

Material Safety Data Sheet (MSDS)

Dimethyl Dioxolane

Revision Date: 13-October-2025

Version: 1.0

Section 1: Product Identification

- **Product Name:** Dimethyl Dioxolane
- **Chemical Formula:** C₅H₁₀O₂
- **CAS No:** 2916-31-6
- **Synonyms:** 2,2-Dimethyl-1,3-dioxolane; Acetal; Dimethyl-1,3-dioxolane; Dioxolane, 2,2-dimethyl-
- **Recommended Use:** Used as a solvent and stabilizer in formulations and organic synthesis intermediate.

Section 2: Hazards Identification

- **Classification (GHS):** Flammable liquid, Category 2; Eye irritation, Category 2A; Specific target organ toxicity (single exposure), Category 3 (narcotic effects).
- **Signal Word:** Danger

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- **Hazard Statements:** Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.
 - Harmful if swallowed
 - Causes skin irritation and serious eye irritation
 - Combustible liquid
 - Keep away from heat/sparks/open flames. No smoking
 - Wear protective gloves/eye protection
 - **IF ON SKIN or IN EYES:** Rinse cautiously with water; seek medical advice if irritation persists

Section 3: Composition / Information on Ingredients

- **Concentration:** $\geq 99\%$

Section 4: First Aid Measures

- **Inhalation:** Remove to fresh air and keep at rest. If breathing is difficult, seek medical attention.
- **Skin Contact:** Wash with plenty of 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 and easy to do. Continue rinsing and seek immediate medical advice.

- **Ingestion:** Rinse mouth. Do NOT induce vomiting. Seek medical attention immediately.

Section 5: Fire-Fighting Measures

- **Suitable Extinguishing Media:** Foam, carbon dioxide, dry chemical. Avoid direct water jets.
- **Specific Hazards:** Vapors may form explosive mixtures with air. Containers may explode under fire conditions.
- **Protective Equipment:** Firefighters should wear self-contained breathing apparatus and full protective clothing.

Section 6: Accidental Release Measures

- **Personal Precautions:** Avoid inhaling vapors. Remove ignition sources. Ensure good ventilation.
- **Environmental Precautions:** Prevent leakage or spillage into drains and waterways.
- **Cleanup Methods:** Absorb with inert material (sand, vermiculite) and collect in suitable container for disposal.

Section 7: Handling and Storage

- **Handling:** Handle only in well-ventilated areas. Avoid contact with skin, eyes, and clothing. Keep away from heat and sparks.

- **Storage:** Keep container tightly closed in a cool, dry, and well-ventilated place. Store away from oxidizing agents.

Section 8: Exposure Controls / Personal Protection

- **Exposure Limits:** No occupational exposure limits established.
- **Engineering Controls:** Use explosion-proof ventilation systems. Provide adequate general and local exhaust.
- **Personal Protective Equipment:** Wear gloves, chemical safety goggles, and protective clothing. Use respirator when ventilation is inadequate.

Section 9: Physical and Chemical Properties

- **Appearance:** Colorless liquid.
- **Odor:** Pleasant, ether-like odor.
- **Boiling Point:** 92 - 93 °C
- **Flash Point:** 2 °C (closed cup)
- **Solubility:** Miscible with water and organic solvents.
- **Molecular Weight:** 102.13 g/mol

Section 10: Stability and Reactivity

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

Section 11: Toxicological Information

- **Routes of Exposure:** Inhalation, ingestion, skin and eye contact.
- **Acute Effects:** Highly flammable; may cause dizziness, drowsiness, and eye irritation.
- **Chronic Effects:** Prolonged exposure may cause central nervous system effects.

Section 12: Ecological Information

- **Ecotoxicity:** Harmful to aquatic life with long lasting effects.
- **Persistence and Degradability:** Expected to be readily biodegradable.
- **Bioaccumulative Potential:** Low potential for bioaccumulation.

Section 13: Disposal Considerations

- Dispose of contents/container in accordance with local/regional/national regulations. Do not release into the environment.

Section 14: Transport Information

- **UN Number:** UN 1993
- **Proper Shipping Name:** Flammable liquid, n.o.s. (Dimethyl Dioxolane)
- **Hazard Class:** 3
- **Packing Group:** II

Section 15: Regulatory Information

- Complies with Indian chemical safety regulations and listed under international chemical inventories.
- Classified as hazardous substance as per 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.

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