L-Tyrosine USP30 Product Specification (SPEC)

File Number: [QJS26070203]

Effective Date: [July 2, 2026]

Manufacturer: Jiangsu Quanjiashun Health Technology Co., Ltd.

I. Basic Product Information

project	Parameter Information
product name	L- p-hydroxyphenylalanine
English name	L-Tyrosine
operative norm	USP30 (United States Pharmacopeia, 30th Edition)
CAS number	60-18-4
molecular formula	$C_9H_{11}NO_3$
formula weight	181.19
Physical Characteristics	White crystalline powder, odorless, with a slightly bitter taste; extremely poorly soluble in water, soluble in dilute acid and alkali solutions, insoluble in organic solvents such as ethanol, ether, and trichloromethane.

II. Core Quality Indicators (USP30 Requirements)

surveillance project	Standard Limit Value	Detection method (based on USP 30)
Content (on a dry basis)	98.0% ~ 102.0%	acid-base titration
Specific optical rotation $[\alpha]_D^{20}$ (dry basis, in 1 mol/L HCl solution)	-10.0° ~ -12.0°	Spectroscopic analyzer detection method
Drying loss	≤0.3%	Dried at 105°C until constant weight by the gravimetric method
ignited residue	≤0.10%	Constant Weight Method for High-Temperature Incineration at 700°C
chlorid （Cl）	≤0.015%	Turbidity Method
Sulfate (SO_4^{2-})	≤0.02%	Turbidity Method
Heavy metals (expressed as Pb)	≤10ppm	Sulfide colorimetric method
arsenic salt （As）	≤3ppm	Arsenic blotting method
Iron salts (Fe)	≤10ppm	Thiocyanate colorimetric method
Other amino acids	No impurity spots were observed; no contaminants were detected.	Thin-layer chromatography (TLC)
Solution clarity and color	After dissolution in dilute hydrochloric acid, the solution becomes clear, colorless, and free of turbid precipitates.	optical colorimetry

III. Physical and Chemical Property Parameters

Solubility: Has extremely low solubility in water at room temperature; is readily soluble in dilute inorganic acids and alkaline aqueous solutions, but insoluble in organic solvents such as ethanol, ether, and acetone.

Melting point: 342–344°C (decomposes at high temperatures)

Stability: exhibits good stability when stored in a dry, light-resistant sealed condition; prone to oxidation and yellowing under prolonged exposure to intense light or high-temperature/humidity environments, with accelerated deterioration under alkaline conditions.

Product Characteristics: Contains a phenolic hydroxyl structure, exhibits weak antioxidant activity, and serves as an essential aromatic amino acid in the human body, participating in the synthesis of neurotransmitters.

IV. Microbial Indicators

surveillance project	Standard Limit Value
total numbers of colony	≤1000 CFU/g
Molds, yeasts	≤100 CFU/g
colibacillus	Negative/25 g
salmonella	Negative/25 g

V. Packaging Specifications

Standard packaging: 25 kg per standard cardboard drum, lined with double-layer food-grade PE sealed bags for moisture, dust, and contamination protection.

Custom packaging: Supports small-batch packaging in 1kg, 5kg, or 10kg aluminum foil vacuum bags and food-grade plastic drums.

Packaging labeling: Uniformly display the product name, CAS number, USP 30 compliance standard, production batch number, production date, expiration date, net weight, and manufacturer information.

VI. Storage and Transportation Conditions

Storage Conditions: Store in a cool, dry, light-resistant, and well-ventilated warehouse with relative humidity ≤60%, fully sealed to prevent air exposure. Avoid direct sunlight, high temperatures, and humid environments. Do not store together with strong oxidizers or toxic substances.

Transportation Requirements: For the transportation of ordinary food ingredients, measures must be taken to ensure waterproofing, sun protection, prevention against compression and damage during transit. These items must not be transported together with odorous, corrosive, or toxic goods.

Shelf life: 24 months under conditions of intact original packaging and standardized storage.

VII. Product Uses

This product is USP 30 food and pharmaceutical-grade L-tyrosine, which can be used as a nutritional fortifier for humans, an ingredient in brain health supplements, and an additive in sports nutrition products. It is widely applied in the fields of functional foods and dietary supplements. Additionally, it serves as the core raw material for medical amino acid infusions and compound amino acid preparations, and is also utilized in biological protein synthesis and biochemical research. It fully complies with the safety and quality standards specified in USP 30.

VIII. Compliance Statement

All quality parameters of this product strictly comply with the USP 30 standards, meeting dual requirements for food and pharmaceutical use. It comes accompanied by a complete set of compliance documents, including factory-issued COA test reports, third-party authoritative test certificates, and food production certifications.