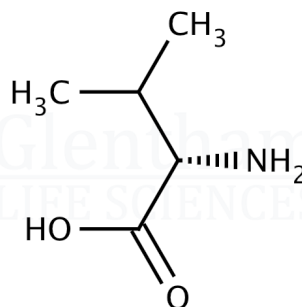


## Certificate of Analysis

Product Name	L-Valine
Glentham Code	GM6473
CAS Number	72-18-4
EINECS	200-773-6
MDL Number	MFCD00064220
PubChem SID	310281625
Batch Number	731WMK
Molecular Weight	117.15
Molecular Formula	$C_5H_{11}NO_2$
Storage Temp.	+20°C



Property	Specification	Batch 731WMK
Physical Description	White crystals or crystalline powder	White crystalline powder
Assay	98.5 - 101.0 %	99.3%
Identification	IR	Conforms to standard
pH	5.5 - 7.0	5.8
Specific Optical Rotation	+26.6 - +28.8 °	+27.9 °
Residue on Ignition	≤ 0.1%	Conforms
Loss on Drying	≤ 0.5%	0.18%
Chloride (Cl)	≤ 500ppm	≤ 200ppm
Iron (Fe)	≤ 30ppm	≤ 10ppm
Sulphate (SO <sub>4</sub> )	≤ 300ppm	Conforms
Ammonium	≤ 200ppm	Conforms
Heavy Metals	≤ 15ppm	≤ 10ppm
Lead (Pb)	≤ 3ppm	Conforms
Arsenic (As)	≤ 1ppm	Conforms
Cadmium (Cd)	≤ 1ppm	Conforms
Mercury (Hg)	≤ 0.1ppm	Conforms
Pharmacopoeia Specification(s)	Conforms to USP	Conforms

Specification Version	v1.0
Manufacture Date	2021-10-09
Re-Test Date	2030-02-15

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](http://www.glentham.com) or contact us using the details above for the current version of this document.

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