

**JHD CORP**

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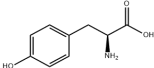
Office(China): Room 1307, Shenglang International, Xi'an, Shaanxi

Manufacturer(China): Hongda Industrial District, Xianyang, Shaanxi

Office&amp;Warehouse(Netherlands): Piet Stuurmanweg 7, 2742 JX Waddinxveen

## Certificate of Analysis

### L-Tyrosine 98.5~101.5% Titrimetry

<b>Batch No.</b>	20251225	<b>Manufacturing Date</b>	December 25, 2025
<b>Batch Quantity</b>	1,000KG	<b>Expiration Date</b>	December 24, 2028
<b>Molecular Formula</b>	C <sub>9</sub> H <sub>11</sub> NO <sub>3</sub>	<b>Country of Origin</b>	China
<b>Molecular Weight</b>	181.19	<b>Molecular Structural</b>	
<b>CAS No.</b>	60-18-4		
<b>Reference Standard</b>	USP 42		
<b>Items</b>	<b>Specification</b>	<b>Result</b>	<b>Method</b>
L-Tyrosine	98.5~101.5% (on the dried basis)	99.80%	Titrimetry   USP<541>
Any Individual Impurity	NMT 0.5%	Not Detected	HPLC    USP<621>
Total Impurities	NMT 2.0%	Not Detected	HPLC    USP<621>
Identification	Meet the requirements	Conform	Infrared Spectroscopy    USP <197K>
<b>Sensory Characteristics</b>			
Appearance	White crystals or crystalline powder	White crystalline powder	Organoleptic
Taste	Tasteless	Conform	Organoleptic
<b>Physical Characteristics</b>			
Specific Rotation[a] <sub>D</sub> <sup>25</sup>	-9.8°~ -11.2°	-10.2°	Optical Rotation   USP<781>
Loss on Drying	NMT 0.30%	0.11%	USP <731>
Residue on Ignition	NMT 0.40%	0.07%	USP <281>
Particle Size	Report Only	80% Through 80mesh	Analytical sieving    USP <786>
Bulk Density	Report Only	0.33g/ml	USP <616> Method I
Tapped Density	Report Only	0.67g/ml	USP <616> Method I
<b>Chemical Characteristics</b>			
Chlorides (as Cl <sup>-</sup> )	NMT 400ppm	<400ppm	USP <221>
Sulfates (as SO <sub>4</sub> <sup>2-</sup> )	NMT 400ppm	<400ppm	USP <221>
Iron (as Fe)	NMT 30ppm	<15ppm	USP <241>
Heavy Metals (as Pb)	NMT 10ppm	<10ppm	USP <231> Method II
Arsenic (As)	NMT 1ppm	<1ppm	ICP-MS
Lead (Pb)	NMT 3ppm	<0.5ppm	ICP-MS
Cadmium (Cd)	NMT 1ppm	<0.5ppm	ICP-MS
Mercury (Hg)	NMT 0.5ppm	<0.1ppm	ICP-MS
<b>Microbiological Characteristics</b>			
Total Plate Count	NMT 5,000cfu/g	<1,000cfu/g	USP<2021>
Total Yeast & Mold	NMT 500cfu/g	<100cfu/g	USP<2021>
Coliforms	Not Detected in(g) 25	Not Detected	USP<2021>
E. Coli	Not Detected in(g) 10	Not Detected	USP<2022>
Salmonella	Not Detected in(g) 25	Not Detected	USP<2022>
Staphylococcus aureus	Not Detected in(g) 25	Not Detected	USP<2022>

Net 25kg/drum.

**Packing and Storage** Stored in shady, cool, dry, clean and ventilated places and prohibited to be placed together with poisonous or harmful substances. Strongly Recommend to use up after open on the same day.Tested by: *Troy Cui*

Date: January 3, 2026

Approved by: *Jack Jia*

Date: January 3, 2026

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