefighters should wear self-contained breathing apparatus and protective clothing.

## Section 6: Accidental Release Measures

- **Personal Precautions:** Use protective equipment. Avoid inhalation of vapors. Ensure adequate ventilation.
- **Environmental Precautions:** Prevent entry into drains, soil, and water bodies.

- **Cleanup Methods:** Absorb with inert material (sand, earth). Place in suitable container for proper disposal.

## Section 7: Handling and Storage

- **Handling:** Avoid inhalation of vapors. Avoid contact with skin, eyes, and clothing. Use only in well-ventilated areas.
- **Storage:** Store in tightly closed containers in a cool, dry, well-ventilated area. Keep away from ignition sources.

## Section 8: Exposure Controls / Personal Protection

- **Exposure Limits:** ACGIH TLV: 0.01 ppm (TWA); OSHA: Not established.
- **Engineering Controls:** Provide adequate ventilation, fume hood, and explosion-proof equipment.
- **Personal Protective Equipment:** Protective gloves, goggles, lab coat, and appropriate respirator.

## Section 9: Physical and Chemical Properties

- **Appearance:** Yellow-green liquid
- **Odor:** Strong buttery odor

- **Boiling Point:** 88 °C
- **Melting Point:** -2 °C
- **Flash Point:** 15 °C (closed cup)
- **Solubility:** Miscible with water, alcohol, and organic solvents
- **Molecular Weight:** 86.09 g/mol

## Section 10: Stability and Reactivity

- **Stability:** Stable under recommended storage conditions.
- **Incompatible Materials:** Strong oxidizing agents, strong bases.
- **Hazardous Decomposition Products:** Carbon oxides under fire conditions.

## Section 11: Toxicological Information

- **Routes of Exposure:** Inhalation, ingestion, skin, and eye contact.
- **Acute Effects:** Toxic if inhaled. Causes skin and eye irritation. May cause respiratory distress and lung damage.
- **Chronic Effects:** Long-term exposure linked to bronchiolitis obliterans (serious lung disease).

## Section 12: Ecological Information

- **Ecotoxicity:** Harmful to aquatic life at high concentrations.
- **Persistence and Degradability:** Readily biodegradable in the environment.
- **Bioaccumulative Potential:** Low potential for bioaccumulation.

## Section 13: Disposal Considerations

- Dispose of contents/container in accordance with local/regional/national regulations. Avoid release into the environment.

## Section 14: Transport Information

- **UN Number:** 2346
- **Proper Shipping Name:** Diacetyl
- **Hazard Class:** 3
- **Packing Group:** II

## Section 15: Regulatory Information

- Complies with Indian chemical safety regulations and international inventories (TSCA, EINECS, etc.).

- Classified as hazardous substance under GHS.

## Section 16: Other Information

- **Disclaimer:** The above information is believed to be correct but does not claim to be exhaustive. Users are responsible for verifying suitability under actual conditions of use. **Triveni chemicals** disclaims any liability for damage resulting from handling or contact.