

Title: Free Aminos	
Allergy Research Group® / NutriCology®	
Document No.: 70540CA	Revision: 009

Certificate of Analysis

Part Number	70540		
Lot Number	90110		
Product Count & Form	100 Vegetarian Capsules		
Packaging, Closure	225 cc bottle, desiccant, rayon/cotton		
Storage Condition	Room Temperature		
Shelf Life	36 months	Expiration Date	01/22
Label Number, Size	70540L, D		
Retain Sample	1 bottle per label (2 bottles total)		

ANALYSIS

Physical

Attribute	Method / SOP	Specification	Test Result
Product Color, Size	SOP 515	White, clear size "00"	Complies
Weight Variation	SOP 514	Meets USP <2091> 750 – 950 mg	Passes, 849 mg
Disintegration Time	SOP 522	Meets USP <2040>	Passes, 16:50 mins.

Purity/Strength per Capsule

Active Ingredients	Label Claim	Release Limits	Test Result
5HTP (5-L-Hydroxytryptophan)	10 mg	100-150% LC by HPLC	100-150% LC by HPLC*
L-Alanine	41 mg	100-150% LC by HPLC	51 mg
L-Arginine	62 mg	100-150% LC by HPLC	100-150% LC by HPLC*
L-Cysteine HCl	14 mg	100-150% LC by HPLC	11.2 mg†
L-Cystine	62 mg	100-150% LC by HPLC	100-150% LC by HPLC*
L-Glutamine	28 mg	100-150% LC by HPLC	36 mg
L-Glycine	28 mg	100-150% LC by HPLC	30 mg
L-Histidine HCl	49 mg	100-150% LC by HPLC	40 mg†
L-Isoleucine	69 mg	100-150% LC by HPLC	62 mg†
L-Leucine	69 mg	100-150% LC by HPLC	68 mg†
L-Lysine HCl	98 mg	100-150% LC by HPLC	78 mg†

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L-Methionine	14 mg	100-150% LC by HPLC	13 mg†
L-Phenylalanine	7.5 mg	100-150% LC by HPLC	9 mg
L-Serine	14 mg	100-150% LC by HPLC	13 mg†
Taurine	14 mg	100-150% LC by HPLC	17 mg
L-Threonine	56 mg	100-150% LC by HPLC	61 mg
L-Tyrosine	28 mg	100-150% LC by HPLC	27 mg†
L-Valine	28 mg	100-150% LC by HPLC	32 mg
Other Ingredients			
Hydroxypropyl methylcellulose, Microcrystalline Cellulose			

*Production and Process Control, † Refer to 03 OOS-19

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	BQL Ψ
Cadmium	ICP-MS per USP <2232>	≤ 5 mcg/day Ψ	BQL Ψ
Mercury (total)	ICP-MS per USP <2232>	≤ 15 mcg/day Ψ	0.301 mcg/day Ψ
Lead	ICP-MS per USP <2232>	≤ 10 mcg/day Ψ	BQL Ψ

*Production and Process Control, Ψ – Permitted Daily Exposure

Microbiology

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

*Production and Process Control

Approval: 	Date: 02/07/19
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Micro Quality Labs, Inc.

Specializing in Pharmaceutical, Dietary Supplements, Toys and Cosmetic Testing

3125 N. Damon Way • Burbank, California 91505

(818) 845-0070 • Fax: (818) 845-0030

E-Mail: Karine@MicroQualityLabs.com

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

ANALYTICAL/CHEMICAL CERTIFICATE OF ANALYSIS

Sample Name: Free Aminos
Product Code: 40540
Batch/Lot #: 90110
SQL Accession #: 190116-0066

PO#: MH01112019
Sample Description: Bulk
Rush: 2-3 Days
Received Date: 01/16/19
Page: 1/2

Test Requested:	Test Method Number:	Client Specification:	Results:
Alanine	MLTQM-0198 BY GC-FID	Perform and Report	51 mg/cap
Aspartic Acid	MLTQM-0198 BY GC-FID	Perform and Report	Not Detected
Cysteine	MLTQM-0198 BY GC-FID	Perform and Report	6 mg/cap
Histidine	MLTQM-0198 BY GC-FID	Perform and Report	33 mg/cap
Isoleucine	MLTQM-0198 BY GC-FID	Perform and Report	62 mg/cap
Leucine	MLTQM-0198 BY GC-FID	Perform and Report	68 mg/cap
Lysine	MLTQM-0198 BY GC-FID	Perform and Report	69 mg/cap
Methionine	MLTQM-0198 BY GC-FID	Perform and Report	13 mg/cap
Phenylalanine	MLTQM-0198 BY GC-FID	Perform and Report	9 mg/cap
Proline	MLTQM-0198 BY GC-FID	Perform and Report	Not Detected
Threonine	MLTQM-0198 BY GC-FID	Perform and Report	61 mg/cap
Tyrosine	MLTQM-0198 BY GC-FID	Perform and Report	27 mg/cap
Valine	MLTQM-0198 BY GC-FID	Perform and Report	32 mg/cap
Serine	MLTQM-0198 BY GC-FID	Perform and Report	13 mg/cap
L-Alanine	MLTQM-0198 BY GC-FID	Perform and Report	51 mg/cap



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Rush: 2-3 Days
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Test Requested:	Test Method Number:	Client Specification:	Results:
Glycine	MLTMM-0198 BY GC-FID	Perform and Report	30 mg/cap
Lysine	MLTMM-0198 BY GC-FID	Perform and Report	69 mg/cap
Glutamic Acid	MLTMM-0198 BY GC-FID	Perform and Report	Not Detected
L-Glutamine	MLTMM-0198 BY GC-FID	28 mg/cap	36 mg/cap
Taurine	MLTMM-0268 By HPLC	14 mg/cap	17 mg/cap

Prepared By:

Desiree Rodriguez/Document Control Supervisor

FEB 01 2019

02/01/19

Reviewed By:

Diana Zavala/ Document Control Specialist

FEB 01 2019

02/01/19

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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Analytical Report

January 16, 2019

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

Page 1 of 1
WO Number: W19A0428

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

Customer PO: MH01102019
Date Received: 1/11/2019
Date Completed: 01/16/2019
Discard Date: 01/30/2019

CSL#: 19A1191 Free Aminos - Lot#: 40540/ 90110

Parameter	Result	PQL	Method	Date	Analyst
Arsenic	<0.050 ug/g	0.050	ICP MS	01/15/19	ARB
Cadmium	<0.050 ug/g	0.050	ICP MS	01/15/19	ARB
Lead	<0.050 ug/g	0.050	ICP MS	01/15/19	KMS
Mercury	0.059 ug/g	0.050	ICP MS	01/15/19	ARB

CSL#: 19A1191

Parameter	Result	Serving Size	Unit Weight	Specification
Arsenic	<0.05 ug/g	1 Capsule	0.85 g	<0.50 ug/g
Cadmium	<0.05 ug/g	1 Capsule	0.85 g	<0.50 ug/g
Lead	<0.05 ug/g	1 Capsule	0.85 g	<0.50 ug/g
Mercury	0.06 ug/g	1 Capsule	0.85 g	<0.50 ug/g

Respectfully Submitted,
Chemical Solutions, Ltd.

QA Representative

Notes:

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The units for the PQL are the same as those shown for the result.



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Project Description: Product Testing (PO # MH01102019)
Report Issued To: Allergy Research Group
2300 North Loop
Alameda, CA 94501
Contact: Janice Vu

Certificate of Analysis

AEMTEK #: 1901511

Sampling Date: 2019-01-10
Sample Received: 2019-01-11
Analysis Started: 2019-01-11
Analysis Performed By: CP, JC, MM, EL
Report Issue Date: 2019-01-14

Sample ID	Analyte	Aerobic Plate Count	Total Coliforms	Yeast	Mold	Escherichia coli	Salmonella	Staphylococcus aureus
	Method	AOAC OMA 990.12	AOAC OMA 991.14	AOAC OMA 2014.05	AOAC OMA 2014.05	USP 37 <62> (mod.)	USP 37 <62> (mod.)	USP 37 <62> (mod.)
	Reporting Unit	CFU/g	CFU/g	CFU/g	CFU/g	per 10g	per 10g	per 10g
	Method Detection Limit for Reporting	10	10	10	10	P/A	P/A	P/A
Sample Description		Lot #/Code						
7	Free Aminos	<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.

N/A = Not Applicable or not analyzed

9/14/19