

CERTIFICATE OF ANALYSIS

Product Name: L-Valine
Batch Number: 21090701
Manufacture Date: 7th Sep. 2021
Testing Date: 7th Sep. 2021
Expire Date: 6th Sep. 2023
Quantity: 300kg

Item	Specification	Test Result	Test Method
Appearance	White crystals or crystalline powder	Conforms	Visual
Identification	Infrared Absorption	Conforms	USP<197K>
Specific Rotation	+26.6° ~ +28.8°	+28°	USP<781S>
PH	5.5 ~ 7.0	6.3	USP<791>
Loss on Drying	≤ 0.3%	0.03%	USP<731>
Residue on ignition	≤ 0.1%	0.04%	USP<281>
Chloride (Cl)	≤ 0.05%	< 0.05%	USP<221>
Sulphate (SO ₄)	≤ 0.03%	< 0.03%	USP<221>
Iron (Fe)	≤ 0.003%	< 0.003%	USP<241>
Heavy Metals (Pb)	≤ 0.0015%	< 0.0015%	USP<231>
Organic volatile impurities	Meets the requirements	Conforms	USP<467>
Assay	98.5 ~ 101.5%	99.5%	Titration
Shelf Life:	Two Years	Conforms	
Conclusion:	Conforms to the requirements of standard USP24.		

Remarks: Test results above are just for reference. As for specific, the sample shall be taken as standards.