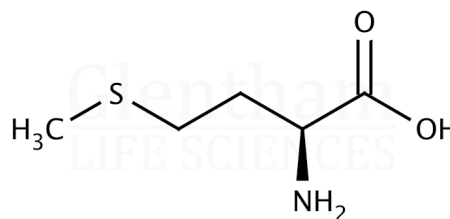


Certificate of Analysis

Product Name	L-Methionine, 99%, GlenCell™, suitable for cell culture, Ph. Eur., USP grade
Glentham Code	GM9348
CAS Number	63-68-3
EINECS	200-562-9
MDL Number	MFCD00063097
Batch Number	447PDY

Molecular Weight	149.21
Molecular Formula	C ₅ H ₁₁ NO ₂ S
Storage Temp.	+20°C



Property	Specification	Batch 447PDY
Physical Description	White crystalline powder	White crystalline powder
Identification	To pass tests	Conforms
Solubility (2.5% in water)	Clear, colourless solution	Clear, colourless solution
pH (2.5% in water)	5.6 - 6.1	5.9
Specific Optical Rotation	+23.0 - +24.0 ° (20°C, 2% in 6 M HCl)	+23.5°
Specific Optical Rotation	+22.4 - +24.7 ° (25°C, 2% in 6 M HCl)	+23.6°
Ammonium (NH4)	≤ 0.02%	≤ 0.005%
Chloride (Cl)	≤ 0.02%	≤ 0.017%
Sulphate (SO4)	≤ 0.03%	≤ 0.02%
Iron (Fe)	≤ 10ppm	Conforms
Heavy Metals (as Pb)	≤ 5ppm	Conforms
Arsenic (As2O3)	≤ 1ppm	Conforms
Ninhydrin-positive substances	≤ 0.5%	≤ 0.3%
Loss on Drying	≤ 0.20%	0.0%
Sulphated Ash	≤ 0.1%	0.0%
Endotoxins	≤ 6.0EU/g	≤ 3EU/g
Assay (Titration)	99.0 - 101.0 % (dried basis)	100.0%
Pharmacopoeia Specification(s)	EP, USP	Conforms
Origin	Non-animal	Conforms

Specification Version	v1.1
Manufacture Date	2020-12-15
Re-Test Date	2030-07-01

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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