



CERTIFICATE OF ANALYSIS

Product Name	L-Cysteine
Lot Number	HACD25010802
Origin	Produced by Fermentation Cys
Production Date	2025.01.08
Expiration Date	2028.01.07
CAS	52-90-4

Physical & Chemical Characteristics

Analysis Item	Specification	Result
Characters, Appearance	White Crystals or crystalline powder	White Crystals
Identification	Infrared absorption	Conform
Specific rotation $[\alpha]_{D20}$	+8.3° to +9.5°	+8.81°
State of solution (Transmittance)	Clear and colorless ≥98.0%	99.5%
Chloride (Cl)	NMT 0.1%	<0.1%
Ammonium (NH ₄)	NMT 0.02%	<0.02%
Sulfate (SO ₄)	NMT 0.028%	<0.028%
Other amino acids	Conforms	Conform
Loss on drying	NMT 0.5%	0.13%
Residue on ignition (sulfated)	NMT 0.2%	0.04%
Assay	NLT 98.0% and NMT 101.0%	99.54%
pH	4.5–5.5	5.25

Heavy Metals

Analysis Item	Specification	Result
Iron (Fe)	NMT 10 ppm	<10 ppm
Lead	NMT 0.5 ppm	<0.5 ppm
Arsenic	NMT 0.5 ppm	<0.5 ppm

Cadmium	NMT 0.5 ppm	<0.5 ppm
Mercury	NMT 0.1 ppm	<0.1 ppm
Heavy metals (as Pb)	NMT 10 ppm	<10 ppm

Microbiological Tests

Analysis Item	Specification	Result
Total Aerobic Microbial Count	NMT 1000 cfu/g	<1000 cfu/g
Molds and Yeasts Count	NMT 100 cfu/g	<100 cfu/g
Coliform bacteria	Negative/10 g	Negative
Salmonella sp.	Negative/10 g	Negative
Staphylococcus aureus	Negative/10 g	Negative

Packaging & Storage

Packaging	
Storage	Keep container dry and tightly closed; keep in a cool & well ventilated place; keep away from heat and oxidizing agents.
Shelf life	Recommend usage within 3 years.