

CERTIFICATE OF ANALYSIS

Product	L-Cysteine	Production Date	2025.03.18
Lot Number	HACD25031802	Expiration Date	2027.03.17
Origin	Produced by Fermentation Cys	CAS	52-90-4

Analysis Item	Specification	Method	Result
Chemical & Physical Properties			
Characters, Appearance	White Crystals or crystalline powder	Visual	White Crystals
Identification	Infrared absorption	USP43	Conform
Specific rotation[α] _{D20}	+8.3° to +9.5°	AJI TEST1	+9.12°
State of solution (Transmittance)	Clear and colorless≥98.0%	AJI TEST2	99.2%
Chloride(Cl)	NMT 0.1%	AJI TEST3	<0.1%
Ammonium(NH ₄)	NMT 0.02%	AJI TEST4	<0.02%
Sulfate(SO ₄)	NMT 0.028%	AJI TEST5	<0.028%
Iron(Fe)	NMT 10ppm	AJI TEST6	<10ppm
Lead	NMT 0.5ppm	USP43	<0.5ppm
Arsenic	NMT 0.5ppm	USP43	<0.5ppm
Cadmium	NMT 0.5ppm	USP43	<0.5ppm
Mercury	NMT 0.1ppm	USP43	<0.1ppm
Heavy metals(Pb)	NMT 10ppm	AJI TEST7	<10ppm
Other amino acids	Conforms	AJI TEST9	Conform
Loss on drying	NMT 0.5%	AJI TEST11	0.13%
Residue on ignition (sulfated)	NMT 0.2%	AJI TEST13	0.14%
Assay	NLT 98.0% and NMT 101.0%	AJI TEST16	99.82%
pH	4.5~ 5.5	AJI TEST33	5.24
Micbiological Properties			
Total Aerobic Microbial Count	NMT 1000cfu/g	USP43	<1000cfu/g
Molds and Yeasts Count	NMT 100cfu/g	USP43	<100cfu/g
Coliform bacteria	Negative/10g	Testing Plate	Negative

Salmonella sp.	Negative/10g	Testing Plate	Negative
Staphylococcus aureus	Negative/10g	Testing Plate	Negative

Shelf life	Recommend usage within 2 years from date of production.
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Base Bulk