

Title: <b>Full Spectrum Vitamin K</b>	
Allergy Research Group* / NutriCology*	
Document No.: 75390CA	Revision: 008

### Certificate of Analysis

<b>Part Number</b>	75390		
<b>Lot Number</b>	750165		
<b>Product Count &amp; Form</b>	90 Softgels		
<b>Packaging, Closure</b>	120 cc bottle, desiccant		
<b>Storage Condition</b>	Room Temperature		
<b>Shelf Life</b>	24 months	Expiration Date	03/2022
<b>Label Number, Size</b>	75390L, D		
<b>Retain Sample</b>	1 bottle per label (2 bottles total)		

#### ANALYSIS

##### Physical

Attribute	Method / SOP	Specification	Test Result
Product Color, Size	SOP 515	Opaque brown, med. yellow fill, oval size 10, S2	Complies
Product Weight Variation	SOP 514	Meets USP <2091> 360 - 440 mg	410.8 mg
Disintegration time	SOP522	Meets USP <2040>	Pass, 3 mins

##### Purity / Strength per Softgel

Ingredients	Label Claim	Specification	Test Result
Vitamin K1 (as Phytonadione)	1 mg	100-150% LC by HPLC	100-150% LC by HPLC*
Vitamin K2 (as MK-4)	3 mg	100-150% LC by HPLC	100-150% LC by HPLC*
Vitamin K2 (as MK-7)	50 mcg	100-150% LC by HPLC	100-150% LC by HPLC*
Vitamin C (as Ascorbyl Palmitate)	25 mg	100-150% LC by titration	25.02 mg/softgel
Delta Gold 50 Tocotrienols Conc.	5 mg	100-150% LC by HPLC	100-150% LC by HPLC*
Vitamin D (from Cod Liver Oil and Fish Liver Oil)	400 IU	100-150% LC by HPLC	470.2 mg/softgel
Vitamin A (from Cod Liver Oil)	200 IU	100-150% LC by HPLC	100-150% LC by HPLC*
<b>Other Ingredients</b>			
Sunflower Oil, Gelatin, Glycerin, Purified Water, Yellow Beeswax, Carob Extract, Lecithin (Soy), Zinc Oxide			

\* Production and Process Control

##### Identification \ Chemical \ Heavy Metals

Attribute	Method / SOP	Specification	Test Result
Identity	Bulk Certificate of Analysis Review	Approved	Approved
Identity	Near Infrared Spectroscopy	Matches Reference	Matches Reference
Arsenic (inorganic)	ICP-MS per USP <2232>	≤ 15 mcg/day Ψ	0.004 mcg/day
Cadmium	ICP-MS per USP <2232>	≤ 5 mcg/day Ψ	BQL
Mercury (total)	ICP-MS per USP <2232>	≤ 15 mcg/day Ψ	BQL
Lead	ICP-MS per USP <2232>	≤ 10 mcg/day Ψ	0.012 mcg/day



Ψ – Permitted Daily Exposure, \* Production and Process Control

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**Microbiology**

Attribute	Method / SOP	Specification	Test Result
Total Aerobic Count	USP/ AOAC/ FDA BAM	$\leq 1 \times 10^4$ CFU/g	6800 CFU/g
Total Yeast & Mold	USP/ AOAC/ FDA BAM	$\leq 1 \times 10^3$ CFU/g	< 10 CFU/g
Coliform	USP/ AOAC/ FDA BAM	$\leq 1 \times 10^2$ CFU/g	< 10 CFU/g
Escherichi coli	USP/ AOAC/ FDA BAM	None Detected	None Detected
Staphylcoccus aureus	USP/ AOAC/ FDA BAM	None Detected	None Detected
Salmonella	USP/ AOAC/ FDA BAM	None Detected	None Detected

\* Production and Process Control

Approval: 	 Digitally signed by Kimberly Vennebush Date: 2020.06.24 15:53:29 -06'00'	Date: 24JUN2020
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If you liked our service, please tell a friend. If you didn't, please tell us!

## Test Certificate

Description: Full Spectrum Vitamin K  
Sample ID: 45390  
Lot No: E00750165  
Location:  
Received: 4/15/2020  
Completed: 4/21/2020Client: Allergy Research Group  
2300 S Main St  
Salt Lake City, UT 84115

Lab No: 193706-01

<b>Analysis</b>	<b>Result</b>	<b>Per Unit</b>	<b>Specifications</b>	<b>Method</b>
Total Aerobic Microbial Count	6,800	CFU/g	<= 10,000 CFU/g	USP <2021>
Coliform	<10	CFU/g	<= 100 CFU/g	AOAC 991.14
E.Coli	Absent	per 10 grams	Absent	USP <2022>
Staphylococcus aureus	Absent	per 10 grams	Absent	USP <2022>
Salmonella	Absent	per 10 grams	Absent	USP <2022>
Total Yeast & Mold	<10	CFU/g	<= 1,000 CFU/g	USP <2021>
Yeast *	<10	CFU/g	<= 1,000 CFU/g	USP <2021>
Mold *	<10	CFU/g	<= 1,000 CFU/g	USP <2021>

\* For informational purposes only.

**THESE RESULTS APPLY ONLY TO THE SAMPLE SUBMITTED AND NOT TO THE PRODUCT FROM WHICH IT WAS TAKEN. THESE RESULTS ARE PROVIDED ONLY FOR THE BENEFIT OF CLIENT, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT FOR THE EXPRESS LIMITED WARRANTY PROVIDED SOLELY TO CLIENT IN ADVANCED LABORATORIES' TERMS OF SERVICE.**

**THIS CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL FROM ADVANCED LABORATORIES.**

Results Approved By:

  
Kristina Noll - Quality Technician

Dated:

4/21/2020

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## Test Certificate

Description: Full Spectrum Vitamin K  
Sample ID: 45390  
Lot No: E00750165  
Location:  
Received: 4/15/2020  
Completed: 4/22/2020

Client: Allergy Research Group  
2300 S Main St  
Salt Lake City, UT 84115

Lab No: 193707-01

Analysis	Result	Per Unit	Specifications	Method
Mercury	< 0.001	µg/g	< 0.5 µg/g	ICP-MS USP <730>
Lead	0.015	µg/g	< 0.5 µg/g	ICP-MS USP <730>
Arsenic	0.005	µg/g	< 0.5 µg/g	ICP-MS USP <730>
Cadmium	< 0.001	µg/g	< 0.5 µg/g	ICP-MS USP <730>
† Ascorbyl Palmitate	25.02	mg/softgel	> 25 mg/softgel	HPLC
† Vitamin D3 (Cholecalciferol)	470.2	IU/softgel	> 400 IU/softgel	HPLC

Analysis performed on a composite sample made from ten softgels.

Average fill weight = 412.6 mg

Ascorbyl Palmitate anion analysis performed using HPLC by method adapted from Castro RN, Azeredo LC, Azeredo MAA, de Sampaio CST, "HPLC Assay for the Determination of Ascorbic Acid in Honey Samples," as published in Journal Of Liquid Chromatography & Related Technologies 24 (7): 1015-1020 2001; utilizing a C-18-ODS column with an isocratic mobile phase consisting of a mixture of 15% methanol and 85% water, adjusted to pH 2.5 with metaphosphoric acid, at a flow rate of 0.9 mL/min. detection performed by scanning PDA (200-400nm) with signal extraction at 254 nm for quantification.

Vitamin D3 (Cholecalciferol) analysis performed using HPLC by method adapted from Wang, L.H., Huang, S.H., ""Determination of vitamins A, D, E, and K in Human and Bovine Serum, and Beta-Carotene and Vitamin A Palmitate in Cosmetic and Pharmaceutical Products, by Isocratic HPLC,"" as published in Chromatographia, 55(5-6): 289-296, 2002; utilizing a Hypersil C-18 column (25 cm x 4.6 mm), with detection performed by scanning PDA (200-400nm) with signal extraction at 254nm for quantification. Authentic chemical reference material obtained from Sigma-Aldrich

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Results Approved By:

  
Kristina Noll - Quality Technician

Dated:

4/22/2020

Tests marked with † were done at Atlas Bioscience Labs, LLC, a joint venture with Advanced Laboratories. -  
1775 S. Pantano Rd - Ste #110, Tucson, AZ 85710

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