

## CERTIFICATE OF ANALYSIS

<b>Product Name</b>	L-Valine		
<b>Reference standard</b>	USP24		
<b>Quantity</b>	3000kgs	<b>Package</b>	25kg/ drum
<b>Batch Number</b>	20220516	<b>Manufacture Date</b>	20220516
<b>Report Date</b>	20220516	<b>Expiry Date</b>	20240515

Item of Analysis	Specification	Results
Appearance	White crystals or crystalline power	Conforms
Identification	Concordant with the reference spectrum	Conforms
Assay/%	98.5~101.5	98.5~101.5
PH	5.5~7.0	6.2
Specific rotation	+26.6° ~+ 28.8°	+27.4°
Residue on ignition/%	≤0.10	0.08%
Loss on drying/%	≤0.30	0.09%
Chloride (Cl)/%	≤0.05	<0.05%
Iron	≤30ppm	< 30ppm
Sulfate(SO <sub>4</sub> )	≤0.03	<0.03%
Arsenic (As)	≤1.5ppm	< 1.5ppm
Heavy metals (Pb)	≤15ppm	< 15ppm
Organic volatile impurities	Meets the requirements	conforms
Conclusion: passed test according to the Standard of USP24		

**Storage:** Store in tight, light-resistant containers, avoid exposure to direct sunlight, moisture and excessive heat.

**Shelf Life:** 24 months if store under the conditions above and stay in original packaging.

