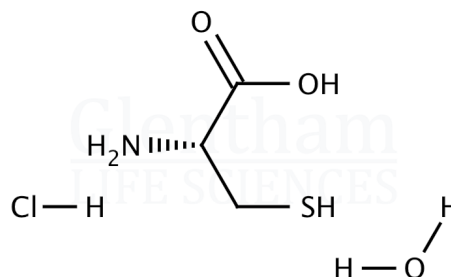


Certificate of Analysis

Product Name	L-Cysteine hydrochloride monohydrate, Ph. Eur., USP grade
Glentham Code	GM2919
CAS Number	7048-04-6
EINECS	200-157-7
MDL Number	MFCD00065606
Additional CAS	345909-32-2 ($\cdot xH_2O$)
Batch Number	078CXN
Molecular Weight	175.64
Molecular Formula	$C_3H_7NO_2S \cdot HCl \cdot H_2O$
Storage Temp.	+20°C



Property	Specification	Batch 078CXN
Physical Description	White or almost white crystalline powder, or colourless crystals	White crystals
Assay	98.5 - 101.0 % (dried substance)	99.7%
Loss on Drying	8.0 - 12.0 %	11.0%
Sulphated Ash	$\leq 0.1\%$	0.05%
Heavy Metals (as Pb)	$\leq 10\text{ppm}$	Conforms
Iron (Fe)	$\leq 20\text{ppm}$	$\leq 10\text{ppm}$
Ammonium (NH ₄)	$\leq 200\text{ppm}$	Conforms
Sulphates	$\leq 300\text{ppm}$	$\leq 200\text{ppm}$
Total Impurities (TLC)	$\leq 2.0\%$	Conforms
Any Individual Impurity (TLC)	$\leq 0.5\%$	Conforms
Specific Optical Rotation	Ph. Eur.: + 5.5 - +7.0 °, USP: + 5.7 - +6.8 °	+6.1°, +5.8°
Solubility (5% in water)	Clear, colourless solution (\leq BY6)	Conforms
Identification	Reaction of chlorides	Conforms
Identification	IR	Conforms
Pharmacopoeia Specification(s)	Ph. Eur., USP	Conforms

Specification Version	v1.1
Manufacture Date	2021-03-08
Re-Test Date	2030-03-20

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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