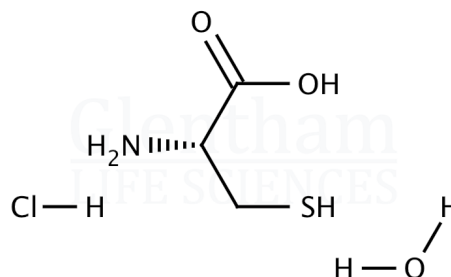


Certificate of Analysis

Product Name	L-Cysteine hydrochloride monohydrate
Glenthams Code	GM4222
CAS Number	7048-04-6
EINECS	200-157-7
MDL Number	MFCD00065606
Additional CAS	345909-32-2 ($\cdot xH_2O$)
PubChem SID	310270758
Batch Number	265ZGI

Molecular Weight	175.64
Molecular Formula	$C_3H_7NO_2S \cdot HCl \cdot H_2O$
Storage Temp.	+20°C



Property	Specification	Batch 265ZGI
Physical Description	White powder or colourless crystals	Colourless crystals
Identification (IR)	To conform to standard	Conforms
Specific Optical Rotation ($[\alpha]_{20/D}$)	+5.5 - +7.0 ° (c=8, 1M HCl)	+6.8°
pH (5% in water)	1.5 - 2.0	1.7
Chloride (Cl)	19.89 - 20.29 %	20.1%
Ammonium (NH4)	≤ 0.02%	Conforms
Sulphate (SO4)	≤ 0.02%	Conforms
Iron (Fe)	≤ 10ppm	Conforms
Other Amino Acids	Not detectable	Conforms
Loss on Drying	8.5 - 12.0 %	10.1%
Residue on Ignition	≤ 0.1%	Conforms
Lead (Pb)	≤ 3ppm	Conforms
Arsenic (As)	≤ 1ppm	Conforms
Mercury (Hg)	≤ 0.1ppm	Conforms
Cadmium (Cd)	≤ 1ppm	Conforms
Assay	99.0 - 100.5 %	100.0%

Specification Version	v1.1
Manufacture Date	2023-12-06
Re-Test Date	2031-09-23

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 or contact us using the details above for the current version of this document.

This document was generated electronically and is therefore valid without signature. © Glenthams Life Sciences Ltd, 2025