

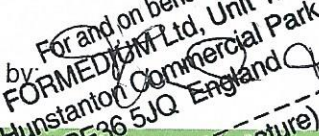
CERTIFICATE OF ANALYSIS

Product Name:	L-Valine
CAS NO.:	72-18-4
Batch No.:	17/MFM/2011
Molecular Weight:	117.15
Expiry Date:	March 2022
Storage Temp:	+ 20°C

TESTS	SPECS	RESULTS
Assay	98.5% - 101.0% (dried basis)	99.8%
Appearance	White crystals or crystalline powder	Conforms
pH	5.5 – 7.0	5.96
Specific optical rotation	+26.2° to +28.8°	+27.8°
Residue on ignition	<= 0.1%	0.06%
Loss on Drying	<= 0.5%	0.14%
Chloride (Cl)	<= 500ppm	Conforms
Iron (Fe)	<= 30ppm	Conforms
Lead (Pb)	<= 3ppm	Conforms
Sulphate (SO4)	<= 300ppm	Conforms
Heavy metals	<= 15ppm	Conforms
Cadmium (Cd)	<= 1ppm	Conforms
Mercury (Hg)	<= 0.1ppm	Conforms
Arsenic (As)	<= 1ppm	Conforms
Ammonium	<= 200ppm	Conforms
Pharmacopoeia specification(s)	USP	Conforms to USP24

* This material is supplied for laboratory use only.

Supplier: Formedium Ltd

Approved by: 
 For and on behalf of
FORMEDIUM Ltd, Unit 1B
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Date: 26 OCT 2017