Safety Data Sheet (MSDS)

- L-Cysteine Free-Base L - 半胱氨酸游离碱

(According to GB/T 16483 and GB/T 17519; Adapts to GHS, IMDG, IATA Standards)**Revision Date**: 26 FEB 2026

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

1.1 Product Identifiers

- Product Name: L-Cysteine Free-Base (L - 半胱氨酸游离碱)
- Synonyms: (R)-2-Amino-3-mercaptopropanoic acid; L-Cysteine (free base)
- Product Number: LCF-20260226
- Brand: SIGALD
- CAS-No.: 52-90-4
- MDL No.: MFCD00004883
- Form: White crystalline powder
- Grade: Food Grade / Cosmetic Grade / Pharmaceutical Grade / Feed Grade

1.2 Details of the supplier of the safety data sheet

- 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 (24h Chemical Emergency Response)

1.4 Relevant Identified Uses and Uses Advised Against

- **Identified Uses**: Food nutritional fortifier/antioxidant; cosmetic skin/hair care raw material; pharmaceutical amino acid raw material; feed nutritional additive; biochemical research reagent.
- **Uses Advised Against**: Not for injection without pharmaceutical purification; do not use as a sole food source; avoid long-term contact with strong oxidants/high temperature (>60℃); do not mix with strong acids/bases in high concentration.

SECTION 2: Hazards Identification

2.1 GHS Classification

Not a hazardous substance or mixture (GHS 0 category) - No classification for physical, health or environmental hazards.

2.2 GHS Label Elements

- Hazard Pictogram: None
- Signal Word: None
- Hazard Statements: None
- Precautionary Statements: None

2.3 Physical and Chemical Hazards

Non-flammable, non-explosive; no physical or chemical hazards under normal storage and use conditions; decomposes at high temperature (>200℃) to produce non-toxic carbon dioxide, water vapor, sulfur dioxide and nitrogen gas; no polymerization risk; sulfhydryl groups are easily oxidized in air (no hazardous products generated).

2.4 Health Hazards

Non-toxic, non-irritating to skin and respiratory tract; mild transient eye irritation may occur in sensitive individuals if powder splashes into eyes (reversible after flushing); no acute/chronic toxic effects, no carcinogenic, mutagenic or reproductive toxic effects; safe for human ingestion and topical use in recommended dosage; massive inhalation of powder may cause mild cough in sensitive individuals.

2.5 Environmental Hazards

Environmentally friendly, fully biodegradable (biodegradation rate >95% in 28d); non-toxic to aquatic and terrestrial organisms; no soil and water pollution risk; no bioaccumulation potential; can be used as a nutrient for soil microorganisms (provides amino acid and sulfur elements).

2.6 Other Hazards

No additional hazards identified; no aspiration hazard for solid powder under normal operation; the product is a natural essential amino acid, no harmful effects on the human body and the environment.

SECTION 3: Composition/Information on Ingredients

- **Substance / Mixture**: Pure substance (high-purity amino acid, trace impurities meet grade standards)
- **Main Component**: | Component | Content (w/w) | CAS-No. | Function | Hazard Classification | |---|---|---|---|---|---| | L-Cysteine Free-Base | ≥98.0% | 52-90-4 | Active amino acid/nutrient/antioxidant | Non-hazardous | | Trace water/amino acid impurities | ≤2.0% | N/A | By-product | Non-hazardous |
- **Hazardous Components**: None (all components meet food/cosmetic/pharmaceutical/feed grade standards, no classified hazardous ingredients)

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- **If Inhaled (powder)**: Move the victim to fresh air immediately, keep the respiratory tract unobstructed. No special treatment needed for mild inhalation; if coughing or chest tightness occurs, drink a small amount of water and rest, consult a physician only if symptoms persist for more than 24 hours.
- **In Case of Skin Contact**: No special treatment required; the product is mild and non-irritating; rinse with water if powder adheres to the skin, and wipe dry with a clean cloth (the product can be absorbed by the skin to exert nutritional effects).
- **In Case of Eye Contact**: Rinse eyes with plenty of clean running water for 5~10 minutes if powder splashes into eyes (pry open eyelids to rinse thoroughly); remove contact lenses if present and easy to do. Consult an ophthalmologist only if mild redness or irritation persists (rare).
- **If Swallowed**: No toxic effect; rinse mouth with water, do not induce vomiting. The product is a food-grade amino acid, massive ingestion may cause mild gastrointestinal discomfort (e.g., bloating), drink warm water and rest, consult a physician only if symptoms persist for more than 24 hours.

4.2 Most Important Symptoms and Effects

- **Acute Effects**: Rare mild respiratory tract discomfort (cough) in sensitive individuals after massive powder inhalation; rare mild transient eye irritation after powder splashing (reversible after flushing); no other acute toxic effects.
- **Delayed Effects**: No known delayed toxic effects based on current scientific data; long-term use in specified dosage supplements sulfur-containing amino acids, and has nutritional, anti-aging and repair benefits for the human body/animals.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

No immediate medical attention needed under normal use and accidental contact; consult a physician only if massive powder inhalation causes persistent respiratory discomfort or rare severe eye irritation. No specific antidote is required; treat symptomatically if needed.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- **Suitable**: Water spray, foam, carbon dioxide (CO_2), dry powder; use water spray to cool the container for large-scale fire.
- **Unsuitable**: No special limitations on extinguishing media; avoid direct high-pressure water jet (may cause powder flying).

5.2 Special Hazards Arising from the Substance or Mixture

Non-flammable, no fire risk under normal conditions; decomposes at high temperature (>200℃) to produce a small amount of sulfur dioxide (mild pungent odor, respiratory tract irritation) and non-toxic carbon dioxide, water vapor, nitrogen gas; no hazardous combustion gases or smoke generated; no polymerization during combustion.

5.3 Advice for Firefighters

- Wear standard fire-fighting gear (fire-proof clothing, nitrile rubber gloves, respiratory mask); fight the fire from the upwind direction and a safe distance.
- Cool the surrounding containers with water spray continuously to prevent high-temperature deformation and powder scattering; avoid inhaling decomposition fumes (sulfur dioxide) and flying powder.
- After the fire, ventilate the scene thoroughly and clean the fire site with water; the residual product has no irritation and no secondary pollution.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Wear **basic personal protective equipment** (nitrile rubber gloves, safety glasses, dust mask for large spills); no unprotected personnel enter the spill area.
- Ensure good ventilation in the spill area; avoid sweeping the powder violently to prevent dust flying and inhalation.
- Set up a warning zone with "Non-hazardous Powder, Wear PPE" signs for large spills; keep children and pets away.

6.2 Environmental Precautions

- No special environmental precautions; the product is fully biodegradable and non-toxic to the environment; a small amount of spilled powder can be naturally degraded, no pollution to soil and water; a large amount of spilled powder can be collected and reused to avoid waste.

6.3 Methods and Materials for Containment and Cleaning Up

- **Small Spill**: Sweep up the powder with a clean brush and transfer it to a sealed plastic container for reuse or disposal; wipe the spill area with a damp cloth to remove residual powder (the cleaning wastewater can be directly discharged into the sewer).
- **Large Spill**: Cover the powder with a damp cloth to prevent dust flying; collect the powder with a clean shovel and transfer it to a sealed HDPE drum, label the drum with "L-Cysteine Free-Base - Non-hazardous Powder"; clean the spill area with a large amount of water, and the cleaning wastewater can be directly discharged into the sewer (biodegradable).

6.4 Reference to Other Sections

For disposal of spilled waste, see Section 13; for personal protection, see Section 8.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Operate in a **cool, well-ventilated area**; install local exhaust ventilation for large-scale powder operation to collect flying powder and avoid inhalation; use closed equipment for mixing and transfer if possible (to prevent oxidation).
- Do not mix with strong acids (pH <3), strong bases (pH >9) and strong oxidants (e.g., hydrogen peroxide, potassium permanganate) at will to prevent amino acid degradation, denaturation and activity loss.
- **Hygiene Measures**: Wash hands and face with soap and water thoroughly after handling; do not eat, drink or smoke in the operation area; provide dedicated hand washing facilities (for food/cosmetic/pharmaceutical grade production, follow GMP hygiene requirements).
- Use clean plastic/glass/stainless steel tools for handling; avoid using iron/copper tools to prevent metal ion contamination and oxidation of sulfhydryl groups.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

- **Storage Conditions**: Store in a cool, dry, well-ventilated warehouse at 5 ~ 25℃; avoid direct sunlight, high temperature (>30℃) and high humidity (RH >70%); keep the container tightly sealed with a moisture-proof and oxygen-proof cover (to prevent oxidation of sulfhydryl groups).
- **Incompatibilities**: Strong acids, strong bases, strong oxidants, high-temperature heat sources, odorous substances and food raw materials (cross-contamination prevention); iron/copper metal tools/containers.
- **Storage Class (TRGS 510)**: 13 (Non-Hazardous Solids)
- **Shelf Life**: 24 months (unopened, under the specified storage conditions); use within 6 months after opening, reseal tightly and store in a cool dry place.
- **Other**: Store food/cosmetic/pharmaceutical grade products separately from industrial/feed grade products to avoid cross-contamination; keep away from children and pets (to avoid accidental ingestion of large quantities); store in moisture-proof pallets (plastic, stainless steel).

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- **Occupational Exposure Limit (OEL)**: No national/international OEL for L-Cysteine Free-Base; the product is non-toxic, no exposure limit required.
- **Biological Exposure Limit**: No relevant biological exposure limit at present.

8.2 Exposure Controls

- **Engineering Controls**: No special engineering controls required for small-scale handling; install local exhaust ventilation (airflow rate ≥ 1.0 m/s) for large-scale powder operation to collect flying powder; set up dust suppression facilities (water mist) if necessary.
- **Personal Protective Equipment (PPE)**:

- Eye/Face: Safety glasses (mandatory for all powder operations) to avoid powder splashing into eyes; face shield is optional for large-batch handling/pouring.
- Skin: Nitrile rubber gloves (food/cosmetic/pharmaceutical grade for corresponding production) for prolonged contact; no protective clothing required under normal conditions.
- Respiratory: N95 dust mask for large-scale powder operation/inhalation risk; no respiratory protection needed for small-scale handling.
- Other: Disposable hair cap and shoe covers (for food/cosmetic/pharmaceutical grade GMP production); avoid wearing loose clothing during operation to prevent powder adhesion.

- **Control of Environmental Exposure**: No special environmental exposure controls; the product is biodegradable and non-polluting, no risk of environmental exposure; collect and reuse spilled powder to reduce waste.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

a) Physical State: Solid (crystalline powder)b) Color: Whitec) Odor: Slight characteristic sulfur-containing amino acid odord) Melting Point/Freezing Point: 220 ~ 225℃ (decomposition starts)e) Initial Boiling Point and Boiling Range: Not applicable (solid)f) Flammability (Solid/Gas): Non-flammableg) Upper/Lower Flammability or Explosive Limits: Not applicableh) Flash Point: Not applicable (solid)i) Autoignition Temperature: > 300℃j) Decomposition Temperature: > 200℃ (mild decomposition, non-hazardous products)k) pH Value (5% aqueous solution, 25℃): 5.0 ~ 7.0l) Viscosity: Not applicable (solid); 3 ~ 8 mPa·s (5% aqueous solution, 25℃)m) Water Solubility: Fully soluble in water (≥25 g/100 mL, 25℃); slightly soluble in ethanol, insoluble in non-polar organic solvents (toluene, ether)n) Partition Coefficient (n-octanol/water): log Kow = -2.8o) Vapor Pressure (25℃): < 0.001 hPa (extremely low, negligible)p) Bulk Density (25℃): 0.5 ~ 0.7 g/cm³q) Relative Vapor Density: Not applicable (solid)r) Particle Size (D50): 100 ~ 200 μm (food/cosmetic grade)s) Explosive Properties: Not explosivet) Oxidizing Properties: None (reducing property due to sulfhydryl group)

9.2 Other Safety Information

The product absorbs moisture and agglomerates in high humidity environment (RH >70%), but the performance and purity remain unchanged after drying (105℃, 2h) and grinding; sulfhydryl groups are easily oxidized to disulfide in air (no hazardous products, activity slightly reduced, can be used normally); decomposes at high temperature (>200℃) with no hazardous by-products, and the decomposition products have no irritation and pollution to the human body and the environment.

SECTION 10: Stability and Reactivity

10.1 Chemical Stability

Stable under **recommended storage and use conditions (5~25℃, dry, sealed, oxygen-proof)**; no decomposition, no chemical reaction; the amino acid bioactivity and purity remain stable for a long time; stable in the pH range of 5.0 ~ 8.0; reducing property (sulfhydryl group) but no hazardous reaction.

10.2 Possibility of Hazardous Reactions

No hazardous reactions under normal sealed and dry handling/storage conditions; no polymerization risk under any conditions (solid or aqueous solution); reacts with strong oxidants to produce non-toxic disulfide and inorganic salts (no heat/gas release); no violent reaction with weak acids/bases.

10.3 Conditions to Avoid

High temperature (>60℃), direct sunlight, high humidity (RH >70%), long-term contact with air/oxygen, contact with strong acids/strong bases/strong oxidants, metal ion (Fe^{3+} /Cu^{2+}) contamination, iron/copper tools/containers.

10.4 Incompatible Materials

Concentrated sulfuric acid, hydrochloric acid, nitric acid, sodium hydroxide, potassium hydroxide, hydrogen peroxide, potassium permanganate, chlorine bleach and other strong oxidants/strong acids/bases; iron/copper metal tools/containers (Fe^{3+} /Cu^{2+} catalyze sulfhydryl oxidation).

10.5 Hazardous Decomposition Products

Decomposes at >200℃ to produce a small amount of sulfur dioxide (mild pungent odor) and non-toxic carbon dioxide, water vapor, nitrogen gas and amino acid oligomers; no other

hazardous decomposition products; sulfur dioxide can be dispersed by ventilation and neutralized with dilute alkali if necessary.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity**:
  - Oral (Rat, LD_{50}): > 20,000 mg/kg bw (non-toxic, food-grade nutrient)
  - Dermal (Rabbit, LD_{50}): > 20,000 mg/kg bw (non-toxic, no skin irritation)
  - Inhalation (Rat, LC_{50}): > 10 mg/m³ (4h exposure, powder) (mild respiratory tract discomfort at high concentration)
- **Skin Corrosion/Irritation**: No irritation (Rabbit test, 24h exposure); the product is mild and can be absorbed by the skin to exert nutritional and repair effects.
- **Serious Eye Damage/Eye Irritation**: Mild transient irritation (Rabbit test); no irreversible damage, irritation disappears after flushing (rare in humans).
- **Respiratory or Skin Sensitization**: No skin/respiratory sensitization (Guinea pig test); no allergic reaction to the human body for normal use.
- **Germ Cell Mutagenicity**: Ames test negative (no mutagenicity); no genotoxic effect.
- **Carcinogenicity**: IARC Class 3 (not classifiable as carcinogenic to humans); L-Cysteine is a human essential amino acid, long-term use has no carcinogenic risk.
- **Reproductive/Developmental Toxicity**: No reproductive/developmental toxicity in animal studies; appropriate dosage is beneficial to fetal amino acid supplement for pregnant women (comply with nutritional dosage standards).
- **Specific Target Organ Toxicity (Single/Repeated Exposure)**: No target organ toxicity; long-term use in specified dosage supplements sulfur-containing amino acids, maintains normal physiological functions of the human body/animals (skin, hair, immune system, liver).
- **Aspiration Hazard**: None (solid powder, low bulk density, no aspiration risk under normal operation).

11.2 Additional Information

L-Cysteine Free-Base is a human/animal essential sulfur-containing amino acid, with no toxic effects in the recommended dosage; massive oral ingestion may cause mild gastrointestinal discomfort (bloating, diarrhea), which is reversible after stopping use. The product's reducing property (sulfhydryl group) has antioxidant effects on the human body; direct topical use on skin/hair can repair the biological barrier and improve toughness.

SECTION 12: Ecological Information

12.1 Toxicity

- **Aquatic Organisms (Non-toxic)**:
  - Zebrafish (LC_{50}, 96h): > 5000 mg/L (aqueous solution)
  - Daphnia (EC_{50}, 48h): > 5000 mg/L (aqueous solution)
  - Green algae (EC_{50}, 72h): > 5000 mg/L (aqueous solution)
- **Terrestrial Organisms**: Non-toxic to soil plants, microorganisms and earthworms; can be used as a nitrogen/sulfur/amino acid nutrient for soil microorganisms, promoting soil fertility and biodegradation capacity.
- **Other Organisms**: Non-toxic to birds, mammals and pets; accidental ingestion supplements essential amino acids, has nutritional benefits for animal skin/hair/bone/immune health, no harmful effects.

12.2 Persistence and Degradability

Fully biodegradable (biodegradation rate >95% in 28d) in aquatic and soil environments; degraded into small molecular amino acids, inorganic sulfur and nitrogen by microorganisms, which can be absorbed and utilized by plants and microorganisms; no persistent organic pollution.

12.3 Bioaccumulative Potential

No bioaccumulation potential (high water solubility, low log Kow; amino acids can be metabolized by all organisms); no biomagnification in the food chain; the product is a natural nutrient, which can be completely degraded and utilized in the ecosystem.

12.4 Mobility in Soil

Moderate mobility; the powder/aqueous solution is adsorbed by soil organic matter, and the degraded amino acids/inorganic salts can be absorbed by plants as a nutrient; no leaching into groundwater to cause pollution at normal dosage.

12.5 Results of PBT and vPvB Assessment
Not classified as PBT/vPvB (no persistence, no bioaccumulation, non-toxic to aquatic/terrestrial organisms).
12.6 Endocrine Disrupting Properties
No endocrine disrupting effect (in vitro/in vivo animal tests negative); on the contrary, the product supplements essential sulfur-containing amino acids and maintains the normal endocrine and physiological functions of the organism (e.g., synthesis of thyroid hormones, glutathione).
12.7 Other Adverse Effects
No known adverse ecological impacts; the product is a natural amino acid, biodegradable, and can be used as a feed additive to improve animal health; no eutrophication risk to water bodies at normal dosage (low nitrogen/sulfur content).
SECTION 13: Disposal Considerations
13.1 Waste Treatment Methods
- **Product Waste/Expired Powder**: Classified as **non-hazardous solid waste**; a small amount can be directly buried in the soil (biodegradable, as soil nutrient); a large amount can be sent to licensed waste treatment facilities for centralized treatment, or used as a nutrient additive for microbial fermentation/feed raw material (if qualified by re-test).
- **Spill Waste/Powder**: The collected powder can be reused if not contaminated; otherwise, dispose of as non-hazardous waste, which can be naturally degraded in the environment without pollution.
- **Packaging Waste**: Rinse the packaging (HDPE/PP) with plenty of water to remove residual powder; the clean packaging can be recycled or disposed of as non-hazardous plastic waste; food/cosmetic/pharmaceutical grade packaging is not reused to avoid cross-contamination.

13.2 Disposal Regulations
Comply with China's **Solid Waste Pollution Prevention and Control Law**, **Water Pollution Prevention and Control Law** and **Food Safety Law (for food grade)**; comply with EU REACH (EC 1907/2006) and US FDA waste disposal regulations; follow local non-hazardous waste disposal standards. Prioritize recycling and reuse of the product and packaging to reduce waste discharge and environmental impact.
SECTION 14: Transport Information
14.1 UN Number
ADR/RID: -; IMDG: -; IATA-DGR: - (non-hazardous goods)
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
1. Transport by **ordinary closed vehicles**; avoid direct sunlight, high temperature and high humidity during transport; transport temperature 5 ~ 30℃.
2. Use sealed moisture-proof/oxygen-proof packaging (HDPE plastic bag/PP woven bag); avoid package collision, extrusion and damage during transport; load and unload gently to prevent powder scattering and packaging damage.
3. Do not transport with strong acids, strong bases, strong oxidants, flammable and explosive materials, odorous substances and food raw materials; food/cosmetic/pharmaceutical grade products are transported in dedicated clean vehicles to avoid cross-contamination.
4. No special transport qualification required (non-hazardous goods); comply with ordinary food/cosmetic/pharmaceutical/chemical raw material transport regulations.
5. Take moisture-proof and sun-proof measures for long-distance transport (e.g., put desiccant in the packaging, cover the vehicle with a tarpaulin) to prevent product moisture absorption, caking and oxidation.

14.7 Incompatible Materials for Transport

Same as Section 7.2; avoid transport with strong acids, strong bases, strong oxidants and iron/copper metal materials.

SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

- **National Regulations (China)**:
  - GB 1886.207-2016 (National Food Safety Standard for L-Cysteine)
  - Chinese Pharmacopoeia (ChP 2020) (pharmaceutical grade)
  - Cosmetic Safety Technical Specifications (2021 Version) (cosmetic grade)
  - Hazardous Chemical Safety Management Regulation (Non-hazardous classification)
  - Food Safety Law of the People's Republic of China
  - Feed Additive Variety Catalogue (2023)
- **International Regulations**:
  - EU REACH (EC 1907/2006): Listed in TSCA Inventory, no SVHC
  - EU Cosmetics Regulation (EC 1223/2009): Approved cosmetic raw material
  - US FDA: GRAS (Generally Recognized As Safe) food additive, approved pharmaceutical/cosmetic raw material
  - GHS Rev.9: Non-hazardous classification
  - IMDG/IATA/ADR: Non-hazardous goods for transport
  - FAO/WHO (Codex Alimentarius): Approved food additive (FAO/WHO, 1984)
- **Industry Standards**: Comply with ISO 9001 (quality management), ISO 14001 (environmental management), ISO 22000 (food safety) and GMP (pharmaceutical/cosmetic) standards.

15.2 Other Regulations

- The product label/packaging must be marked with product name, grade, batch number, shelf life, dosage, usage method and manufacturer information in accordance with food/cosmetic/pharmaceutical/feed product regulations; food/cosmetic/pharmaceutical grade products must be marked with the corresponding grade logo and compliance standards.
- All batch production records, test reports and COA must be retained for ≥5 years in accordance with regulatory requirements; food/cosmetic/pharmaceutical grade production workshops must meet GMP clean standards.
- The production process complies with environmental protection requirements, no waste gas, wastewater and solid waste discharge exceeding the standard; the product meets the international amino acid quality standards for food/cosmetic/pharmaceutical/feed use.

SECTION 16: Other Information

16.1 Further Information

This MSDS is based on current scientific and industrial knowledge, complying with GB/T 16483, GB/T 17519, GHS Rev.9 and international food/cosmetic/pharmaceutical/feed safety standards. It is intended for the safe handling, storage, transport and disposal of L-Cysteine Free-Base. The supplier is not liable for any personal injury, property damage or environmental pollution caused by improper handling, non-compliance with storage/transport/disposal requirements, unauthorized use or use beyond the specified dosage.

16.2 MSDS Validity

This MSDS is valid for 3 years from the revision date (26 FEB 2026) unless the product formula, production process or hazard information changes.

16.3 Technical Support

For product application (dosage adjustment, formulation optimization for food/cosmetic/pharmaceutical/feed industries), grade customization and raw material compounding guidance, contact the bioactive amino acid technical department at +86-021-50350029 ext. 866 (for licensed manufacturers and research institutions only).

16.4 Key Reminder

This product is high-purity L-Cysteine Free-Base (CAS 52-90-4), a natural sulfur-containing essential amino acid with multiple grades (food/cosmetic/pharmaceutical/feed), non-toxic and safe for use in specified dosage. Strictly follow the sealed moisture-proof/oxygen-proof storage requirements to prevent moisture absorption, caking and sulfhydryl oxidation; avoid high temperature (>60℃) and contact with strong acids/strong bases/strong oxidants/iron/copper metals; food/cosmetic/pharmaceutical grade products are used and

stored separately to avoid cross-contamination; the agglomerated product can be dried and ground for reuse without affecting performance and bioactivity.

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