

## Technical Data Sheet (TDS)

### - L-Tryptophan

**Revision Date:** 21 February 2026 **Product Number:** LTP-20260221 **CAS Number:** 73-22-3 **EINECS Number:** 200-795-6 **Chemical Formula:** C<sub>11</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub> **Molecular Weight:** 204.23 g/mol

### 1. Product Overview

L-Tryptophan is an essential  $\alpha$ -amino acid for humans and animals, which cannot be synthesized endogenously and must be obtained from the diet. It appears as white to off-white crystalline powder, slightly soluble in water, insoluble in ethanol and ether. As a precursor of serotonin and melatonin, it plays a key role in regulating sleep, mood and immune function. This product is produced by microbial fermentation and refined by advanced purification technology, with high purity, low impurity and stable quality, suitable for food, feed, pharmaceutical and health care product industries.

### 2. Technical Specifications

Item	Specification
Physical State	Crystalline powder (25°C)
Color	White to off-white
Assay (Dry Basis)	≥ 98.5%
Specific Rotation	-30.0° ~ -32.5° (1% in H <sub>2</sub> O)
pH (1% Aqueous Solution)	5.5 ~ 7.0
Solubility	Slightly soluble in water (≈1.1 g/100 mL, 25°C); insoluble in ethanol, ether, chloroform
Melting Point	289°C (decomposes)
Loss on Drying	≤ 0.5%
Residue on Ignition	≤ 0.1%
Particle Size	95% through 80 mesh (200 μm) (customizable)

### 3. Product Advantages

- High Purity:** Fermentation-derived with HPLC purity ≥98.5%, low content of related substances and impurities.
- Natural Configuration:** Pure L-configuration, consistent with human and animal physiological absorption characteristics, high bioavailability.
- Stable Quality:** Strict quality control throughout the production process, small batch-to-batch variation.
- Multi-Application:** Meets the quality requirements of food, feed, pharmaceutical and nutritional supplement grades.
- Compliant with Standards:** Conforms to USP, FCC, GB and other international and domestic standards.

### 4. Application Fields

- Food Industry:** Food fortification (bakery, dairy, beverage, nutritional meal), improve the amino acid balance of food, suitable for infant food, functional food and special medical purpose food.
- Feed Industry:** Livestock and poultry, aquatic feed additive, promote animal growth, improve feed conversion rate and animal product quality (e.g., egg, meat).



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- **Pharmaceutical Industry:** Raw material for antidepressant, sleep-aiding and immune-regulating drugs; raw material for amino acid infusion.
- **Nutritional Supplements:** Production of amino acid tablets, capsules, oral liquids, used for relieving fatigue, regulating sleep and enhancing immunity.

### 5. Usage Methods

#### 5.1 Recommended Dosage (by weight)

- **Food Fortification:** 0.05% ~ 0.5% of the total formula (adjust according to amino acid fortification requirements).
- **Feed Additive:** Poultry and livestock: 0.02% ~ 0.1%; Aquatic products: 0.05% ~ 0.2%.
- **Nutritional Supplements:** 500 ~ 1000 mg per serving (adult daily dosage).
- **Pharmaceutical Raw Materials:** According to drug formulation requirements.

#### 5.2 Processing Guidelines

1. **Dissolution:** Add to water or aqueous phase with gentle stirring (heating to 40~50°C can appropriately increase solubility); avoid mixing with organic solvents directly.
2. **Mixing:** In solid formulations, mix thoroughly with other powdered raw materials to ensure uniformity; avoid agglomeration.
3. **Compatibility:** Compatible with most amino acids, vitamins, minerals and food/feed additives; avoid long-term contact with strong acids, strong bases and high temperature (>120°C).

### 6. Packaging & Storage

- **Packaging:** 1 kg/aluminum foil bag; 25 kg/carton with PE inner liner; 25 kg/fiber drum with PE inner liner; 1000 kg/bulk bag (FIBC) (customizable).
- **Storage:** Store in a **cool, dry, well-ventilated warehouse** at 5~25°C. Keep the container tightly sealed to prevent moisture absorption, oxidation and contamination. Avoid direct sunlight and high temperature.
- **Shelf Life:** 24 months from the date of manufacture in unopened, properly stored packaging.
- **Transport:** Classified as **Non-Hazardous Goods**. Transport in covered vehicles to protect from rain, moisture and direct sunlight. Avoid collision and extrusion during transportation.

### 7. Quality Assurance

- Manufactured in ISO 9001 (Quality Management System), ISO 22000 (Food Safety Management System) and GMP certified facilities.
- Complies with USP NF, FCC VIII, GB 1886.205 (Food Grade), feed additive national standards and pharmaceutical raw material quality requirements.
- Each batch is strictly tested for assay, specific rotation, impurities and microbiology, accompanied by a Certificate of Analysis (COA).
- Provide professional technical support for product application, including dosage adjustment, formulation compatibility and processing technology guidance.