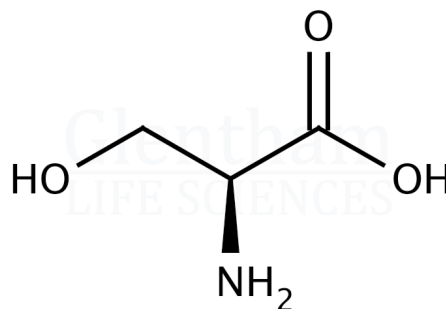


Certificate of Analysis

Product Name L-Serine
Glentham Code GM1114
CAS Number 56-45-1
EINECS 200-274-3
MDL Number MFCD00064224
PubChem SID 310279962
Batch Number 755XSL

Molecular Weight 105.09
Molecular Formula $C_3H_7NO_3$
Storage Temp. +20°C



Property	Specification	Batch 755XSL
Physical Description	White crystals or crystalline powder	White crystalline powder
Identification (IR)	To conform to standard	Conforms
Solubility (5% in water)	Clear, colourless solution	Conforms
Specific Optical Rotation ($[\alpha]_{20/D}$)	+14.0 - +15.6 °	+15.4°
Chloride	≤ 0.05%	Conforms
Sulphate	≤ 0.03%	Conforms
Iron (Fe)	≤ 30ppm	Conforms
Heavy Metals (as Pb)	≤ 15ppm	Conforms
Any Individual Impurity	≤ 0.5%	Conforms
Total Impurities	≤ 2.0%	Conforms
Residue on Ignition	≤ 0.1%	0.0%
Loss on Drying	≤ 0.2%	0.02%
Assay	98.5 - 101.5 % (dried basis)	100.1%
Pharmacopoeia Specification(s)	USP	Conforms to USP

Specification Version v1.1
Manufacture Date 2021-05-30
Re-Test Date 2030-02-04

Glentham Life Sciences confirm that the above referenced product conformed to the information displayed in this document on the quality release date. Please check www.glentham.com or contact us using the details above for the current version of this document.

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