



CERTIFICATE OF ANALYSIS

Product Name: L-VALINE
USP Grade

Catalog Number: V001 Lot Number: 06152027
Molecular Formula: C₅H₁₁NO₂
Formula Weight: 117.15 CAS Number: 72-18-4

<u>Test</u>	<u>Specifications</u>	<u>Results</u>
Appearance	White Crystalline Powder	PASS
Assay	98.5 - 101.5%	99.8 %
Specific Rotation[α] ²⁰ _D	+26.6° to +28.8°	+27.3°
pH (5%, H ₂ O)	5.5 - 7.0	5.62
Chloride (Cl)	≤ 0.05%	< 0.05 %
Sulfate (SO ₄)	≤ 0.03%	< 0.03 %
Iron (Fe)	≤ 30 ppm	< 0.003 %
Heavy Metals (Pb)	≤ 15 ppm	< 0.0015 %
Organic Volatile impurities	Meets Requirements	PASS
Loss on Drying	≤ 0.3%	0.05 %
Residue on Ignition	≤ 0.1%	0.06 %
Related Substances	Individual Impurities: < 0.5%; Total Impurities: < 2.0%	

Additional Information:

Retest Date: 30 June 2020
Store at 15 to 30°C

This product meets or exceeds the quality standards established by Caisson Laboratories, Inc.

This product is intended for Laboratory Use Only

Becky Kowallis 8/3/2015
Quality Control