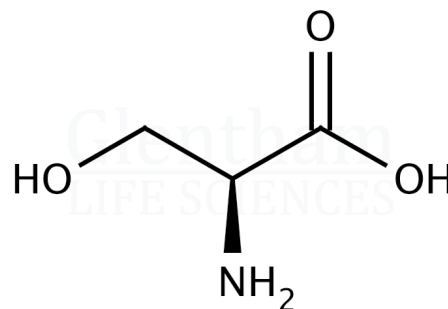


## Certificate of Analysis

Product Name	L-Serine, GlenCell™, suitable for cell culture
Glenthams Code	GM7000
CAS Number	56-45-1
EINECS	200-274-3
Numéro MDL	MFCD00064224
Batch Number	664CVA

Molecular Weight	105.09
Molecular Formula	C <sub>3</sub> H <sub>7</sub> NO <sub>3</sub>
Storage Temp.	+20°C



Property	Specification	Batch 664CVA
Physical Description	White crystals or crystalline powder	White crystals
Identification	IR	Conforms
Solubility	Freely soluble in water and in formic acid, practically insoluble in ethanol	Conforms
Solubility (5% in water)	Clear, colourless solution	Conforms
Transmittance	≥ 98.0% (5% in water, 430nm, 10mm cell)	100.1%
Specific Optical Rotation	+14.4 - +15.5 ° (c=10, 2M HCl)	+15.4°
Chloride (Cl)	≤ 0.02%	Conforms
Ammonium (NH <sub>4</sub> )	≤ 0.02%	Conforms
Sulphate (SO <sub>4</sub> )	≤ 0.02%	Conforms
Iron (Fe)	≤ 10ppm	Conforms
Heavy Metals (as Pb)	≤ 10ppm	≤ 5ppm
Arsenic (As <sub>2</sub> O <sub>3</sub> )	≤ 1ppm	Conforms
Related Substances	To pass test	Conforms
Loss on Drying	≤ 0.2%	0.02%
Sulphated Ash	≤ 0.1%	0.0%
pH	5.2 - 6.2 (10% in water)	5.8
Residual Solvents	≤ 200ppm (Methanol)	Conforms
Endotoxins	≤ 6.0EU/g	≤ 3.0EU/g
Assay	98.5 - 101.0 %	100.1%
Origin	Non-animal origin	Conforms

Specification Version	v1.0
Manufacture Date	2021-05-30
Re-Test Date	2029-01-18

Glenthams Life Sciences confirm that the above referenced product conformed to the information displayed in this document on the quality release date. Please check [www.glenthams.com](http://www.glenthams.com) or contact us using the details above for the current version of this document.

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