



VITA NATURALS

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## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: Dec. 19, 2023 Product: Artichoke Extract 4:1 Powder  
Botanical Source: Cynara scolymus L. Lot No.: R2311102 Manufacture Date: Dec. 04, 2023

#### Active Ingredients (Each gram Contains):

	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

#### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	1.45 %	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	0.167 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	Not Detected	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.380 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.001 ppm	ICP-MS

#### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	Conforms	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	Conforms	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>

Quality Control Department

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: Oct. 12, 2023                      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.    Lot No.: R2309031                      Manufacture Date: Sep. 22, 2023

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	3.16 %	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	0.60 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	0.65 ppm	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.10 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.02 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	Conforms	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	Conforms	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



Quality Control Department

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: Jul. 18, 2023                      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.    Lot No.: R2306039                      Manufacture Date: Jun. 14, 2023

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	3.17 %	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	0.60 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	0.65 ppm	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.10 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.02 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	Conforms	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	Conforms	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



Quality Control Department

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: Aug. 18, 2022                      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.    Lot No.: R2207041                      Manufacture Date: July. 26, 2022

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	2.49%	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	0.60 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	0.65 ppm	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.10 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.02 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	Conforms	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	Conforms	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



Quality Control Department

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: Feb. 08, 2022                      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.    Lot No.: R2201080                      Manufacture Date: Feb. 01, 2022

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	3.12%	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	0.60 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	0.65 ppm	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.10 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.02 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	Conforms	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	Conforms	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



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Quality Control

**02/08/2022**

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Date

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: May 18, 2021                      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.    Lot No.: R2105014                      Manufacture Date: May 04, 2021

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	3.45%	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	0.57 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	0.65 ppm	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.10 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.03 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	Conforms	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	Conforms	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



Quality Control

05/18/2021

Date

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: December 18, 2020      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.      Lot No.: R2012029      Manufacture Date: December 04, 2020

**Active Ingredients (Each gram Contains):**      **Per Unit**      **Result**

Artichoke Extract 4:1 Powder	1,000.00 mg	*
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\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	3.34%	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	0.71 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	0.54 ppm	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.10 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.04 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	Conforms	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	Conforms	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



Quality Control

12/18/2020

Date

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: Oct. 28, 2020                      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.    Lot No.: R2008072                      Manufacture Date: Aug. 17, 2020

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	4.28%	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	1.09 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	0.53 ppm	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.89 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.022 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	80 cfu/g	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	9 cfu/g	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



Quality Control

10/28/2020

Date



## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: August 18, 2020 Product: Artichoke Extract 4:1 Powder  
 Lot No.: R2003010 Manufacture Date: May 26, 2020

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Yellowish Brown Powder	Conforms	Visual
Extract Ratio	4:1	Conforms	UV
Odor & Taste	Characteristics	Conforms	Organoleptic
Sieve Analysis	98% Pass 80 mesh	Conforms	80 mesh
Bulk Density	45-65g/100ml	Conforms	CP2010
Loss on Drying	NMT 5.00%	3.56%	CP2010
Heavy Metals	NMT 10 ppm	Conforms	CP2010
Lead (Pb)	NMT 2 ppm	0.760 ppm	AAS
Arsenic (As)	NMT 2 ppm	0.540 ppm	AAS
Cadmium (Cd)	NMT 2 ppm	0.100 ppm	AAS
Mercury (Hg)	NMT 1 ppm	0.030 ppm	AAS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 10,000 cfu/g	Conforms	CP2010
Total Combined Mold and Yeasts Count	< 1,000 cfu/g	Conforms	CP2010
E. coli	Negative	Negative	CP2010
Salmonella spp.	Negative	Negative	CP2010
Staphylococcus aureus	Negative	Negative	CP2010



Quality Control

08/18/2020

Date

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: May 12, 2020                      Product: Artichoke Extract 4:1 Powder  
 Lot No.: R2004099                      Manufacture Date: April 24, 2020

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Yellowish Brown Powder	Conforms	Visual
Extract Ratio	4:1	Conforms	UV
Odor & Taste	Characteristics	Conforms	Organoleptic
Sieve Analysis	98% Pass 80 mesh	Conforms	80 mesh
Bulk Density	40-60g/100ml	Conforms	CP2010
Loss on Drying	NMT 5.00%	3.56%	CP2010
Heavy Metals	NMT 10 ppm	Conforms	CP2010
Lead (Pb)	NMT 2 ppm	0.760 ppm	AAS
Arsenic (As)	NMT 2 ppm	0.540 ppm	AAS
Cadmium (Cd)	NMT 2 ppm	0.100 ppm	AAS
Mercury (Hg)	NMT 1 ppm	0.030 ppm	AAS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 10,000 cfu/g	Conforms	CP2010
Total Combined Mold and Yeasts Count	< 1,000 cfu/g	Conforms	CP2010
E. coli	Negative	Negative	CP2010
Salmonella spp.	Negative	Negative	CP2010
Staphylococcus aureus	Negative	Negative	CP2010



Quality Control

05/12/2020

Date

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: October 07, 2019                      Product: Artichoke Extract 4:1 Powder  
 Lot No.: R1910044                      Manufacture Date: Oct 04, 2019

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Yellowish Brown Powder	Conforms	Visual
Extract Ratio	4:1	Conforms	UV
Odor & Taste	Characteristics	Conforms	Organoleptic
Sieve Analysis	98% Pass 80 mesh	Conforms	80 mesh
Bulk Density	45-65g/100ml	Conforms	CP2010
Loss on Drying	NMT 5.00%	3.10%	CP2010
Heavy Metals	NMT 10 ppm	Conforms	CP2010
Lead (Pb)	NMT 2 ppm	0.871 ppm	AAS
Arsenic (As)	NMT 2 ppm	0.710 ppm	AAS
Cadmium (Cd)	NMT 2 ppm	0.100 ppm	AAS
Mercury (Hg)	NMT 1 ppm	0.040 ppm	AAS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 10,000 cfu/g	Conforms	CP2010
Total Combined Mold and Yeasts Count	< 1,000 cfu/g	70 cfu/g	CP2010
E. coli	Negative	Negative	CP2010
Salmonella spp.	Negative	Negative	CP2010
Staphylococcus aureus	Negative	Negative	CP2010



Quality Control

10/07/2019

Date

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: September 2, 2019      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus.      Lot No.: R1908105      Manufacture Date: August 23, 2019

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Yellowish Brown Powder	Conforms	Visual
Extract Ratio	4:1	Conforms	UV
Odor & Taste	Characteristics	Conforms	Organoleptic
Sieve Analysis	98% Pass 80 mesh	Conforms	80 mesh
Bulk Density	45-65g/100ml	Conforms	CP2010
Loss on Drying	NMT 5.00%	3.20%	CP2010
Heavy Metals	NMT 10 ppm	Conforms	CP2010
Lead (Pb)	NMT 2 ppm	0.47 ppm	CP2010
Arsenic (As)	NMT 2 ppm	1.30 ppm	AAS
Cadmium (Cd)	NMT 2 ppm	1.14 ppm	AAS
Mercury (Hg)	NMT 1 ppm	0.18 ppm	AAS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 10,000 cfu/g	Conforms	CP2010
Total Combined Mold and Yeasts Count	< 1,000 cfu/g	Conforms	CP2010
E. coli	Negative	Negative	CP2010
Salmonella spp.	Negative	Negative	CP2010
Staphylococcus aureus	Negative	Negative	CP2010

  
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 Quality Control

09/02/2019  
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 Date

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: March 25, 2019 Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus. Lot No.: R1903049 Manufacture Date: Mar 18, 2019

**Active Ingredients (Each gram Contains):** **Per Unit** **Result**

Artichoke Extract 4:1 Powder	1,000.00 mg	*
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\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Yellowish Brown Powder	Conforms	Visual
Extract Ratio	4:1	Conforms	UV
Odor & Taste	Characteristics	Conforms	Organoleptic
Sieve Analysis	98% Pass 80 mesh	Conforms	80 mesh
Bulk Density	45-65g/100ml	Conforms	CP2010
Loss on Drying	NMT 5.00%	4.20%	CP2010
Heavy Metals	NMT 10 ppm	Conforms	CP2010
Lead (Pb)	NMT 2 ppm	0.57 ppm	AAS
Arsenic (As)	NMT 2 ppm	1.20 ppm	AAS
Cadmium (Cd)	NMT 2 ppm	0.17 ppm	AAS
Mercury (Hg)	NMT 1 ppm	0.14 ppm	AAS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 10,000 cfu/g	530 cfu/g	CP2010
Total Combined Mold and Yeasts Count	< 1,000 cfu/g	30 cfu/g	CP2010
E. coli	Negative	Negative	CP2010
Salmonella spp.	Negative	Negative	CP2010
Staphylococcus aureus	Negative	Negative	CP2010



Quality Control

03/25/2018

Date

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: March 28, 2018                      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.    Lot No.: R1803772                      Manufacture Date: March 20, 2018

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Yellowish Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	3.50%	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	0.7 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	0.6 ppm	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.04 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.002 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	100 cfu/g	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	12 cfu/g	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



Quality Control

03/28/2018

Date

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: March 28, 2018                      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.    Lot No.: R1803072                      Manufacture Date: March 19, 2018

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	3.50%	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	0.7 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	0.6 ppm	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.04 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.002 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	100 cfu/g	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	12 cfu/g	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



Quality Control

03/28/2018

Date

## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: Feb. 20, 2018                      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.    Lot No.: R1710048                      Manufacture Date: Feb. 07, 2018

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Conforms	Visual
Loss on Drying	NMT 5.00%	4.36%	USP <731>
Heavy Metals	NMT 10 ppm	Conforms	USP <231>
Lead (Pb)	NMT 2 ppm	1.1 ppm	ICP-MS
Arsenic (As)	NMT 2 ppm	0.6 ppm	ICP-MS
Cadmium (Cd)	NMT 1 ppm	1.0 ppm	ICP-MS
Mercury (Hg)	NMT 0.5 ppm	0.013 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	100 cfu/g	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	14 cfu/g	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



Quality Control

02/20/2018

Date



## Certificate of Analysis

### QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: June 30, 2017                      Product: Artichoke Extract 4:1 Powder  
 Botanical Source: Cynara scolymus L.    Lot No.: 161215                      Manufacture Date: June 22, 2017

Active Ingredients (Each gram Contains):	Per Unit	Result
Artichoke Extract 4:1 Powder	1,000.00 mg	*

\* Base on Input

### Chemical /Physical Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Appearance	Brown Powder	Complies	Visual
Loss on Drying	NMT 8.00%	7.41%	USP <731>
Heavy Metals	NMT 10 ppm	Complies	USP <231>
Lead (Pb)	NMT 5 ppm	0.3625	ICP-MS
Arsenic (As)	NMT 2 ppm	0.0882	ICP-MS
Cadmium (Cd)	NMT 1 ppm	0.0012	ICP-MS
Mercury (Hg)	NMT 1 ppm	0.0549	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHODS
Total Aerobic Count	< 1000 cfu/g	10 cfu/g	USP <2021>
Total Combined Mold and Yeasts Count	< 100 cfu/g	< 10 cfu/g	USP <2021>
E. coli	Negative	Negative	USP <2022>
Salmonella spp.	Negative	Negative	USP <2022>
Staphylococcus aureus	Negative	Negative	USP <2022>
Pseudomonas aeruginosa	Negative	Negative	USP <62>



Quality Control

06/30/2017

Date



### Certificate of Analysis

## QUALITY CONTROL LABORATORY ANALYTICAL REPORT

Date: Aug. 10, 2015

Lot No.: 61508560

Manufacture Date: Aug. 04, 2015

Product: Artichoke Extract 4:1 Powder

### Chemical/Physical Analysis

ITEM	SPECIFICATION	RESULT	METHOD
Appearance	Fine Brown Powder	Complies	Visual
Identification	(+)	Positive	TLC
Particle Size	80 mesh	Complies	USP <786>
Acid-Insoluble Ash	NMT 2.0%	0.45%	USP <561>
Loss on Drying	NMT 5.0%	4.77%	USP <731>
Heavy Metals	NMT 10 ppm	Complies	USP <231>
Lead	NMT 2 ppm	1.0 ppm	ICP-MS
Mercury	NMT 1 ppm	0.12 ppm	ICP-MS
Cadmium	NMT 0.5 ppm	0.2 ppm	ICP-MS
Arsenic	NMT 2 ppm	1.0 ppm	ICP-MS

### Microbiological Analysis

ITEM	SPECIFICATION	RESULT	METHOD
Total Aerobic Count	< 5000 cfu/g	1200 cfu/g	Current USP <2021>
Total Combined Molds and Yeasts Count	< 500 cfu/g	< 65 cfu/g	Current USP <2021>
<i>E. coli</i>	Negative	Negative	Current USP <2022>
<i>Salmonella</i> spp	Negative	Negative	Current USP <2022>
<i>Staphylococcus aureus</i>	Negative	Negative	Current USP <2022>
<i>Pseudomonas aeruginosa</i>	Negative	Negative	Current USP <62>

Quality Control Manager