Material Safety Data Sheet

Version: 1.0

Date of Preparation: 2025.12.09

Product Name: L-Histidine

CAS Number: 71-00-1

EC Number: 200-745-3

Molecular Formula: C6H9N3O2

1. Identification

1.1 Product Identifier

- Common Name: L-Histidine
- Synonyms: (S)-2-Amino-3-(1H-imidazol-4-yl)propanoic acid; L-2-Amino-3-(4-imidazolyl)propionic acid
- Application: Pharmaceutical intermediate, food additive (nutritional supplement), feed additive, laboratory reagent

1.2 Details of the Supplier of the Safety Data Sheet

- Company Name: Shenzhen JaYoo Biotech Co.， Ltd
- Address: Unit 7C92B, Building 213, Tairan Technology Park, No. 113 Tairan 4th Road, Tian'an Community, Shatou Subdistrict, Futian District, Shenzhen, China
- Telephone: 13870773083
- Emergency Contact: 13870773083

2. Hazards Identification

2.1 Classification of the Substance or Mixture

According to GHS (Globally Harmonized System):

- Not classified as hazardous (Acute toxicity, Skin corrosion/irritation, Eye damage/irritation: No category).
- No specific GHS hazard statements apply.

2.2 GHS Label Elements

- **Pictograms**: None
- **Signal Word**: None
- **Hazard Statements**: None
- **Precautionary Statements**:
  - P264: Wash hands thoroughly after handling.
  - P270: Do not eat, drink or smoke when using this product.
  - P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
  - P330: Rinse mouth.

2.3 Other Hazards

- No known acute or chronic hazards at normal use concentrations.
- Dust may cause mild respiratory irritation in sensitive individuals.

3. Composition/Information on Ingredients

Component	Weight %	Hazard Classification
L-Histidine (pure)	≥98.0%	Non-hazardous
Water (max)	≤2.0%	Non-hazardous

4. First-Aid Measures

4.1 Description of First-Aid Measures

- **Inhalation**: Remove to fresh air. If breathing is difficult, give oxygen. Seek medical attention if irritation persists.
- **Skin Contact**: Remove contaminated clothing. Rinse skin thoroughly with plenty of water for at least 15 minutes. If irritation occurs, consult a doctor.
- **Eye Contact**: Immediately flush eyes with plenty of water for at least 15 minutes, holding eyelids open. Seek medical advice if irritation remains.
- **Ingestion**: If large amounts are swallowed and adverse effects occur, call a poison control center or doctor. Rinse mouth with water. Do not induce vomiting unless directed by medical personnel.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

- Acute Effects: Mild gastrointestinal discomfort (nausea, diarrhea) if ingested in excessive quantities; rare allergic reactions (rash, itching) in sensitive individuals.
- Delayed Effects: No known delayed toxic effects.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

- No specific antidote. Treat symptomatically. Inform physician of the product name and composition.

5. Fire-Fighting Measures

5.1 Extinguishing Media

- Suitable Extinguishing Media: Water spray, dry chemical, foam, carbon dioxide (CO2).
- Unsuitable Extinguishing Media: None known.

5.2 Special Hazards Arising from the Substance or Mixture

- Hazardous Combustion Products: Carbon monoxide (CO), carbon dioxide (CO2), nitrogen oxides (NOx) if burned at high temperatures.
- Fire Behavior: Not flammable under normal conditions. Dust clouds may be combustible in confined spaces (risk of dust explosion at high concentrations).

5.3 Advice for Fire-Fighters

- Wear self-contained breathing apparatus (SCBA) and full protective clothing.
- Ensure adequate ventilation to avoid dust accumulation during fire fighting.

6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Wear appropriate protective equipment (gloves, safety glasses, dust mask) to avoid contact with skin, eyes, or inhalation of dust.
- Isolate the spill area and prevent access by unauthorized personnel.

6.2 Environmental Precautions

- Prevent entry into waterways, sewers, or soil. If spilled into the environment, contain and clean up promptly.

6.3 Methods and Materials for Containment and Cleaning Up

- Small Spills: Sweep or vacuum up carefully. Transfer to a closed container for disposal.
- Large Spills: Collect using mechanical equipment (e.g., industrial vacuum). Avoid generating dust. Dispose of in accordance with local regulations.

7. Handling and Storage

7.1 Precautions for Safe Handling

- Avoid dust formation and inhalation. Use in a well-ventilated area.
- Wash hands and face after handling. Do not eat, drink, or smoke in the work area.
- Use appropriate tools to avoid dust dispersion (e.g., closed transfer systems).

7.2 Conditions for Safe Storage, Including Any Incompatibilities

- Store in a cool, dry, well-ventilated area. Keep container tightly closed when not in use.
- Recommended Storage Temperature: 15-30°C (59-86°F).
- Protect from moisture, heat, and direct sunlight.
- Incompatibilities: Strong oxidizing agents, strong acids/bases (may cause decomposition).

8. Exposure Controls/Personal Protection

8.1 Control Parameters

- No occupational exposure limits (OELs) established by OSHA, ACGIH, or EU EH40.
- Recommended exposure limit: None (product is non-hazardous at normal use).

8.2 Exposure Controls

- **Engineering Controls**: Provide adequate ventilation to minimize dust levels.
- **Personal Protective Equipment (PPE)**:
  - Respiratory Protection: Dust mask (N95 or equivalent) if dust generation is excessive.
  - Hand Protection: Nitrile or latex gloves.
  - Eye Protection: Safety glasses or goggles.
  - Skin Protection: Long-sleeved clothing to avoid skin contact.

9. Physical and Chemical Properties

Property	Value
Appearance	White to off-white crystalline powder

Odor	Odorless
Solubility in Organic Solvents	Slightly soluble in ethanol; insoluble in ether, chloroform

10. Stability and Reactivity

10.1 Reactivity

- Stable under normal handling and storage conditions.

10.2 Chemical Stability

- Stable at room temperature; decomposes at high temperatures.

10.3 Possibility of Hazardous Reactions

- No hazardous reactions known under normal use.

10.4 Conditions to Avoid

- Excessive heat, open flames, and contact with strong oxidizing agents.

10.5 Incompatible Materials

- Strong acids, strong bases, oxidizing agents .

10.6 Hazardous Decomposition Products

- Carbon monoxide, carbon dioxide, nitrogen oxides .

11. Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity**:
  - Oral LD50 (rat): >5000 mg/kg (non-toxic).
  - Dermal LD50 (rabbit): >2000 mg/kg (non-irritating).
  - Inhalation LC50 (rat): >5 mg/L/4h (non-toxic).
- **Skin Corrosion/Irritation**: Rabbit, 4-hour exposure: No irritation (GHS Category 0).
- **Eye Damage/Irritation**: Rabbit: No irritation (GHS Category 0).
- **Sensitization**: No known skin sensitization (OECD 406 test: Negative).
- **Mutagenicity**: Ames test: Negative (no mutagenic activity).
- **Carcinogenicity**: IARC Classification: Not classified as carcinogenic.
- **Reproductive Toxicity**: No adverse effects on reproduction in animal studies (rat, mouse) at doses up to 1000 mg/kg/day.
- **Chronic Toxicity**: No chronic toxicity reported in long-term studies.

12. Ecological Information

12.1 Toxicity to Aquatic Organisms

- Fish (Zebrafish) LC50: >1000 mg/L (96h, static test).
- Daphnia EC50: >1000 mg/L (48h).

- Algae (Selenastrum capricornutum) EC50: >1000 mg/L (72h).

12.2 Persistence and Degradability

- Biodegradable: Readily biodegradable in aerobic conditions.

12.3 Bioaccumulative Potential

- Low bioaccumulation potential (log Koc 1).

12.4 Mobility in Soil

- Moderate mobility in soil .

12.5 Results of PBT and vPvB Assessment

- Not classified as PBT (Persistent, Bioaccumulative, Toxic) or vPvB (very Persistent, very Bioaccumulative).

12.6 Other Adverse Effects

- No adverse effects on terrestrial organisms at environmentally relevant concentrations.

13. Disposal Considerations

13.1 Waste Treatment Methods

- **Disposal**: Dispose of in accordance with local, state, and federal regulations.
- **Unused Product**: Can be disposed of as non-hazardous waste if unused and uncontaminated.
- **Contaminated Product**: If contaminated with hazardous substances, classify and dispose of as hazardous waste.
- **Packaging**: Empty containers should be rinsed and disposed of as non-hazardous waste or recycled where possible.

14. Transport Information

14.1 UN Number

- Not regulated (no UN number assigned).

14.2 UN Proper Shipping Name

- Not applicable (non-hazardous for transport).

14.3 Transport Hazard Class(es)

- None.

14.4 Packing Group

- None.

14.5 Environmental Hazards

- Not a marine pollutant.

14.6 Special Precautions for User

- No special transport precautions required. Transport in closed containers, protected from moisture and heat.

14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

- Not applicable (non-hazardous).

15. Regulatory Information

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

- **US Regulations**:
  - FDA: Generally Recognized as Safe (GRAS) for use in food (21 CFR 184.1223).
  - OSHA: Not regulated as a hazardous chemical (29 CFR 1910.1200).
- **EU Regulations**:
  - REACH: Registered under REACH (EC No. 200-745-3); no restrictions.
  - Food Additives: Approved as a food supplement (EEC 1333/2008).
- **Other Countries**: Comply with local regulations for food/pharmaceutical ingredients.

15.2 Chemical Safety Assessment

- A chemical safety assessment has been conducted and confirms that the product is non-hazardous under normal use conditions.

16. Other Information

- This MSDS is prepared based on available data and is intended to provide safety information for proper handling, use, and disposal of the product.
- The information contained herein is accurate to the best of our knowledge as of the preparation date, but no warranty is expressed or implied regarding its completeness or accuracy.