

Diethyl Adipate (DOA) MSDS

1. Product Name and Identification

Product Name: [Diethyl Adipate \(DOA\)](#)

CAS Number: 103-23-1

Synonyms: Di(2-ethylhexyl) adipate, Bis(2-ethylhexyl) adipate

Chemical Formula: C₂₂H₄₂O₄

Molecular Weight: 370.57 g/mol

Manufacturer/Supplier Name: [Enter manufacturer/supplier details]

Emergency Contact Number: [Insert emergency contact details]

2. Composition/Ingredients

Chemical Name: Diethyl Adipate

CAS Number: 103-23-1

EC Number: 203-090-1

Concentration: ≥99%

3. Hazards Identification

Classification:

- Not classified as hazardous under GHS criteria

Label Elements:

- **Pictograms:** None required
- **Signal Word:** None
- **Hazard Statements:**
 - May cause mild skin and eye irritation in sensitive individuals.

Precautionary Statements:

- P264: Wash hands thoroughly after handling.
 - P280: Wear suitable protective gloves and eye protection if prolonged exposure is anticipated.
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4. First Aid Measures

General Advice:

- Seek medical attention in case of discomfort or prolonged symptoms.

If Inhaled:

- Move to fresh air if inhalation of vapor occurs. Seek medical attention if symptoms develop.

If on Skin:

- Wash affected area with soap and water. Seek medical attention if irritation persists.

If in Eyes:

- Flush eyes immediately with water for at least 15 minutes, holding eyelids open. Seek medical assistance if irritation continues.

If Swallowed:

- Rinse mouth with water. Do not induce vomiting. Seek medical attention if symptoms occur.
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5. Handling and Storage

Handling:

- Avoid prolonged or repeated contact with skin and eyes. Use in a well-ventilated area.

Storage:

- Store in tightly sealed containers in a cool, dry, and well-ventilated area. Avoid exposure to heat and incompatible materials.
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6. Exposure Controls/Personal Protection

Exposure Limits:

- No occupational exposure limits have been established for DOA.

Engineering Controls:

- Use adequate ventilation, especially in confined areas, to minimize vapor accumulation.

Personal Protective Equipment (PPE):

- **Eye/Face Protection:** Safety glasses with side shields.
 - **Skin Protection:** Chemical-resistant gloves (e.g., nitrile or PVC).
 - **Respiratory Protection:** Use a respirator in poorly ventilated areas or if vapor levels are excessive.
 - **Body Protection:** Protective clothing, such as a lab coat or overalls, to prevent prolonged skin exposure.
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7. Physical and Chemical Properties

Appearance: Clear, colorless to pale yellow liquid

Odor: Mild, characteristic odor

Odor Threshold: Not available

pH: Not applicable

Boiling Point: 417°C (783°F)

Melting Point: -67°C (-88°F)

Flash Point: 196°C (384°F) (closed cup)

Density: 0.922 g/cm³ at 20°C

Solubility: Insoluble in water; soluble in organic solvents

Vapor Pressure: <0.01 mmHg at 20°C

Viscosity: Approximately 13.6 cP at 20°C

8. Stability and Reactivity

Chemical Stability: Stable under normal storage and handling conditions.

Reactivity: Non-reactive under standard conditions.

Hazardous Reactions: None anticipated under normal conditions of use.

Conditions to Avoid: Excessive heat, open flames, and incompatible materials.

Hazardous Decomposition Products: Carbon oxides (CO, CO₂) may form under high temperatures or fire conditions.

9. Toxicological Information

Routes of Exposure:

- Skin and eye contact, inhalation, ingestion.

Acute Toxicity:

- LD50 (Oral, Rat): >5,000 mg/kg
- LD50 (Dermal, Rabbit): >3,000 mg/kg

Irritation/Corrosion:

- May cause mild skin and eye irritation.

Chronic Effects:

- No significant long-term health effects reported from available data.

Carcinogenicity:

- Not identified as a carcinogen by OSHA, IARC, or NTP.

Sensitization:

- Not classified as a skin or respiratory sensitizer.
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10. Disposal Considerations

Waste Treatment Methods:

- Dispose of waste in accordance with local, regional, and national regulations. Avoid discharge into drains, soil, or waterways.

Contaminated Packaging:

- Clean thoroughly before recycling or dispose of in compliance with regulatory guidelines.

Precautions:

- Ensure proper waste management to prevent environmental contamination.