

Title: <b>PhytoArtemisinin, 90 Vegetarian Capsules</b>	
Allergy Research Group* / NutriCology*	
Document No.: 74990CA	Revision: 008

## Certificate of Analysis

<b>Part Number</b>	74990		
<b>Lot Number</b>	80438		
<b>Product Count &amp; Form</b>	90 Vegetarian Capsules		
<b>Packaging, Closure</b>	225 cc bottle, desiccant, rayon		
<b>Storage Condition</b>	Room Temperature		
<b>Shelf Life</b>	36 months	Expiration Date	04/21
<b>Label Number, Size</b>	74990L, D		
<b>Retain sample</b>	2 bottles per label (4 bottles total)		

### ANALYSIS

#### Physical

Attribute	Method / SOP	Specification	Test Result
Product Color & Size	SOP 515	Brown, clear size "00"	Complies
Product Weight Variation	SOP 514	Meets USP <2091> 530 – 700 mg	Pass, 601 mg
Disintegration Time	SOP 522	Meets USP <2040>	Pass, 17:50 mins.

#### Purity / Strength per Capsule

Active Ingredients	Label Claim	Specification	Test Result
Gleditsia sinensis Extract (30% saponins)	350 mg	100 - 150% LC by input	100 - 150% LC by input*
Artemisinin (Qinghaosu)	100 mg	100 - 150% LC By HPLC	111.73 mg
<b>Other Ingredients</b>			
Hydroxypropyl methylcellulose, L-leucine			

\*Process and Production Control

#### Identification \ Chemical \ Heavy Metals

Attribute	Method / SOP	Specification	Test Result
Identity	Bulk Certificate of Analysis Review	Approved	Complies
Identity	Near Infrared Spectrometry	Matches Reference	Complies
Arsenic (inorganic)	ICP-MS per USP <2232>	≤ 15 mcg/dayΨ	0.189 mcg/day φ
Cadmium	ICP-MS per USP <2232>	≤ 5 mcg/dayΨ	0.684 mcg/day φ
Mercury (total)	ICP-MS per USP <2232>	≤ 15 mcg/dayΨ	BQL φ
Lead	ICP-MS per USP <2232>	≤ 10 mcg/dayΨ	0.732 mcg/day

\* BQL - Below Quantitation Limit, Ψ – Permitted Daily Exposure, φ - Complies with California Proposition 65 Limits, \* 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	10 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
Escherichia coli	USP/ AOAC/ FDA BAM	None Detected	Negative
Staphylococcus aureus	USP/ AOAC/ FDA BAM	None Detected	Negative
Salmonella	USP/ AOAC/ FDA BAM	None Detected	Negative

\* Production and Process Control

Approval: 	Date: 05/09/18
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# Adamson Analytical Laboratories, Inc.

220 Crouse Dr. Corona, CA 92879 Phone#951-549-9657 Fax#951-549-9659  
Analytical Services, Method Development and Formulation Support  
Serving Pharmaceutical, Food, and Cosmetics Industries

Contact Person: Tuyen Luong  
Company: Allergy Research Group  
Address: 2300 North Loop Road  
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Coa Date: 4/30/2018  
Date Rec: 4/24/2018  
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## Certificate of Analysis

Sample Name: PhytoArtemisinin  
Lot Number: 449990/80438  
AAL No: M1804240011  
Sample Description: Brown capsules p. bottle FINISHED  
Rush: 0 Rush Terms:  
PO: 04202018JV

System Suitability: 1.588%  
Sample RSD: 0.487%  
Equipment Calibration: J1 7/17

### ANALYSIS

Artemisinin(100mg/cap)

### RESULTS

111.73mg/cap

### Method No.

JPBA 56

### Method

HPLC

Approved By:

Peter VanCouvering  
General Manager



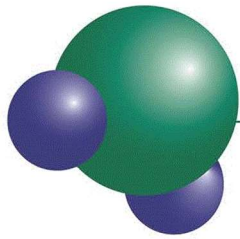
Adamson Analytical Laboratories, Inc.  
FDA REGISTRATION #203073-0

Test results are applicable only to the samples being tested within the limits of the testing procedures identified and are not necessarily indicative of the characteristics of any other samples from the same or other lots. Adamson Analytical Laboratories, Inc. shall not be liable under any circumstances for any amount in excess of the cost of the test performed.

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## Analytical Report

April 27, 2018

Tuyen Luong  
Allergy Research Group/NutriCology  
2300 North Loop Road  
Alameda, CA 94502

Page 1 of 1  
WO Number: W18D0881

Client: Allergy Research Group-QC  
Client #: A5537-T  
Sample Type: Capsule  
Collector: Client

Customer PO:  
Date Received: 4/23/2018  
Date Completed: 04/27/2018  
Discard Date: 05/11/2018

**CSL#: 18D2013      PhytoArtemisinin - Lot#: 44990 / 80438**

Parameter	Result	PQL	Method	Date	Analyst
Arsenic	0.082 ug/g	0.050	ICP MS	04/25/18	JTP
Cadmium	0.29 ug/g	0.050	ICP MS	04/25/18	JTP
Lead	0.31 ug/g	0.050	ICP MS	04/24/18	HG
Mercury	<0.050 ug/g	0.050	ICP MS	04/25/18	JTP

**CSL#: 18D2013**

Parameter	Result	Serving Size	Unit Weight	Specification
Arsenic	0.08 ug/g	1 Capsule	0.59 g	<0.50 ug/g
Cadmium	0.29 ug/g	1 Capsule	0.59 g	<0.50 ug/g
Lead	0.31 ug/g	1 Capsule	0.59 g	<0.50 ug/g
Mercury	<0.05 ug/g	1 Capsule	0.59 g	<0.50 ug/g

Respectfully Submitted,  
Chemical Solutions, Ltd.

QA Representative

Notes:

CONFIDENTIAL REPORT. This report is confidential and is for the sole use of the addressee.  
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The units for the PQL are the same as those shown for the result.



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### Certificate of Analysis

**Project Description:** Product Testing (PO # MH04202018)  
**Report Issued To:** Allergy Research Group  
2300 North Loop  
Alameda, CA 94501  
**Contact:** Janice Vu

**AEMTEK #:** 18041087

**Sampling Date:** 2018-04-20  
**Sample Received:** 2018-04-23  
**Analysis Started:** 2018-04-23  
**Analysis Performed By:** VT, WY  
**Report Issue Date:** 2018-04-26

Sample ID	Analyte	Aerobic Plate Count	Total Coliforms	Yeast	Mold	Escherichia coli	Salmonella	Staphylococcus aureus
6	PhytoArtemisinin	AOAC OMA 990.12 CFU/g 10	AOAC OMA 991.14 CFU/g 10	AOAC OMA 2014.05 CFU/g 10	AOAC OMA 2014.05 CFU/g 10	USP 37 <62> (mod.) per 10g P/A	USP 37 <62> (mod.) per 10g P/A	USP 37 <62> (mod.) per 10g P/A
<b>RESULTS</b>								
		10	<10	<10	<10	ND	ND	ND

**Terminology:**  
 CFU = Colony Forming Units  
 < Indicates less than the reporting limit as noted  
 ND = Not Detected, negative, absent. Sensitivity is about 1 organism per test portion.  
 BAM = FDA Bacteriological Analytical Manual  
 AOAC OMA = Official Methods of Analysis of the AOAC International, 18th ed.

MPN = Most Probable Number  
 P/A = Presence/Absence  
 CP Staph = Coagulase Positive Staphylococci (Staphylococcus aureus)  
 CMMEF = Compendium of Methods for the Microbiological Examination of Foods, 4th ed.  
 AOAC RI = AOAC Research Institute Performance Tested.

*W*  
04/26/18