

Certificate of Analysis

Product Name:	L-Cysteine HCl Anhydrous (Vegan)
CAS #:	52-89-1
Starting Material:	ATC
Country of Origin:	China
Batch Number:	Varies
Manufacture Date:	Varies
Retest Date:	Varies

Test Results Obtained by PureBulk

ITEMS	SPECIFICATIONS	RESULTS
L-Cysteine HCl (Titration USP)	98.0% - 102.0%	98.98% on dry basis
Loss on Drying (USP)	≤2%	1.17%
Identification (FT/IR USP)	Positive	Confirmed
Aerobic Plate Count	≤1000 cfu/g	<20 cfu/g
Coliforms	≤100 cfu/g	<20 cfu/g
<i>E. Coli</i>	Negative	Absent
<i>Staph aureus</i>	Negative	Absent
Yeast & Mold	≤100 cfu/g	<20 cfu/g
<i>Salmonella</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	White crystalline powder	Conforms
Specific Rotation $[\alpha]_D^{20}$	+5.6° to +8.9°	+6.9°
State of Solution (Transmittance)	Clear and colorless	99.5%
Chloride (Cl)	≥98.0%	22.42%
Ammonium (NH ₄)	22.30 to 22.60%	<0.02%
Sulfate (SO ₄)	≤0.02%	<0.020%
Iron (Fe)	≤0.020%	<10 ppm
Heavy Metals	≤10 ppm	<5 ppm
Lead (Pb)	≤5 ppm	<3 ppm
Cadmium (Cd)	≤3 ppm	<1 ppm
Mercury (Hg)	≤1 ppm	<0.1 ppm
Arsenic (As)	≤0.1 ppm	<1 ppm
Other Amino Acids	≤1 ppm	Conforms
Residue on Ignition (Sulfated)	Chromatographically Not Detectable	0.06%
Particle Size	≤0.1%	≥90% pass 100 mesh
Density	100 mesh	0.30 g/ml
pH	Bulk Density: 0.30-0.50 g/ml	0.70 g/ml
	Tapped Density: 0.70-0.90 g/ml	1.7
Conclusion (Manufacturer):	This product conforms to enterprise standards	

Additional Information: Melamine Free || Gluten-Free || No Pesticides || BSE/TSE Free ||

GRAS - Yes || Vegan || Non-Allergen

GMO Statement: Non-GMO

Sterilization: Non-Irradiation || Non-EtO

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: Candace Gibson

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