Certificate of Analysis

Product Name:	**D-Calcium Pantothenate**
Country of Origin:	**China**
Batch Number:	**16072707**
Manufacture Date:	**July 27, 2016**
Test Date:	**December 5, 2016**
Retest Date:	**July 26, 2019**

Test Results Obtained by PureBulk

ITEMS	SPECIFICATIONS	RESULTS
Calcium Pantothenate (HPLC)	98.0-102.0%	99.15% (d.b.)
Pantothenic Acid (HPLC)	Report Only	90.47% (d.b.)
Calcium (Ca)	Report Only	8.68%
Loss on Drying (LOD)	≤5.0%	2.33%
Aerobic Plate Count	<1,000 cfu/g	40 cfu/g
Yeast & Mold	<100 cfu/g	Not Detected
Coliforms	≤100 cfu/g	Not Detected
E. Coli	Negative	Absent
Salmonella	Negative	Absent
Staph aureus	Negative	Absent
Pseudo. aeruginosa	Negative	Absent
Conclusion (PureBulk):	This product conforms to USP 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 Powder	Conforms
Infrared Identification	Meets standard graph	Meets standard graph
Identification of Calcium	Meets all requirements	Meets all requirements
Specific Rotation (Dried Basis)	+25° - +27.5°	+28.3°
Alkalinity	No pink reaction within 5 seconds	Conforms
Ordinary Impurities	≤1.0%	Conforms
Residual Solvent (Methanol)	≤0.3%	0.10%
Nitrogen Content	5.7 - 6.0%	5.8%
Heavy Metals	≤0.002%	≤0.002%
Arsenic Assay	≤1.0 ppm	≤1.0 ppm
Cadmium Assay	≤1.0 ppm	≤1.0 ppm
Lead Assay	≤0.5 ppm	≤0.5 ppm
Mercury Assay	≤0.1 ppm	≤0.1 ppm
Conclusion (Manufacturer):	This products conforms to enterprise standards	

Sterilization Method:	Non-irradiated/Non EtO
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: Ann Foote / Brenda Bristow

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