

CERTIFICATE OF ANALYSIS

PRODUCT NAME: L-Proline
 CAS NO.: 147-85-3
 BATCH NO.: 19/MFM/2310
 Molecular Formula: C5H9NO2
 Molecular Weight: 115.13
 EXPIRY DATE: 10 December 2025
 STORAGE TEMP: +20°C

For and on behalf of
 FORMEDIUM Ltd, Unit 1B
 Hunstanton Commercial Park
 PE36 5JQ England

[Signature]
 (Authorised Signature)

TESTS	SPECS	RESULTS
Appearance	White crystals or crystalline powder	Conforms
Assay (anhydrous)	99.0 to 101.0% (anhydrous)	99.7%
Identification	IR	Conforms
Specific optical rotation	+84.5 to - 86.0°	- 85.0°
Residue on ignition	<= 0.1%	0.04%
Chloride (Cl)	<= 0.05%	<= 0.02%
Sulphate (SO4)	<= 0.03%	<= 0.02%
Iron (Fe)	<= 10 ppm	Conforms
Heavy Metals (as Pb)	<= 10ppm	Conforms
Arsenic (As)	<= 1ppm	Conforms
Lead (Pb)	<= 3ppm	Conforms
Mercury (Hg)	<= 0.1ppm	Conforms
Cadmium (Cd)	<= 1ppm	Conforms
Loss on Drying	<= 0.4%	0.05%
Organic Impurities	Any individual Impurity: <= 0.5%	Conforms
	Total impurities: <= 2.0%	Conforms
Pharmacopoeia Specifications	Conforms to USP	Conforms to USP

* This material is supplied for laboratory use only.

Supplier: Formedium Ltd

Approved by:

[Signature]

Date: 12 APR 2019