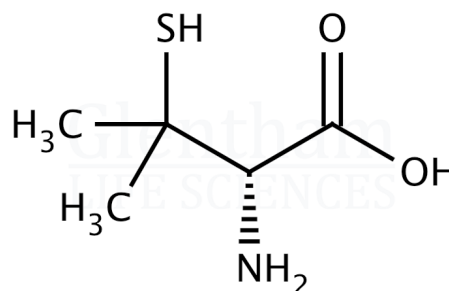


Certificate of Analysis

Product Name	D-Penicillamine, Ph. Eur. grade
Glentham Code	GA1554
CAS Number	52-67-5
EINECS	200-148-8
MDL Number	MFCD00064302
Batch Number	713ZCD
Molecular Weight	149.21
Molecular Formula	$C_5H_{11}NO_2S$
Storage Temp.	+4°C



Property	Specification	Batch 713ZCD
Physical Description	White or almost white crystalline powder	Conforms
Identification	To pass tests A, B, C, D	Conforms
Solubility (10% in water)	Clear solution	Conforms
Appearance of Solution	To pass test	Conforms
pH (1% in water)	4.5 - 5.5	5.0
Specific Optical Rotation	-61.0 - -65.0 ° (c=5, 1M NaOH)	-62.1 °
UV Absorbing Substances	≤ 0.07	0.001
Impurity A	≤ 1.0%	Conforms
Impurity B	≤ 0.1ppm	Conforms
Mercury (Hg)	≤ 10ppm	Conforms
Loss on Drying	≤ 0.5%	0.0%
Sulphated Ash	≤ 0.1%	0.0%
Any Unspecified Impurity	≤ 0.1%	0.10%
Total Impurities	≤ 1.5%	0.1%
Assay	98.0 - 101.0 % (dried substance)	100.3%
Pharmacopoeia Specification(s)	Ph. Eur.	Conforms to Ph. Eur.

Specification Version	v1.0
Manufacture Date	2018-06-27
Re-Test Date	2023-11-05

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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