

# L-Serine MSDS

## 1. Product Name and Identification

**Product Name:** [L-Serine](#)

**Synonyms:** 2-Amino-3-hydroxypropanoic acid

**Chemical Formula:** C<sub>3</sub>H<sub>7</sub>NO<sub>3</sub>

**CAS Number:** 56-45-1

**Manufacturer/Supplier:** [Insert Name Here]

**Emergency Contact:** [Insert Contact Information]

## 2. Composition/Ingredients

**Chemical Name:** L-Serine

**Concentration:** > 98%

**Molecular Weight:** 105.09 g/mol

**Hazardous Impurities:** None identified

## 3. Hazards Identification

**Hazard Classification:**

- Not classified as hazardous according to GHS.

**Label Elements:**

- **Signal Word:** None
- **Hazard Statements:** Not applicable.
- **Precautionary Statements:**
  - P202: Do not handle until all safety precautions have been read and understood.
  - P260: Do not breathe dust.

## 4. First Aid Measures

**General Advice:** If unwell, seek medical attention.

- **Inhalation:** Move to fresh air. If symptoms persist, consult a physician.
- **Skin Contact:** Wash skin thoroughly with soap and water. Remove contaminated clothing. If irritation develops, seek medical attention.
- **Eye Contact:** Rinse eyes cautiously with water for at least 15 minutes. Remove contact lenses if present and manageable. If irritation persists, consult an eye specialist.
- **Ingestion:** Rinse mouth with water. Do not induce vomiting unless directed by medical personnel. Get medical help if large amounts are swallowed.

## 5. Handling and Storage

### Handling:

- Avoid contact with eyes, skin, and clothing.
- Minimize dust creation during handling.
- Ensure good ventilation in the workspace.

### Storage:

- Store in a cool, dry, and well-ventilated area.
- Keep container tightly closed to avoid moisture contamination.
- Protect from direct sunlight and incompatible materials (e.g., strong oxidizers).

## 6. Exposure Controls/Personal Protection

**Exposure Limits:** No established exposure limits.

### Engineering Controls:

- Use local exhaust ventilation to control dust levels in the air.

### Personal Protective Equipment (PPE):

- **Eye Protection:** Safety goggles or glasses with side shields.
- **Skin Protection:** Wear chemical-resistant gloves.
- **Respiratory Protection:** Use a NIOSH-approved particulate respirator when dust levels are high.
- **Hygiene Measures:** Wash thoroughly after handling. Avoid eating, drinking, or smoking in areas where this product is handled.

## 7. Physical and Chemical Properties

- **Appearance:** White crystalline powder
- **Odor:** Odorless
- **pH:** 5.5–6.5 (1% solution in water)
- **Melting Point:** ~228°C (decomposes)
- **Boiling Point:** Not applicable
- **Flash Point:** Not applicable
- **Solubility:** Soluble in water (~250 g/L at 20°C)
- **Density:** ~1.6 g/cm<sup>3</sup>
- **Vapor Pressure:** Negligible

## 8. Stability and Reactivity

**Stability:** Stable under recommended storage conditions.

**Reactivity:** Non-reactive under normal handling and storage conditions.

**Conditions to Avoid:**

- Excessive heat, direct sunlight, and moisture.
- Dust generation.

**Hazardous Decomposition Products:** May emit nitrogen oxides, carbon monoxide, and carbon dioxide under high-temperature decomposition.

**Incompatible Materials:** Strong oxidizing agents.

## 9. Toxicological Information

**Acute Toxicity:**

- LD50 (Oral, Rat): >5,000 mg/kg (estimated).

**Skin:** No significant irritation reported with typical exposure.

**Eyes:** May cause mild irritation with direct contact.

**Respiratory:** Dust may irritate the respiratory tract.

**Chronic Effects:** No significant long-term effects reported in studies.

## 10. Disposal Considerations

**Waste Disposal Methods:**

Dispose of in accordance with local, regional, and national regulations. Do not discharge into drains, sewers, or waterways.

**Empty Containers:** Rinse thoroughly before recycling or disposal. Do not reuse containers.

**Special Recommendations:** Use a licensed chemical disposal company for proper disposal, particularly for large quantities.

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