

Technical Data Sheet (TDS)

- L-Lysine Free (35%)

Revision Date: 26 FEB 2026

1. Product Overview

- **Product Name:** L-Lysine Free (35%)
- **English Name:** Free L-Lysine 35% Aqueous Solution
- **CAS Number:** 56-87-1 (pure L-Lysine)
- **Molecular Formula:** C₆ H₁₄N₂O₂
- **Molecular Weight:** 146.19 g/mol (pure)
- **Form:** Colorless to pale yellow clear aqueous liquid
- **Odor:** Faint characteristic amino acid odor, no pungent odor

L-Lysine Free (35%) is a water-soluble essential amino acid aqueous solution, prepared by dissolving high-purity free L-lysine in deionized water. L-lysine is one of the essential amino acids that the human and animal body cannot synthesize by itself and must be obtained from the outside. This 35% aqueous solution has good water solubility, stability and bioavailability, no precipitation and stratification under normal storage conditions, and complies with food, feed and cosmetic grade quality standards. It is widely used as a nutritional fortifier and additive in food processing, feed production, cosmetic formulation and biochemical research, with low heavy metal content and no harmful microbial residues.

2. Technical Specifications (Complies with Industrial/Food/Feed Grade Standard)

Item	Specification
Appearance	Colorless to pale yellow clear liquid, no sediment/impurity
Assay (Free L-Lysine)	34.0 ~ 36.0%
pH Value (25°C)	5.0 ~ 7.0
Specific Gravity (25/25°C)	1.08 ~ 1.12
Viscosity (25°C)	15 ~ 30 mPa·s
Water Solubility	Fully miscible with water, alcohol
Heavy Metals (Pb)	≤ 5 ppm
Heavy Metals (As)	≤ 1 ppm
Heavy Metals (Hg)	≤ 0.1 ppm
Total Bacterial Count	≤ 100 CFU/mL
E. coli/Staphylococcus aureus	Negative
Loss on Drying	≤ 0.5%
Residue on Ignition	≤ 0.1%
Storage Stability (25°C, 12 months)	No delamination, no sediment, assay change ≤ 1.0%

3. Product Advantages

1. **High Bioavailability:** Free L-lysine aqueous solution, easy to be absorbed and utilized by human and animal bodies, higher bioavailability than lysine salts.
2. **Excellent Solubility:** Fully miscible with water and polar solvents, no agglomeration, easy to formulate and add, suitable for various water-based systems.
3. **Good Stability:** No delamination, no sediment under normal storage conditions, stable performance, no easy degradation, long shelf life.
4. **Multi-grade Available:** Food grade (GB 14880), feed grade (GB/T 6432), cosmetic grade, meet different application requirements of various industries.
5. **Safe & Non-toxic:** Complies with national and international food/feed safety standards, low heavy metal content, no harmful additives, safe for human and animal use.
6. **Easy to Use:** Liquid form, accurate metering, no dust flying during use, easy to operate and transport, reduce production operation difficulty.

4. Application Fields



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- **Food Industry:** Nutritional fortifier for beverages, dairy products, baked goods, condiments and health food; supplement essential amino acids, improve food nutritional value.
- **Feed Industry:** Core amino acid additive for poultry, livestock and aquatic feed; promote animal growth and development, improve feed conversion rate and animal product quality.
- **Cosmetic Industry:** Moisturizer and skin conditioner for skin care products, hair care products and facial masks; improve skin moisture retention, enhance skin elasticity, repair damaged hair scales.
- **Biochemical & Pharmaceutical:** Raw material for biochemical reagents, amino acid injections and oral preparations; used in biological research and pharmaceutical production.
- **Other Fields:** Nutritional additive for microbial fermentation, raw material for amino acid chelated fertilizers, improve fermentation efficiency and crop nutritional quality.

5. Usage Methods

Recommended Dosage (Adjust according to grade and application scenario)

- **Food Industry:** 0.1~1.0% of the total formulation (beverages/dairy products); 0.5~2.0% (health food).
- **Feed Industry:** 0.2~1.5% of the total feed weight (poultry/livestock); 0.5~2.0% (aquatic feed).
- **Cosmetic Industry:** 0.1~3.0% of the total formulation (skin care/hair care products); 0.5~1.0% (facial masks).
- **Biochemical Research:** According to experimental requirements, dilute to the required concentration with deionized water.

Key Application Tips

- **Direct Addition:** Can be directly added to water-based systems, stir evenly at room temperature (20~30°C) to ensure full dissolution.
- **pH Adjustment:** The product is weakly acidic to neutral, no need to adjust pH for most systems; if necessary, adjust with weak acid/weak base to avoid strong acid/strong base.
- **Avoid High Temperature:** Avoid heating above 80°C for a long time to prevent amino acid degradation and reduce nutritional value.
- **Compatibility:** Good compatibility with most food/feed/cosmetic additives, no adverse reaction with carbohydrates, proteins, vitamins and minerals.

6. Packaging & Storage

Packaging Specifications (Sealed, Food/Feed Grade)

- 500 mL/1 L HDPE plastic bottle (laboratory/R&D small-batch use)
- 25 L food-grade HDPE plastic drum (food/cosmetic small-scale use)
- 200 L food-grade HDPE plastic drum (feed/industrial bulk use)
- 1000 L IBC ton barrel (large-scale project use)
- Custom packaging available according to customer requirements.

Storage Conditions

1. Store in a **cool, dry, well-ventilated warehouse** at 5 ~ 30°C; avoid direct sunlight, high temperature (>35°C) and freezing (<0°C).
2. Keep the container tightly sealed to prevent moisture evaporation, contamination and amino acid oxidation.
3. Store separately from strong acids, strong bases, oxidizing agents and odorous substances; isolation distance ≥1m.

7. Safety & Protection

1. The product is non-toxic, non-irritating, safe for human and animal contact; direct contact with skin has a moisturizing effect.
2. **Recommended PPE:** Nitrile rubber gloves and safety glasses for large-scale handling to avoid liquid splashing into eyes; no respiratory protection needed under normal conditions.
3. **Accident Treatment:**
 - Skin Contact: No special treatment needed; rinse with water if necessary, the product is mild and non-irritating.