



# 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)

According to GB/T 16483 and GB/T 17519; Adapts to GHS, IMDG, IATA Standards Product Name:

L-Arginine (Food Grade, Crystalline Powder) Revision Date: February 26, 2026

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

#### 1.1 Product Identifiers

- Product Name: L-Arginine (Food Grade)
- Product Number: LA-20260228
- Brand: SIGALD
- CAS-No.: 74-79-3
- EINECS-No.: 200-811-1
- Synonyms: (S)-2-Amino-5-guanidinopentanoic acid; L-2-Amino-5-ureidopentanoic acid; Food grade semi-essential amino acid
- Product Form: White crystalline free-flowing powder

#### 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 (CHEMTREC)

#### 1.4 Relevant Identified Uses and Uses Advised Against

- **Identified Uses:** Food additive (amino acid fortifier, nutritional supplement); raw material for food, beverage, health food, sports nutrition products and pharmaceutical industry; high-end pet food additive.
- **Uses Advised Against:** Not for pharmaceutical injection without medical grade purification; no excessive addition beyond national food additive limit standards; no direct contact with skin in large quantities for sensitive individuals; no use in high-temperature processing (>230°C) without microencapsulation.

### SECTION 2: Hazards Identification

#### 2.1 GHS Classification

Not classified as a hazardous substance or mixture under GHS (Regulation (EC) 1272/2008)

#### 2.2 GHS Label Elements

- Hazard Pictogram: None
- Signal Word: None
- Hazard Statements: None
- Precautionary Statements: P261, P271, P330, P331

#### 2.3 Physical and Chemical Hazards



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Non-combustible, non-explosive; stable under normal use conditions; freely soluble in water, slightly hygroscopic; alkaline in aqueous solution, no physical/chemical hazard risks.

## 2.4 Health Hazards

Generally non-toxic; semi-essential amino acid for human/animal body; inhalation of fine crystalline powder may cause mild respiratory irritation in sensitive individuals; alkaline powder may cause mild eye/skin irritation upon direct contact; no acute/chronic toxic effects at standard food additive use dosages.

## 2.5 Environmental Hazards

Environmentally friendly; fully biodegradable by microorganisms; no toxic effects on aquatic/terrestrial organisms; no bioaccumulation potential; no environmental pollution risk.

## 2.6 Other Hazards

No additional hazards identified; dust may form slippery surfaces on hard floors after spillage.

## SECTION 3: Composition/Information on Ingredients

### 3.1 Basic Composition

- Substance / Mixture: **Pure chemical substance (semi-essential amino acid)**
- Active Component: L-Arginine (99.0-99.8%, CAS 74-79-3)
- Inert Components: No artificial additives, binders, preservatives or fillers
- Hazardous Impurities: None (all heavy metals/impurities meet food grade limit requirements)
- Key Purity Index: Assay  $\geq 99.0\%$ , specific rotation  $[+26.9^\circ \sim +27.9^\circ]$

### 3.2 Hazardous Ingredients

None (all components are non-hazardous and meet national food safety standards)

## SECTION 4: First Aid Measures

### 4.1 Description of First-Aid Measures

- **If Inhaled:** Move to fresh air, keep at rest in a comfortable breathing position. If coughing/irritation persists, rinse mouth with clean water and consult a doctor if needed.
- **In Case of Skin Contact:** Rinse skin thoroughly with running water for 5-10 minutes to neutralize alkaline residue; remove contaminated clothing and wash before reuse. No special treatment required for mild contact.
- **In Case of Eye Contact:** Rinse eyes cautiously with plenty of running water for 10-15 minutes (hold eyes open while rinsing); remove contact lenses if present and easy to do. Consult a doctor immediately if redness or irritation persists.
- **If Swallowed:** Rinse mouth with water; drink a small amount of warm water or weak acid drink (e.g., lemon water) to neutralize. Do not induce vomiting. No toxic effects at normal food intake; consult a doctor only if excessive ingestion causes gastrointestinal discomfort (e.g., bloating, nausea).

### 4.2 Most Important Symptoms and Effects

- **Acute Effects:** Mild respiratory/eye/skin irritation from fine powder inhalation or direct contact in sensitive individuals; no other acute toxic effects.



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- **Delayed Effects:** No known delayed toxic effects based on long-term food, pharmaceutical and feed use data.

## 4.3 Immediate Medical Attention

No specific medical treatment required; treat symptomatically if irritation/symptoms persist for more than 24 hours.

## 4.4 Notes to Physician

Inform the physician of the product composition (pure food-grade L-Arginine, alkaline semi-essential amino acid) if medical consultation is needed.

## SECTION 5: Fire-Fighting Measures

### 5.1 Extinguishing Media

- **Suitable:** Water spray, foam, carbon dioxide (CO<sub>2</sub>), dry chemical powder.
- **Unsuitable:** No limitations of extinguishing agents.

### 5.2 Special Hazards Arising from the Substance

Non-combustible; decomposes at extreme high temperature (>230°C) to produce non-toxic carbon dioxide, water, nitrogen and ammonia (trace); no hazardous combustion gases; extremely low dust explosion risk in confined spaces (negligible).

### 5.3 Advice for Firefighters

Wear standard fire-fighting protective gear (gloves, goggles, dust respirator); avoid inhalation of thermal decomposition dust and trace ammonia; eliminate dust cloud if possible; fight fire from a safe distance.

## SECTION 6: Accidental Release Measures

### 6.1 Personal Precautions

Wear FFP1 dust mask, nitrile rubber gloves and safety goggles; ensure good ventilation at the spill site; wear non-slip shoes as dust may cause slippery surfaces on floors.

### 6.2 Environmental Precautions

No special environmental precautions; the product is biodegradable and non-polluting; sweep up spilled powder to avoid direct entry into water bodies (no eutrophication or toxic risk).

### 6.3 Methods for Clean-Up

- **Small Spill:** Gently sweep up the powder with a brush and collect in a sealed plastic container for reuse/disposal; wipe the floor with a weak acid solution (e.g., 0.1% acetic acid) then water to remove residual alkaline powder and prevent slipping.
- **Large Spill:** Contain with plastic barriers; transfer to sealed drums for recycling; clean the contaminated area with weak acid solution then water and dry thoroughly.

### 6.4 Reference

For disposal, see Section 13.

## SECTION 7: Handling and Storage

### 7.1 Precautions for Safe Handling

- Operate in a well-ventilated area; use dust suppression measures (mist spray) to avoid fine powder formation/inhalation during mixing/transfer.
- Avoid contact with strong acids, strong oxidizing agents and high-temperature environments (>230°C) to prevent neutralization reaction and decomposition.
- Hygiene Measures: Wash hands thoroughly with soap and water after handling; do not eat/drink/smoke while operating the product (follow food hygiene operation standards for food grade materials); avoid touching eyes/mucous membranes after handling.
- Mixing Note: Dissolve in water first for uniform dispersion in liquid food/beverage; direct dry mixing for solid food products; avoid mixing with acidic food raw materials in large quantities without pre-dissolution.

## 7.2 Conditions for Safe Storage

- **Storage Conditions:** Store in a cool, dry, well-ventilated warehouse; keep container tightly sealed to prevent moisture absorption and caking; storage temperature  $\leq 25^{\circ}\text{C}$ , relative humidity  $\leq 65\%$ .
- **Incompatibilities:** Strong acids (HCl, H<sub>2</sub>SO<sub>4</sub>), strong oxidizing agents (hydrogen peroxide, chlorine-based disinfectants), acidic food additives, high-temperature processing equipment (>230°C).
- **Storage Class (TRGS 510):** 13 (Non-Hazardous Solids)
- **Shelf Life:** 36 months (unopened, under specified storage conditions); 12 months after opening (seal tightly and store in dry environment).

## SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control Parameters

No specific occupational exposure limit (OEL) for L-Arginine; follow general food additive dust exposure limits (TWA 10 mg/m<sup>3</sup>) and national food hygiene operation standards.

### 8.2 Exposure Controls

- **Engineering Controls:** Local exhaust ventilation (LEV) for large-scale processing; dust collection system to reduce airborne powder concentration; dehumidification equipment to maintain low humidity in storage/processing areas.
- **Personal Protective Equipment (PPE):**
  - Eye/Face Protection: Safety goggles with side shields (mandatory for bulk handling/mixing to avoid powder splashing into eyes).
  - Skin Protection: Nitrile rubber gloves (food grade, thickness  $\geq 0.11$  mm) and clean protective clothing for prolonged contact.
  - Respiratory Protection: FFP1 dust mask for regular handling; FFP2 mask for large-scale spill or fine dust generation.
  - Foot Protection: Non-slip food-grade safety shoes for all handling operations.
  - Hygiene: Provide food-grade hand washing facilities with pure water and soap at the workplace; prepare weak acid hand sanitizer for post-handling cleaning.



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- **Environmental Exposure:** Install dust collection systems; collected dust can be reused (meets food grade quality standards).

## SECTION 9: Physical and Chemical Properties

a) Physical State: Crystalline powder  
b) Color: White to off-white  
c) Odor: Odorless, no pungent smell  
d) Melting Point: 220°C (decomposes)  
e) Boiling Point: Not applicable (decomposes before boiling)  
f) Flammability: Non-combustible  
g) Flammability Limits: Not applicable  
h) Flash Point: Not applicable  
i) Autoignition Temperature: > 300°C  
j) Decomposition Temperature: ≥ 230°C  
k) pH Value (1% aqueous solution, 25°C): 10.5-12.0  
l) Viscosity: N/A (solid); 9-16 mPa·s (10% aqueous solution, 25°C)  
m) Solubility: Freely soluble in water (150 g/100 mL at 25°C); slightly soluble in ethanol; insoluble in ether, chloroform and acetone  
n) Partition Coefficient (log K<sub>ow</sub>): -3.2 (hydrophilic)  
o) Vapor Pressure (25°C): Negligible (< 0.0001 hPa)  
p) Density (25°C, solid): 1.460 g/cm<sup>3</sup>  
q) Bulk Density: 0.6-0.9 g/cm<sup>3</sup>  
r) Explosive Properties: Not explosives  
s) Oxidizing Properties: None  
t) Hygroscopy: Slightly hygroscopic

## SECTION 10: Stability and Reactivity

### 10.1 Chemical Stability

Stable under recommended storage/use conditions (≤25°C, dry, sealed); stable in food system pH (4.0-11.0); no degradation at normal food processing temperature (<120°C).

### 10.2 Possibility of Hazardous Reactions

No hazardous reactions under normal use/handling conditions; no polymerization; neutralization reaction occurs with strong acids (no toxic by-products).

### 10.3 Conditions to Avoid

High temperature (>230°C), direct contact with strong acids/strong oxidizing agents, prolonged exposure to high humidity (caking risk), direct contact with acidic food raw materials in large quantities.

### 10.4 Incompatible Materials

Concentrated mineral acids, strong oxidizing agents, high-concentration acidic food additives, heavy metal salts (high concentration).

### 10.5 Hazardous Decomposition Products

No hazardous decomposition products; decomposes into non-toxic carbon dioxide, water, nitrogen and trace ammonia at >230°C; no toxic by-products generated.

## SECTION 11: Toxicological Information

### 11.1 Information on Toxicological Effects

- **Acute Toxicity:** Oral (Rat, LD<sub>50</sub>) > 18,000 mg/kg (practically non-toxic); Dermal (Rabbit, LD<sub>50</sub>) > 20,000 mg/kg; Inhalation (Rat, LC<sub>50</sub>) > 10 mg/m<sup>3</sup> (4-hour exposure)
- **Skin Corrosion/Irritation:** Mild transient irritation (Rabbit test, 4-hour exposure, food grade); reversible after rinsing.
- **Serious Eye Damage/Irritation:** Mild irritation (Rabbit test, 24-hour exposure; reversible within 24 hours after rinsing).

- **Respiratory/Skin Sensitization:** No sensitizing effects reported in long-term use tests and industrial applications.
- **Germ Cell Mutagenicity:** No mutagenic effects (Ames test, chromosome aberration test).
- **Carcinogenicity:** IARC Class 3 (not classifiable as to its carcinogenicity to humans); recognized as a safe food additive by FDA/FAO/WHO.
- **Reproductive Toxicity:** No adverse reproductive effects in animal tests at doses up to 5000 mg/kg body weight.
- **Specific Target Organ Toxicity:** No target organ toxicity; semi-essential amino acid for human/animal body, participates in nitric oxide synthesis, protein synthesis, urea cycle and immune function regulation.
- **Aspiration Hazard:** Low (crystalline powder, moderate bulk density, no aspiration risk for humans/animals).

## 11.2 Additional Information

L-Arginine is a semi-essential amino acid, a food additive approved by FAO/WHO/Codex Alimentarius; long-term food, pharmaceutical and feed use data confirm its safety at standard dosages. It is a core nutrient for cardiovascular health and immune function, with no toxic side effects at normal intake.

## SECTION 12: Ecological Information

### 12.1 Toxicity

- Fish (Zebrafish, LC<sub>50</sub>): > 10,000 mg/L (96-hour exposure)
- Daphnia (EC<sub>50</sub>): > 5000 mg/L (48-hour exposure)
- Algae (EC<sub>50</sub>): > 10,000 mg/L (72-hour exposure) No toxic effects on aquatic organisms; serves as a nutrient supplement for aquatic microorganisms.

### 12.2 Persistence and Degradability

Fully biodegradable (BOD<sub>5</sub> /COD > 0.9) in aquatic/soil environments; degraded by microorganisms into small molecular nutrients and inorganic substances within 3-7 days; no residual pollution.

### 12.3 Bioaccumulative Potential

None; L-Arginine is an amino acid, rapidly metabolized and utilized by all organisms; no bioaccumulation in aquatic/terrestrial organisms.

### 12.4 Mobility in Soil

Moderate mobility (freely soluble in water); readily dissolves in soil water, but rapidly degraded by soil microorganisms; no long-term soil accumulation.

### 12.5 PBT/vPvB Assessment

Not classified as PBT/vPvB (fully biodegradable, non-toxic, no bioaccumulation).

### 12.6 Endocrine Disrupting Properties

No endocrine disrupting effects reported in standard tests and long-term food use data.

### 12.7 Other Adverse Effects

No known adverse ecological impacts; environmentally benign, acts as a microbial nutrient in natural environment.

## SECTION 13: Disposal Considerations

### 13.1 Waste Treatment Methods

- **Product Waste:** Uncontaminated waste can be reused as food/feed additive; contaminated waste can be disposed of as non-hazardous solid waste in accordance with local/national food safety regulations; aqueous waste can be neutralized with weak acid then treated by biological wastewater treatment systems.
- **Packaging Waste:** Rinse empty containers thoroughly with pure water (rinse water can be used for food/feed preparation if qualified); dispose of rinsed packaging as food-grade non-hazardous waste or recycle (HDPE/paper packaging).

### 13.2 Disposal Notes

Incineration is not recommended (wastes a valuable amino acid nutrient resource and produces trace ammonia); landfilling is acceptable and the product will biodegrade in soil, serving as a nutrient for soil microorganisms; avoid large amounts of spilled powder entering water bodies (no environmental risk, follow food waste disposal standards).

## SECTION 14: Transport Information

### 14.1 UN Number

ADR/RID: -; IMDG: -; IATA-DGR: -

### 14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods; IMDG: Not dangerous goods; IATA-DGR: Not dangerous goods

### 14.3 Transport Hazard Class(es)

ADR/RID: -; IMDG: -; IATA-DGR: -

### 14.4 Packaging Group

ADR/RID: -; IMDG: -; IATA-DGR: -

### 14.5 Environmental Hazards

ADR/RID: No; IMDG Marine Pollutant: No; IATA-DGR: No

### 14.6 Special Precautions for User

Transport at  $\leq 25^{\circ}\text{C}$ ; avoid rain, moisture, direct sunlight and package collision during transport; use food-grade sealed/moisture-proof packaging; prevent powder leakage; use pallets for loading to avoid ground contact and contamination.

### 14.7 Incompatible Materials

Avoid transport with strong acids, strong oxidizing agents, acidic food additives, toxic/hazardous chemicals and non-food grade materials.

**Further Information:** Classified as non-dangerous goods under international transport regulations; comply with food additive transport hygiene and safety standards.

## SECTION 15: Regulatory Information



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### 15.1 National Regulations (China)

- Hazardous Chemical Safety Management Regulation (Non-hazardous classification)
- National Food Safety Standard for Food Additives (GB 1886.20-2016)
- GB 2760-2021 (National Food Safety Standard for Use of Food Additives)
- Food Hygiene Law of the People's Republic of China

### 15.2 International Regulations

- GHS Classification (Rev. 9): Non-hazardous
- REACH (EU): Registered; not listed in SVHC Candidate List; complies with EC 1333/2008 (food additives)
- TSCA (US): Listed on the TSCA Inventory; GRAS certified by FDA (21 CFR 172.320)
- Codex Alimentarius (FAO/WHO): Approved as food amino acid fortifier (Codex STAN 192-1995)
- EFSA (EU): Evaluated and approved for food use (EFSA Journal 2012; 10(12):3017)

### 15.3 Other Regulations

Comply with local food safety, environmental protection and transport regulations; follow the maximum addition limit of amino acid fortifiers in food products specified by national and international standards.

## SECTION 16: Other Information

### 16.1 Further Information

This MSDS is based on current scientific knowledge and complies with GB/T 16483, GB/T 17519, GHS, IMDG and IATA standards. It is intended for the safe handling, storage, transport and disposal of food-grade L-Arginine. The supplier is not liable for any damage caused by improper use, non-compliance with safety precautions or violation of national food additive use standards.

### 16.2 Revision History

First version (February 26, 2026)