

Certificate of Analysis

Date of Testing: 2023-05-30 17:00:22

Date of Next Testing: 2026-05-29 17:00:22

Product Name: **L-Serine**

CAS Number: 56-45-1

Specifications & Purity: from non-animal source, meets EP, USP testing specifications, suitable for cell culture, 98.5-101.0%

Lot #: E2329547

SKU #: **L476400**

Analysis: **230718**

Parameter	Limit Values	Result
Specific Rotation(25 deg C, C=10 in 2 M HCl, USP)	14.0-15.6 (°)	14.71000°
Chloride Content	0-0.02 (%)	0.01 %
Ammonium (NH ₄)	0-0.02 (%)	0.01150 %
Sulfate(SO ₄ ²⁻)	0-0.02 (%)	0.01 %
Iron(Fe)	0-10 (ppm)	5.00 ppm
Arsenic(As)	0-1 (ppm)	0.00000 ppm
Loss on drying	0-0.2 (%)	0.01 %
Residue on ignition(Ash)	0-0.1 (%)	0.00000 %
PH (10% Water)	5.2-6.2	5.50
Assay(dry basis)	98.5-101.0 (%)	99.41 %
Endotoxin Assay	0-1 (EU/mg)	0.00 EU/mg
Appearance(L476400)	White Powder	White powder
Solubility(0.5 g to 10 ml of H ₂ O)Colorless Clear	pass	Pass
Origin(Must be a non-animal source)	Conforms	Conforms
Infrared spectrum	Conforms to Structure	Conforms to Structure
Ninhydrin-Positive Substances(other amino acids)	Conforms	Conforms
Residual Solvents	Meets Requirements	Meets Requirements
Cell Culture Test	pass	Pass



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A handwritten signature in black ink that reads "John Su".

John Su
QA & QC Manager