

## Certificate of Analysis

Lot# 092719-03

Description: Glucosamine HCl Powder

Lot: 513Y1907014

Ship Date: 09/24/2019

Customer PO: 42144

Customer Item: 81700149

General Properties	Specification	Test Method	Result ‡
Appearance	White free flowing powder	Visual	Complies
Bulk density loose (gm/cc)	>= 0.60 <= 0.90	Loose fill	0.76
Particle size thru # 20 (%)	>= 95	Rotap 5 minutes	Complies

**Analytical**

Assay Glucosamine HCl (% Dry Basis)	>= 98.0 <= 102.0	USP curr. edit.	99.5
Assay Glucosamine (% Dry Basis)	>= 82	By calculation	83
Identification A	Meets the requirements	USP curr. edit.	Complies
Identification B	Meets the requirements	USP curr. edit.	Complies
Identification C	Meets the requirements	USP curr. edit.	Complies
Loss on drying (%)	<= 1.0	USP curr. edit.	0.1
pH	>= 3.0 <= 5.0	USP curr. edit.	4.4
Specific rotation (deg)	>= +70.0 <= +73.0	USP curr. edit.	+72.4
ROI (%)	<= 0.1	USP curr. edit.	0.1
Sulfate (%)	<= 0.24	USP curr. edit.	Complies
Lead (ppm)	<= 0.5	ICP-MS	< 0.5
Arsenic (ppm)	<= 1.5	ICP-MS	< 0.5
Cadmium (ppm)	<= 0.5	ICP-MS	< 0.5
Mercury (ppm)	<= 0.2	ICP-MS	< 0.1

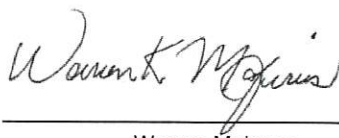
**Microbiological**

APC (CFU/gm)	<= 1000	USP curr. edit.	Complies
Yeast/mold (CFU/gm)	<= 100	USP curr. edit.	Complies
E. coli (10 gm)	Negative	USP curr. edit.	Complies
Salmonella (10 gm)	Negative	USP curr. edit.	Complies

**Additional Information**

Manufacture date 07/04/2019  
Expiration date 07/03/2022  
Storage condition Cool dry place sealed in light resistant container  
Manufactured by Yangzhou Rixing Biotech Co Ltd  
Country of origin China

Approved By:



Warren Majerus  
VP of Quality Assurance

Date: 09/25/2019

‡ Test results based on information supplied by the manufacturer, unless otherwise noted.

\*\* Based on results from Pharmore's sampling plan.

The information contained in this certificate of analysis is believed to be accurate and is offered in good faith. Pharmore ingredients, however, cannot guarantee against natural product variations, patent infringement, liabilities or risk involved from the use of this product. Customer assumes all liability with the use of this product.

Sales Order: SO26186

Received Date: 10/16/2019

Report Date: 10/22/2019



## Advanced Botanical Consulting & Testing Inc.

1169 Warner Ave, Tustin, CA 92780, Phone:(714)259-0384 Fax: (714)259-0385

Sample Name: Glucosamine HCl

Item#

Lot# 81700149/092719-03

Lab# 280351

PO# 101419-02/CTV

Analysis:	Method:	Result:	Spec:
Arsenic (As)	ICP/MS	0.001 ppm	< 1.5 ppm
Cadmium (Cd)	ICP/MS	0.003 ppm	< 0.5 ppm
Mercury (Hg)	ICP/MS	0.014 ppm	< 0.2 ppm
Lead (Pb)	ICP/MS	0.021 ppm	< 0.5 ppm
Glucosamine HCl (HPLC)	AOAC	99.33 %(d.b.)	90-102 % dry basis
Loss on Drying (LOD)	USP<731>	0.28%	N/A

Analyzed by:

Chemist

Approved by:

Wendi Wang, PhD, President



Cannabis Analytical  
Science Program



**Advanced Botanical Consulting &  
Testing, Inc.**

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Client Sample ID: Glucosamine HCl

Lot#: 81700149/092719-03  
Lab#: 280351

Received Date: 10/16/2019

Report Date: 10/22/2019

Analyses	Results	Specifications	Method
Total Plate Count	< 10 CFU/g	< 1,000 CFU/g	USP <2021>
Yeast	< 10 CFU/g	< 100 CFU/g	USP <2021>
Mold	< 10 CFU/g	< 100 CFU/g	USP <2021>
<i>E. coli</i>	Negative/10g	Negative/10g	USP <2022>
<i>Salmonella</i>	Negative/10g	Negative/10g	USP <2022>

Analyzed by: \_\_\_\_\_

Microbiologist

Approved by: \_\_\_\_\_

Vivian Truong, Supervisor

# KML Laboratories, Inc.



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## Certificate of Analysis



Invoice Number: 19.1562  
PO Number:  
Received Date: 10/2/2019  
Number of Samples: 03  
Project Name: Routine Testing

### Microbiology Report:

Lab #: 19-10049	Sample Lot: 092719-03	Sample Date: 9/27/2019
Sample Name: Glucosamine HCL Powder	Additional ID:	Plated Date: 10/02/19
Qualifying Material Number: No QM		

Test Performed	Results	Units	Detection Limit	Method	Date Analyzed
Coliforms	nd	cfu/g	10	Bam C4 sec G	10/03/19
<i>E. coli</i>	absent	P/A	1	USP 42-NF 37 <2022>	10/05/19
Salmonella	absent	P/A	1	USP 42-NF 37 <2022>	10/06/19

Approved By: QA Director SMV 10/07/19



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Note: On this date, this material met the specifications designated above, and is not known if statistically representative of the lot evaluated on a routine basis. This information is not intended to relieve the purchaser from its responsibility to determine the suitability of this material for purchaser's purposes, to comply with all laws and regulations regarding the safe use of this material. nd = none detected above the listed detection limit

