



NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

Safety Data Sheet (MSDS)

- L-Serine

(According to GB/T 16483 and GB/T 17519; Adapts to GHS, IMDG, IATA Standards) **Product**

Name: L-Serine **Revision Date:** 27 FEB 2026

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifiers

- Product Name: L-Serine
- Synonyms: L-2-Amino-3-hydroxypropionic acid; (S)-2-Amino-3-hydroxypropanoic acid
- Product Number: L-SER-20260227
- Brand: SIGALD
- CAS-No.: 56-45-1
- EINECS Number: 200-274-3
- Molecular Formula: $C_3H_7NO_3$
- Molecular Weight: 105.09 g/mol

1.2 Details of the Supplier

- Company: NEWAY SINOPHC TECH. LIMITED
- Address: RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE
- Telephone: +86-021-50350029
- Fax: +86-021-50350029

1.3 Emergency Telephone

- Emergency Phone #: +86-021-50350029

1.4 Uses

- **Identified Uses:** Non-essential (conditionally essential) amino acid supplement; pharmaceutical intermediate (for glycine synthesis, IV infusions); food additive (flavor enhancer, nutrient); cosmetic ingredient (moisturizer).
- **Uses Advised Against:** Industrial uses not related to nutrition, pharmaceuticals, or cosmetics.

SECTION 2: Hazards Identification

2.1 GHS Classification

- **Not Classified** as hazardous according to GHS criteria.

2.2 GHS Label Elements

- **Pictograms:** None
- **Signal Word:** None
- **Hazard Statements:** None
- **Precautionary Statements:** None (standard handling precautions apply)

2.3 Physical and Chemical Hazards

Non-flammable, non-explosive, non-corrosive. Hygroscopic; may cake upon exposure to high humidity.

2.4 Health Hazards

- **Acute:** Generally regarded as safe (GRAS). Inhalation of dust may cause mild respiratory or eye irritation. No systemic toxicity.
- **Chronic:** No known chronic health hazards. It is a vital component of proteins and phospholipids.

2.5 Environmental Hazards

- Not hazardous to the environment. Readily biodegradable and serves as a nutrient for microorganisms.

SECTION 3: Composition/Information on Ingredients

- **Substance:** Pure chemical compound.



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- **Non-Hazardous Ingredient:**

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Ingredient CAS No. Concentration (w/w) GHS Classification

L-Serine 56-45-1 ≥ 99.0% Non-hazardous

SECTION 4: First Aid Measures

- **Inhalation:** Remove to fresh air. Rest and keep warm. If irritation persists, seek medical attention.
- **Skin Contact:** No adverse effects expected. Wipe off excess powder and wash with soap and water.
- **Eye Contact:** Rinse immediately with plenty of running water for 5-10 minutes. Remove contact lenses if present. Consult a physician if irritation persists.
- **Ingestion:** Generally safe for consumption. If large amounts are ingested and cause discomfort, drink water. Do not induce vomiting.

SECTION 5: Firefighting Measures

- **Suitable Media:** Water spray, dry chemical powder, carbon dioxide (CO₂), foam.
- **Unsuitable Media:** None.
- **Special Hazards:** Non-flammable. At very high temperatures (> 300°C), decomposition may produce carbon monoxide (CO), nitrogen oxides (NO_x), and water vapor.
- **Advice:** Wear self-contained breathing apparatus (SCBA) in case of heavy smoke. Cool containers with water spray.

SECTION 6: Accidental Release Measures

- **Personal Precautions:** Wear dust mask and nitrile gloves for large spills to prevent dust inhalation.
- **Environmental Precautions:** No restrictions. Material is biodegradable.
- **Clean-up:** Small spills: Sweep or vacuum into a sealed container for reuse. Large spills: Dampen with water to prevent dust dispersion, then sweep into sealed drums for disposal or recovery.

SECTION 7: Handling and Storage

- **Handling:** Use in a well-ventilated area. Avoid generating dust. Use dry equipment to prevent caking. Wash hands after handling.
- **Storage:** Store in a **cool, dry place (5-25°C)** in a tightly sealed container. Protect from moisture (highly hygroscopic) and direct sunlight.
- **Incompatibilities:** Strong oxidizing agents, strong acids at elevated temperatures.
- **Shelf Life:** 24 months (unopened, under specified conditions).

SECTION 8: Exposure Controls/Personal Protection

- **Exposure Limits:** No specific occupational exposure limits.
- **Engineering Controls:** General ventilation is sufficient. Local exhaust ventilation is recommended for bulk handling to control dust.
- **Personal Protective Equipment (PPE):**
 - **Eye/Face:** Safety glasses with side shields.
 - **Skin:** Nitrile gloves (essential due to hygroscopic nature).
 - **Respiratory:** Disposable dust mask for dusty conditions.

SECTION 9: Physical and Chemical Properties

- **Physical State:** Crystalline powder
- **Color:** White to off-white
- **Odor:** Odorless
- **Taste:** Mild sweet
- **Melting Point:** 228°C (decomposition)



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- **Boiling Point:** Not applicable (decomposes)
- **Flash Point:** > 300°C (Non-flammable)
- **Relative Density:** 1.538 g/cm³ (20°C)
- **Solubility:** **Freely soluble in water** (≈ 500 g/L at 25°C); slightly soluble in ethanol; insoluble in ether.
- **pH Value:** 5.5 - 6.5 (5% aqueous solution)
- **Specific Rotation:** +14.5° to +16.5° (20°C, 5% in H₂O)
- **Hygroscopy:** Highly hygroscopic

SECTION 10: Stability and Reactivity

10.1 Chemical Stability

Stable under normal storage conditions. Degrades at temperatures above 228°C.

10.2 Possibility of Hazardous Reactions

No hazardous polymerization expected.

10.3 Conditions to Avoid

High humidity, high temperatures (> 228°C), strong oxidizing agents.

10.4 Hazardous Decomposition Products

CO, CO₂, NO_x.

SECTION 11: Toxicological Information

- **Acute Toxicity:** LD₅₀ (Oral, Rat) > 10,000 mg/kg; Practically non-toxic.
- **Skin Irritation:** Non-irritating.
- **Eye Irritation:** Slightly irritating if dust remains in the eye.
- **Carcinogenicity:** IARC Group 3 (Not classifiable).
- **Reproductive Toxicity:** No adverse effects observed. It is essential for fetal development.

SECTION 12: Ecological Information

- **Toxicity:** Non-toxic to aquatic life.
- **Persistence and Degradability:** Readily biodegradable (> 90% in 28 days).
- **Bioaccumulative Potential:** None (highly water-soluble).

SECTION 13: Disposal Considerations

- **Product Waste:** Dispose of as non-hazardous waste. Can be discharged into sewage systems or sent to landfill.
- **Packaging Waste:** Rinse and recycle or dispose of as non-hazardous solid waste.

SECTION 14: Transport Information

- **UN Number:** Not applicable (Non-dangerous goods)
- **UN Proper Shipping Name:** Not applicable
- **Class:** Not applicable
- **Packing Group:** Not applicable
- **Marine Pollutant:** No
- **Special Precautions:** Transport in sealed, moisture-proof packaging. Protect from rain and humidity.

SECTION 15: Regulatory Information

- **EU:** REACH Registered. Compliant with EC 1333/2008 (Food Additives).
- **US:** FDA GRAS. Listed in TSCA Inventory. Approved for food and pharmaceutical use.
- **China:** Compliant with GB 2760-2021 (Food Additive) and Chinese Pharmacopoeia (CP).

SECTION 16: Other Information

- **Further Information:** L-Serine is a conditionally essential amino acid, crucial for the synthesis of proteins, serine phospholipids, and neurotransmitters (serotonin, dopamine).
- **Revision Note:** First issue.
- **Disclaimer:** This MSDS is based on current scientific data. The supplier is not liable for damage caused by improper use.



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