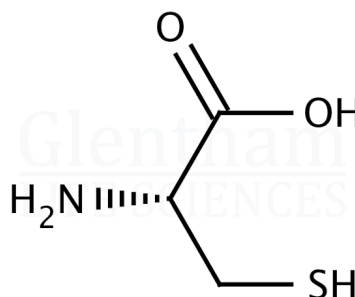


Certificate of Analysis

Product Name	L-Cysteine, 99%, non-animal origin
Glentham Code	GM8797
CAS Number	52-90-4
EINECS	200-158-2
MDL Number	MFCD00064306
Additional CAS	345909-32-2 (\cdot xH ₂ O)
Batch Number	372XGS
Molecular Weight	121.16
Molecular Formula	C ₃ H ₇ NO ₂ S
Storage Temp.	+20°C



Property	Specification	Batch 372XGS
Physical Description	White to almost white powder or crystals	White crystalline powder
Solubility (2.5% in water)	Clear, colourless solution	Clear, colourless solution
Solubility (10% in 2M HCl)	Clear, colourless solution	Clear, colourless solution
pH (2.5% in water)	4.5 - 5.5	5.3
Specific Optical Rotation ($[\alpha]_{20/D}$)	+8.3 - +9.5 ° (c=8, 1M HCl)	+8.5°
Chloride (Cl)	≤ 0.05%	≤ 0.04%
Sulphate (SO ₄)	≤ 0.03%	≤ 0.02%
Ammonium (NH ₄)	≤ 0.02%	Conforms
Iron (Fe)	≤ 10ppm	Conforms
Heavy Metals (as Pb)	≤ 10ppm	Conforms
Residue on Ignition	≤ 0.1%	0.05%
Loss on Drying	≤ 0.5% (105°C, 3h)	0.48%
Assay (Titration)	98.5 - 101.0 %	99.2%
Origin	Vegetal fermentation	Conforms

Specification Version	v1.0
Manufacture Date	2023-06-06
Re-Test Date	2031-06-30

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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