Title: N-Acetyl Glucosamine (NAG), 90 Capsules

Certificate of Analysis

<table>
<thead>
<tr>
<th>Part Number</th>
<th>71140</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lot Number</td>
<td>4820</td>
</tr>
<tr>
<td>Product Count &amp; Form</td>
<td>90 Vegetarian Capsules</td>
</tr>
<tr>
<td>Packaging, Closure</td>
<td>175 cc bottle, desiccant, rayon/cotton</td>
</tr>
<tr>
<td>Storage Condition</td>
<td>Room Temperature</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>36 months</td>
</tr>
<tr>
<td>Label Number, Size</td>
<td>71140L, C</td>
</tr>
<tr>
<td>Retain Sample</td>
<td>2 bottles per label (4 bottles total)</td>
</tr>
</tbody>
</table>

**ANALYSIS**

**Physical**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Method / SOP</th>
<th>Specification</th>
<th>Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Color &amp; Size</td>
<td>SOP 515</td>
<td>White, clear size “0”</td>
<td>Complies</td>
</tr>
<tr>
<td>Product Weight</td>
<td>SOP 514</td>
<td>Meets USP &lt;2091&gt; 560 - 750 mg</td>
<td>Passes, 658 mg</td>
</tr>
<tr>
<td>Disintegration Time</td>
<td>SOP 522</td>
<td>Meet USP &lt;2040&gt;</td>
<td>Passes, 15:20 mins</td>
</tr>
</tbody>
</table>

**Purity/Strength per Capsule**

<table>
<thead>
<tr>
<th>Active Ingredients</th>
<th>Label Claim</th>
<th>Release Limits</th>
<th>Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Acetyl-D-Glucosamine</td>
<td>500 mg</td>
<td>100-150% LC by HPLC</td>
<td>508mg</td>
</tr>
</tbody>
</table>

**Other Ingredients**

Hydroxypropyl methylcellulose, L-Leucine, Microcrystalline Cellulose

*Production and Process Control

**Identification \ Chemical \ Heavy Metals**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Method / SOP</th>
<th>Specification</th>
<th>Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity</td>
<td>Bulk Certificate of Analysis Review</td>
<td>Approved</td>
<td>Approved</td>
</tr>
<tr>
<td>Identity</td>
<td>Near Infrared Spectroscopy</td>
<td>Matches Reference</td>
<td>Matches Reference</td>
</tr>
<tr>
<td>Arsenic (inorganic)</td>
<td>ICP-MS per USP &lt;2232&gt;</td>
<td>≤ 15 mcg/day Ψ</td>
<td>BQL</td>
</tr>
<tr>
<td>Cadmium</td>
<td>ICP-MS per USP &lt;2232&gt;</td>
<td>≤ 5 mcg/day Ψ</td>
<td>BQL</td>
</tr>
<tr>
<td>Mercury (total)</td>
<td>ICP-MS per USP &lt;2232&gt;</td>
<td>≤ 15 mcg/day Ψ</td>
<td>BQL</td>
</tr>
<tr>
<td>Lead</td>
<td>ICP-MS per USP &lt;2232&gt;</td>
<td>≤ 10 mcg/day Ψ</td>
<td>BQL</td>
</tr>
</tbody>
</table>

φ - Complies with California Proposition 65 Limits, Ψ - Permitted Daily Exposure, *Production and Process Control,  BQL- Below Quantitative Level
Microbiology

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Method / SOP</th>
<th>Specification</th>
<th>Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Aerobic Count</td>
<td>USP/ AOAC/ FDA BAM</td>
<td>$\leq 1 \times 10^1$ CFU/g</td>
<td>$&lt;10$ CFU/g</td>
</tr>
<tr>
<td>Total Yeast &amp; Mold</td>
<td>USP/ AOAC/ FDA BAM</td>
<td>$\leq 1 \times 10^2$ CFU/g</td>
<td>$&lt;10$ CFU/g</td>
</tr>
<tr>
<td>Coliform</td>
<td>USP/ AOAC/ FDA BAM</td>
<td>$\leq 1 \times 10^2$ CFU/g</td>
<td>$&lt;10$ CFU/g</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>USP/ AOAC/ FDA BAM</td>
<td>None Detected</td>
<td>None Detected</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>USP/ AOAC/ FDA BAM</td>
<td>None Detected</td>
<td>None Detected</td>
</tr>
<tr>
<td>Salmonella</td>
<td>USP/ AOAC/ FDA BAM</td>
<td>None Detected</td>
<td>None Detected</td>
</tr>
</tbody>
</table>

* Production and Process Control

Approval: [Signature] Date: 06/28/19
Micro Quality Labs, Inc.
Specializing in Pharmaceutical, Dietary Supplements, Toys and Cosmetics Testing
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(818) 845-0070 • Fax: (818) 845-0030
E-Mail: Karine@MicroQualityLabs.com

Customer: Allergy Research Group, LLC
Address: 2300 North Loop Road
Alameda, CA 94502

ANALYTICAL/ CHEMICAL CERTIFICATE OF ANALYSIS

Sample Name: N-ACETYLB-GLUCOSAMINE
Product Code: 41140
Batch/Lot: 90620
MQL Accession: 190618-0129

PO#: MH06142019
Sample Description: BULK
Rush: 2-3 business days
Received Date: 06/18/19

<table>
<thead>
<tr>
<th>Test Requested:</th>
<th>Test Method:</th>
<th>Specification:</th>
<th>Results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Acetyl-D-Glucosamine</td>
<td>MQLTM-0236</td>
<td>500 mg/cap</td>
<td>508 mg/cap</td>
</tr>
<tr>
<td></td>
<td>By HPLC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prepared By: Kendra Hensley/Document Control Specialist
Reviewed By: Raffie Avakian/Quality Assurance Reviewer

JUN 26 2019
06/26/19

The aforementioned results on this report are representative of the samples submitted and may not be indicative of the entire manufacture, batch, and/or lot. Applicable current GMP’s shall always be used when sampling. GLP’s shall always be practiced by Micro Quality Labs to ensure the most accurate results.

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Form# 03B.4 Analytical / Chemical Certificate of Analysis, Revised 07-05-2016 DCR2016-0063
### CSL#: 19F1177  
**N-Acetyl Glucosamine - Lot#: 41140/90620**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Result</th>
<th>PQL</th>
<th>Method</th>
<th>Date</th>
<th>Analyst</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>&lt;0.050 ug/g</td>
<td>0.050</td>
<td>ICP MS</td>
<td>06/21/19</td>
<td>ARB</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt;0.050 ug/g</td>
<td>0.050</td>
<td>ICP MS</td>
<td>06/21/19</td>
<td>ARB</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt;0.050 ug/g</td>
<td>0.050</td>
<td>ICP MS</td>
<td>06/18/19</td>
<td>JTP</td>
</tr>
<tr>
<td>Mercury</td>
<td>&lt;0.050 ug/g</td>
<td>0.050</td>
<td>ICP MS</td>
<td>06/21/19</td>
<td>ARB</td>
</tr>
</tbody>
</table>

### CSL#: 19F1177

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Result</th>
<th>Serving Size</th>
<th>Unit Weight</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>&lt;0.05 ug/g</td>
<td>1 Capsule</td>
<td>0.66 g</td>
<td>&lt;0.50 ug/g</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt;0.05 ug/g</td>
<td>1 Capsule</td>
<td>0.66 g</td>
<td>&lt;0.50 ug/g</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt;0.05 ug/g</td>
<td>1 Capsule</td>
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</tr>
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<td>&lt;0.50 ug/g</td>
</tr>
</tbody>
</table>

Respectfully Submitted,  
Chemical Solutions, Ltd.

QA Representative

Notes:  
CONFIDENTIAL REPORT. This report is confidential and is for the sole use of the addressee.  
This report can only be reproduced in full.  
The units for the PQL are the same as those shown for the result.