

## Certificate of Analysis

Product Name: **L-Valine**  
 CAS#: **72-18-4**  
 Starting Material: **Glucose (Non-GMO Corn)**  
 Extraction Solvent(s): **None**  
 Country of Origin: **China**  
 Batch Number: **Varies**  
 Manufacture Date: **Varies**  
 Retest Date: **Varies**

## Test Results Obtained by PureBulk

ITEMS	SPECIFICATIONS	RESULTS
L-Valine (Titration) (USP)	≥98.5%	99.31%
Loss on Drying (LOD) (USP)	≤0.3%	0.24%
Aerobic Plate Count	≤1000 cfu/g	<20 cfu/g
Yeast & Mold	≤100 cfu/g	<20 cfu/g
Coliforms	≤100 cfu/g	<20 cfu/g
<i>E. Coli</i>	Negative	Absent
<i>Salmonella</i>	Negative	Absent
<i>Staph aureus</i>	Negative	Absent
<i>Pseudo. aeruginosa</i>	Negative	Absent
Conclusion (PureBulk):	This product conforms to standards	

The following information is an indirect translation of information provided from the Manufacturer's Certificate of Analysis, and should not be used solely as an instrument for strict quality control.

ITEMS	SPECIFICATIONS	RESULTS
Appearance	Whitish crystals or crystal powder	Conforms
Odor	Odorless	Conforms
Taste	Taste Sweet	Conforms
Specific Rotation [α] <sub>D</sub> <sup>25</sup>	+26.6~+28.8°	27.5°
Residue on Ignition	≤0.1%	0.07%
Chloride (Cl)	≤0.05%	<0.05%
Sulfate (SO <sub>4</sub> )	≤0.03%	<0.03%
pH	5.5~7.0	5.80
Iron Salt	≤0.003%	<0.003%
Arsenic (As)	≤3 mg/kg	<3 mg/kg
Heavy Metals	≤10 mg/kg	<10 mg/kg
Conclusion (Manufacturer):	This product conforms to USP24 standards	

**Additional Information:** Non-Allergen || BSE/TSE Free || Vegan/ Vegetarian || Gluten- Free  
**Sterilization Method:** Non-EtO || Non-Irradiation  
**GMO Statement** Non-GMO  
**Storage Conditions:** **Keep in sealed container under 25°C.**  
**Keep away from strong light, heat and moisture.**

*Purebulk.Inc verifies that the information contained herein is true and correct to the best of our knowledge.*

*Verified By: Linda Heatley / Candace Gibson*

( This document was produced electronically and is valid without signature. )