



洛阳华荣生物技术有限公司

Luoyang Huarong Biotechnology Co.,Ltd.

CERTIFICATE OF ANALYSIS

Product Name	L-Citrulline		
CAS No.	372-75-8	Reference	In-house
Batch No.	20230506	Quantity	2000kg
Manufacture Date	May.04, 2023	Retest Date	May.03, 2025

Test Items	Specifications	Results	Test Methods
Appearance	White crystals or crystalline powder	Conforms	Visual observation
Identification	HPLC retention time correspond to WRS	Conforms	HPLC
Specific rotation $[\alpha]_D^{20}$	+24.5° ~+26.8° (C8, 6N HCl)	+25.96°	USP<781>
Transmittance	≥98.0%	98.54%	In-house
Loss on drying	≤0.30%	0.10%	USP<731>
Residue on ignition	≤0.10%	0.02%	USP<281>
pH	5.0~7.0	6.44	USP<791>
Chloride(Cl)	≤0.020%	Conforms	USP<221>
Ammonium(NH ₄)	≤0.020%	Conforms	In-house
Sulfate(SO ₄)	≤0.020%	Conforms	USP<221>
Iron(Fe)	≤10ppm	Conforms	USP<241>
Heavy metals(Pb)	≤10ppm	Conforms	USP<231>
Lead(Pb)	≤1ppm	Conforms	ICP-MS
Arsenic(As ₂ O ₃)	≤1ppm	Conforms	ICP-MS
Cadmium(Cd)	≤1ppm	Conforms	ICP-MS
Mercury(Hg)	≤1ppm	Conforms	ICP-MS
Total plate count	≤1000cfu/g	Conforms	USP<61>
Yeast & Molds	≤100cfu/g	Conforms	USP<61>
E. Coli	Negative in 10g	Conforms	USP<62>
Salmonella	Negative in 10g	Conforms	USP<62>
Assay	99.0~101.0%	99.13%	HPLC

Conclusion:

The product conforms to In-house standard.

Storage: Store in tight containers at controlled room temperature.

Analyst: 邓志杰

Checked by: 刘学雷

Approved by: 检验合格章
Testing Compliance

