

CERTIFICATE OF ANALYSIS

Prepared for:

NULEAF NATURALS

1550 LARIMER ST. #964

DENVER, CO USA 80202

NuLeaf Naturals Multi Oil Tincture

Batch ID or Lot Number: M446	Test: Potency	Reported: 19Nov2024	USDA License: N/A
Matrix: Solution	Test ID: T000294026	Started: 18Nov2024	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis	Received: 15Nov2024	Status: Active

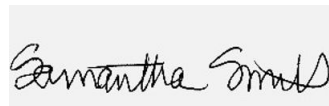
Cannabinoids

	LOD (mg/mL)	LOQ (mg/mL)	Result (mg/mL)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.144	0.448	15.426	16.77	Density = 0.92g/mL
Cannabichromenic Acid (CBCA)	0.132	0.410	ND	ND	
Cannabidiol (CBD)	0.349	1.283	14.586	15.85	
Cannabidiolic Acid (CBDA)	0.358	1.316	ND	ND	
Cannabidivarin (CBDV)	0.083	0.303	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.149	0.549	ND	ND	
Cannabigerol (CBG)	0.082	0.255	14.435	15.69	
Cannabigerolic Acid (CBGA)	0.342	1.065	ND	ND	
Cannabinol (CBN)	0.107	0.332	14.293	15.54	
Cannabinolic Acid (CBNA)	0.234	0.726	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.408	1.268	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.370	1.152	<LOQ	<LOQ	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.328	1.020	ND	ND	
Tetrahydrocannabivarin (THCV)	0.074	0.232	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.289	0.900	ND	ND	
Total Cannabinoids			58.740	63.85	
Total Potential THC			<LOQ	<LOQ	
Total Potential CBD			14.586	15.85	

Final Approval


Judith Marquez
19Nov2024
10:46:00 AM MST

PREPARED BY / DATE


Sam Smith
19Nov2024
10:50:00 AM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/d649df7f-b2d9-4431-a9c2-e1de5b332234>

Definitions

% = % (w/w) = Percent (weight of analyte / weight of product). ND = None Detected (defined by dynamic range of the method).

Total Potential Delta 9-THC or CBD is calculated to take into account the loss of a carboxyl group during decarboxylation step, using the following formulas: Total Potential Delta 9-THC = Delta 9-THC + (Delta 9-THCa *(0.877)) and Total CBD = CBD + (CBDA *(0.877)).

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Cert #4329.02



CDPHE Certified

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CERTIFICATE OF ANALYSIS

Prepared for:

NULEAF NATURALS

1550 LARIMER ST. #964

DENVER, CO USA 80202

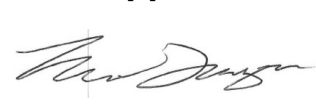
NuLeaf Naturals Multi Oil Tincture

Batch ID or Lot Number: M446	Test: Heavy Metals	Reported: 22Nov2024	USDA License: NA
Matrix: Finished Product	Test ID: T000294029	Started: 22Nov2024	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 15Nov2024	Status: NA

Heavy Metals

	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.05 - 4.65	ND	
Cadmium	0.05 - 4.60	ND	
Mercury	0.05 - 4.72	ND	
Lead	0.05 - 4.67	ND	

Final Approval


Judith Marquez
22Nov2024
01:35:00 PM MST

PREPARED BY / DATE


Sam Smith
22Nov2024
01:40:00 PM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/94baaaa8-4d5f-4aa0-89fd-d9e628405106>

Definitions

ND = None Detected (defined by dynamic range of the method)

Dynamic Range = Limit of Quantitation (LOQ) through Upper Limit of Method Range

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Prepared for:

NULEAF NATURALS

1550 LARIMER ST. #964

DENVER, CO USA 80202

NuLeaf Naturals Multi Oil Tincture

Batch ID or Lot Number: M446	Test: Microbial Contaminants	Reported: 18Nov2024	USDA License: N/A
Matrix: Finished Product	Test ID: T000294028	Started: 15Nov2024	Sampler ID: N/A
	Method(s): TM25 (qPCR) TM24, TM26, TM27 (Culture Plating): Microbial (Colorado Panel)	Received: 15Nov2024	Status: Active

Microbial

Contaminants

	Method	LOD	Quantitation Range	Result	Notes
STEC	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	Free from visual mold, mildew, and foreign matter
<i>Salmonella</i>	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	
Total Yeast and Mold*	TM24: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	
Total Aerobic Count*	TM26: Culture Plating	10 ² CFU/g	1.0x10 ³ - 1.5x10 ⁵	None Detected	
Total Coliforms*	TM27: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	

Final Approval


Nora Langer
18Nov2024
03:26:00 PM MST

PREPARED BY / DATE


Brett Hudson
18Nov2024
04:14:00 PM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/9005d224-0a11-4e08-b89f-9503e0b98059>

Definitions

* Values recorded in scientific notation, a common microbial practice of expressing numbers that are too large to be conveniently written in decimal form. Examples: 10² = 100 CFU, 10³ = 1,000 CFU, 10⁴ = 10,000 CFU, 10⁵ = 100,000 CFU
CFU/g = Colony Forming Units per Gram, LOD = Limit of Detection
ULOQ = Upper Limit of Quantitation, LLOQ = Lower Limit of Quantitation
STEC = Shiga Toxin-Producing E. coli

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NULEAF NATURALS

1550 LARIMER ST. #964

DENVER, CO USA 80202

NuLeaf Naturals Multi Oil Tincture

Batch ID or Lot Number: M446	Test: Mycotoxins	Reported: 21Nov2024	USDA License: N/A
Matrix: Concentrate	Test ID: T000294031	Started: 20Nov2024	Sampler ID: N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 15Nov2024	Status: Active

Mycotoxins

	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	1.56 - 127.68	ND	N/A
Aflatoxin B1	0.90 - 31.63	ND	
Aflatoxin B2	0.96 - 31.45	ND	
Aflatoxin G1	0.96 - 31.45	ND	
Aflatoxin G2	1.05 - 32.05	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval



Sam Smith
21Nov2024
08:49:00 AM MST

PREPARED BY / DATE



Karen Winternheimer
21Nov2024
08:51:00 AM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/9ffb089-eac9-4c1f-9201-6a27f29e9d03>

Definitions

ND = None Detected (defined by dynamic range of the method)

Dynamic Range = Limit of Quantitation (LOQ) through Upper Limit of Method Range

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Prepared for:

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1550 LARIMER ST. #964

DENVER, CO USA 80202

NuLeaf Naturals Multi Oil Tincture

Batch ID or Lot Number: M446	Test: Pesticides	Reported: 22Nov2024	USDA License: NA
Matrix: Concentrate	Test ID: T000294027	Started: 20Nov2024	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 15Nov2024	Status: NA

Pesticides

Pesticides	Dynamic Range (ppb)	Result (ppb)		Dynamic Range (ppb)	Result (ppb)
Abamectin	226 - 2728	ND	Malathion	284 - 2712	ND
Acephate	40 - 2843	ND	Metalaxyl	41 - 2727	ND
Acetamiprid	39 - 2733	ND	Methiocarb	44 - 2693	ND
Azoxystrobin	42 - 2733	ND	Methomyl	42 - 2800	ND
Bifenazate	45 - 2705	ND	MGK 264 1	148 - 1623	ND
Boscalid	39 - 2659	ND	MGK 264 2	94 - 1102	ND
Carbaryl	42 - 2702	ND	Myclobutanil	45 - 2626	ND
Carbofuran	44 - 2677	ND	Naled	37 - 2610	ND
Chlorantraniliprole	43 - 2675	ND	Oxamyl	43 - 2793	ND
Chlorpyrifos	36 - 2724	ND	Paclobutrazol	42 - 2680	ND
Clofentezine	276 - 2720	ND	Permethrin	298 - 2815	ND
Diazinon	276 - 2734	ND	Phosmet	43 - 2608	ND
Dichlorvos	268 - 2792	ND	Prophos	283 - 2693	ND
Dimethoate	39 - 2737	ND	Propoxur	42 - 2702	ND
E-Fenpyroximate	278 - 2791	ND	Pyridaben	269 - 2805	ND
Etofenprox	40 - 2776	ND	Spinosad A	31 - 2075	ND
Etoxazole	280 - 2697	ND	Spinosad D	61 - 670	ND
Fenoxycarb	45 - 2730	ND	Spiromesifen	250 - 2738	ND
Fipronil	48 - 2742	ND	Spirotetramat	286 - 2764	ND
Flonicamid	44 - 2795	ND	Spiroxamine 1	16 - 1014	ND
Fludioxonil	294 - 2803	ND	Spiroxamine 2	25 - 1586	ND
Hexythiazox	39 - 2810	ND	Tebuconazole	300 - 2702	ND
Imazalil	274 - 2771	ND	Thiacloprid	43 - 2779	ND
Imidacloprid	44 - 2779	ND	Thiamethoxam	40 - 2781	ND
Kresoxim-methyl	43 - 2764	ND	Trifloxystrobin	42 - 2712	ND

Final Approval



Sam Smith
22Nov2024
10:37:00 AM MST

PREPARED BY / DATE



Karen Winternheimer
22Nov2024
10:39:00 AM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/aca83ade-d5fc-4a8e-ba83-6b5d6509c151>

Definitions

ND = None Detected (defined by dynamic range of the method)
Dynamic Range = Limit of Quantitation (LOQ) through Upper Limit of Method Range
ppb = Parts Per Billion

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NuLeaf Naturals Multi Oil Tincture

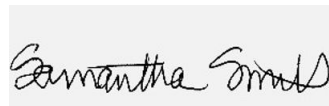
Batch ID or Lot Number: M446	Test: Residual Solvents	Reported: 19Nov2024	USDA License: N/A
Matrix: Finished Product	Test ID: T000294030	Started: 18Nov2024	Sampler ID: N/A
	Method(s): TM04 (GC-MS): Residual Solvents	Received: 15Nov2024	Status: Active

Residual Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	82 - 1648	ND	
Butanes (Isobutane, n-Butane)	165 - 3305	ND	
Methanol	58 - 1154	ND	
Pentane	85 - 1704	ND	
Ethanol	85 - 1701	ND	
Acetone	92 - 1843	ND	
Isopropyl Alcohol	96 - 1912	ND	
Hexane	6 - 116	ND	
Ethyl Acetate	94 - 1879	ND	
Benzene	0.2 - 3.7	ND	
Heptanes	91 - 1816	ND	
Toluene	17 - 339	ND	
Xylenes (m,p,o-Xylenes)	123 - 2456	ND	

Final Approval


Judith Marquez
19Nov2024
07:57:00 AM MST

PREPARED BY / DATE


Sam Smith
19Nov2024
08:58:00 AM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/3f415dbd-b24d-48c4-904c-b7ed021ed2d8>

Definitions

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