

LOT# 060718-01



# Certificate Of Analysis

\*\*Do Not Feed to Cattle or other Ruminants\*\*

<b>Customer:</b> [REDACTED]	<b>Customer Item #:</b> 81700096
<b>Customer PO #:</b> 40282 Ln 2	<b>Ship Date:</b> 6/4/2018
<b>Description:</b> Glucosamine Sulfate 2KCl LL	<b>Lot #:</b> 509K1804060

	<u>Standard</u>	<u>Result *</u>
<b><u>Physical Properties</u></b>		
Appearance	White free flowing powder	Complies
Bulk Density Loose (gm/cc)	>= 0.70 <= 0.95	0.77
Particle size thru # 30 (%)	= 100	100
<b><u>Analytical</u></b>		
Assay (Glucosamine Sulfate 2KCl, Dry Basis, %)	>= 98.0 <= 102.0	99.7
Assay (Glucosamine, Dry Basis, %)	>= 58.0	59.4
Identification A	Meets the requirements	Complies
Identification B	Meets the requirements	Complies
Identification C	Meets the requirements	Complies
Identification D	Meets the requirements	Complies
Loss on drying (%)	<= 1.0	0.1
pH	>= 3.0 <= 5.0	4.5
Specific rotation (deg)	>= +47.0 <= +53.0	+51.7
ROI (%)	>= 26.5 <= 31.0	28.1
Sodium Sulfate (%)	Meets the requirements	Complies
Lead (ppm)	>= 15.5 <= 16.5	16.1
Arsenic (ppm)	<= 0.25	<0.25
Cadmium (ppm)	<= 1	<1
Mercury (ppm)	<= 0.5	<0.5
	<= 0.2	<0.2
<b><u>Microbiological</u></b>		
APC (CFU/gm)	<= 1000	80
Yeast/mold (CFU/gm)	<= 100	20
E. coli (CFU/gm)	Negative	Complies
Salmonella (25 gm)	Negative	Complies
<b><u>Storage Conditions</u></b>		
Manufacture date		April 21, 2018
Expiration date		April 21, 2021
Storage		Cool dry place sealed in light resistant container
Manufactured by		Plant # 509
Country of origin		China
Revision #		Rev 6 7/20/2016



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Standard

Result \*

Approved By:

Date: 6/4/2018

Warren K. Majerus  
VP Quality Assurance

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

\*\* Based on third party testing lab results.

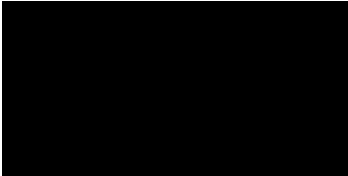
\*\*\* Based on results from Pharmore's sampling protocol.

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



# Advanced Botanical Consulting & Testing, Inc.

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ATTN:   
PO#: 101018-01/RG

Client Sample ID: Glucosamine Sulfate  
Lot#: 81700096  
Lab Number: 244390

Received Date: 10/11/2018

Report Date: 10/18/2018

## Analyses

## Results

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Glucosamine Sulfate 2 KCl (HPLC)	100.84 % (d.b.)
Loss on drying (LOD)	0.34%

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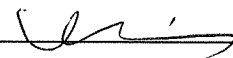
Method: AOAC, USP<731>

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



Chemist

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



Wendi Wang, PhD, President