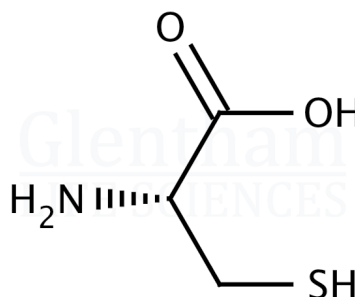


## Certificate of Analysis

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 <sub>2</sub> O)
Batch Number	372XGS
Molecular Weight	121.16
Molecular Formula	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> 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 <sub>4</sub> )	≤ 0.03%	≤ 0.02%
Ammonium (NH <sub>4</sub> )	≤ 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](http://www.glentham.com) or contact us using the details above for the current version of this document.

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