

Certificate of Analysis

Product Name: **L-Glutathione Reduced**
 CAS#: **70-18-8**
 Molecular Formula: **C₁₀H₁₇N₃O₆S**
 Molecular Weight: **307.32**
 Starting Material(s): **L-Cysteine, L-Cystine**
 Residual Solvents: **Water & Ethanol**
 Country of Origin: **China**
 Batch Number: **Varies**
 Manufacture Date: **Varies**
 Retest Date: **Varies**

Test Results Obtained by PureBulk

ITEMS	SPECIFICATIONS	RESULTS
L-Glutathione Reduced (Titration) (USP)	98-101%	100.57%
Optical Rotation (USP)	-15.5~-17.5°	-15.74°
Loss on Drying (LOD) (USP<731>)	≤0.5%	0.45%
Arsenic	≤1 ppm	0.0278 ppm
Cadmium	≤1 ppm	0.00724 ppm
Lead	≤1 ppm	<0.00500 ppm
Mercury	≤1 ppm	0.0358 ppm
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	White or almost white crystalline powder	White crystalline powder
Identification IR	Conforms to the Reference spectrum	Conforms
Appearance of Solution	Clear and Colorless	Conforms
Chlorides	≤200 ppm	Conforms
Sulfates	≤300 ppm	Conforms
Ammonium (NH ₄)	≤200 ppm	Conforms
Iron (Fe)	≤10 ppm	Conforms
Plumbum	≤3 ppm	Conforms
Sulfated Ash	≤0.1%	0.063%
Bulk Density	≥0.2 g/ml	0.3516 g/ml
Tapped Density	≥0.4 g/ml	0.5179 g/ml
Related Substances	Total: ≤2.0% GSSG: ≤1.5%	1.35% 0.66%
Conclusion (Manufacturer):	This product conforms to enterprise standards	

Additional Information: No Animal Origin || No Engineered Nanomaterials || Non-Allergen ||
 BSE/TSE Free || Gluten-Free || Glyphosate Free || GRAS || Melamine Free || Vegan

GMO Statement: Non-GMO
Sterilization: Non-Irradiated || Non-EtO
Composition: L-Glutathione Reduced 98%
 Impurities 2%

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 / Ann Foote

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