



Handwritten signature of Cesar Caetano, President & CEO, with a circular stamp reading 'Summit Nutritionals International, Inc. Manufacturing of Nutraceuticals & Pharmaceuticals from Marine'.

Certificate of Analysis

Chondroitin Sulfate Sodium, Shark

Lot #: SN-SC-042513

Date of Manufacturing:	April 25, 2013
Expiration / re-test date:	April 25, 2016
Molecular Formula:	(C ₁₄ H ₂₁ NO ₁₄ S) _n
Molecular Weight in Daltons:	16,000
Grade:	USP Food/Nutraceutical
Lot Size:	5500/kg
Country of Origin:	USA

Description

Appearance:	Powder
Particle Size:	100% thru 80 Mesh
Solubility:	H ₂ O

Analytical:

Color:
Odor:
Texture:
Taste:
pH:
Protein: (anhydrous basis)
Fat:
Moisture:
Crude Fat/Oil:
Sodium:
Sulfur:
Bulk Density - Tapped:
Bulk Density - Un-tapped:

Specification

White
Deodorized
Powder
Characteristic
5.5 to 7.5
<1%
<0.2%
<7%
<2%
<4%
5.5 - 7.5%
0.65 ~ 0.70 g/ml
0.55 ~ 0.60 g/ml

Results

Confirms
Confirms
Confirms
Confirms
6.15
0.5%
0.1%
6.1%
1.2%
3.1%
5.8%
0.70 g/ml
0.59 g/ml

Chondroitin Sulfate by Atlas Bioscience, AZ*

Chondroitin Sulfate: (By CPC Titration)
Loss on Drying:
Sulfate:
Chloride:

Specification

>90%
<10%
<0.24%
<0.50%

Results

90.94%
3.96%
0.16%
0.21%

Chondroitin Sulfate by BioCeuticals, MT*

Chondroitin Sulfate: (By HPLC Schuster)

Specification

>90%

Results

91.01%

Chondroitin Sulfate by Sani Pure Food Laboratories, NJ*

Chondroitin Sulfate: (By CPC Titration)
Loss on Drying:
Specific Rotation:
Residue on Ignition:
Species: (Tepnel Species ELISA)

Specification

>90%
<10%
-12° ~ 19°
20.0% ~ 30.0%
Shark Cartilage

Results

90.26%
2.58%
-18.04°
28.61%
Shark Cartilage

Heavy Metals:

Lead:
Cadmium:
Arsenic
Mercury:

Specification

<0.5 ppm
<1 ppm
<1 ppm
<0.01 ppm

Results

0.3 ppm
0.61 ppm
0.66 ppm
Conforms

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Lot #: SN-SC-042513

<u>Microbiological Standards:</u>	<u>Specification</u>	<u>Results</u>
Total Plate Count	<1000 cfu/g	Conforms
Yeast:	Negative	Negative
Mold	Negative	Negative
E.Coli:	Negative	Negative
Salmonella:	Negative	Negative
Staphylococci:	Negative	Negative
<u>Organic Volatile Impurities:</u>	<10 ppm	Conforms

This product conforms to California's Proposition 65, which regulates toxic substances

The Parameters specified on this Certificate of Analysis were tested according to USP Methodology

* The within results have been obtained through testing conducted by Advanced Laboratories ("Advanced") Atlas Bioscience Laboratories ("Atlas"), BioCeuticals Research & Development Analytical Laboratory ("BioCeuticals") & Sani Pure Food Laboratories ("Sani-Pure"). The information contained herein is intended for informational purposes only and Summit specifically disclaims any reliance upon same by the customer and/or any end user of the materials referenced herein. Summit Nutritionals International Inc. ("Summit") does not intend, or contemplate that the customer, or any end user, rely upon the accuracy of the information contained herein. The material referenced herein is sold in "as-is" condition, and any purchaser and/or end user foregoes testing upon the within material at its own peril. In turn, no guarantee or warranty, either express or implied, is provided hereunder, or with respect to any of the information, testing methods, or conditions under which said testing was conducted. Rather, for any such guaranty, Summit recommends contacting any of the above mentioned laboratories directly. As a result of the foregoing, please be advised that Summit shall not entertain any claims for any damages resulting from non-conformity of said material in the event same is reported subsequent to the thirty (30) day time period prescribed by Summit within which to do so or in the event that such materials are no longer in their raw material form. Please be guided accordingly.

Store at room temperature (40 °+ - 2°, Celsius Degrees), Humidity at 70 +-5%, protect from light

Caesar DaPaço, Ph.D.
President & CEO
Summit Nutritionals International Inc.
Manufacturers of Nutritional & Nutraceuticals
Flav. Materials

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