

CERTIFICATE OF ANALYSIS

Prepared for:

NULEAF NATURALS

1550 LARIMER ST. #964

DENVER, CO USA 80202

NuLeaf Naturals CBN Oil Tincture

Batch ID or Lot Number: N438	Test: Potency	Reported: 20Sep2024	USDA License: N/A
Matrix: Solution	Test ID: T000290316	Started: 19Sep2024	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis	Received: 18Sep2024	Status: Active

Cannabinoids

	LOD (mg/mL)	LOQ (mg/mL)	Result (mg/mL)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.548	1.784	2.011	2.19	Density = 0.92g/mL
Cannabichromenic Acid (CBCA)	0.501	1.632	ND	ND	
Cannabidiol (CBD)	1.413	4.195	<LOQ	<LOQ	
Cannabidiolic Acid (CBDA)	1.450	4.303	ND	ND	
Cannabidivarin (CBDV)	0.334	0.992	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.605	1.795	ND	ND	
Cannabigerol (CBG)	0.311	1.013	1.790	1.95	
Cannabigerolic Acid (CBGA)	1.300	4.235	ND	ND	
Cannabinol (CBN)	0.406	1.321	57.545	62.55	
Cannabinolic Acid (CBNA)	0.887	2.889	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	1.549	5.045	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	1.407	4.582	ND	ND	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	1.247	4.059	ND	ND	
Tetrahydrocannabivarin (THCV)	0.283	0.921	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	1.100	3.580	ND	ND	
Total Cannabinoids			61.346	66.69	
Total Potential THC			ND	ND	
Total Potential CBD			0.000	0.00	

Final Approval



Sam Smith
20Sep2024
12:20:00 PM MDT

PREPARED BY / DATE



Karen Winternheimer
20Sep2024
12:42:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/af61ca19-907c-47bf-83a2-fd1e22264293>

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 CBN Oil Tincture

Batch ID or Lot Number: N438	Test: Heavy Metals	Reported: 26Sep2024	USDA License: NA
Matrix: Unit Co	Test ID: T000290319	Started: 26Sep2024	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 18Sep2024	Status: NA

Heavy Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.42	ND	
Cadmium	0.04 - 4.42	ND	
Mercury	0.04 - 4.48	ND	
Lead	0.05 - 4.56	ND	

Final Approval


Judith Marquez
26Sep2024
03:34:00 PM MDT

PREPARED BY / DATE


Sam Smith
26Sep2024
03:37:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/ead723dfd-d0e4-448b-ae17-2d52ec7925bf>

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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Cert #4329.02



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CERTIFICATE OF ANALYSIS

Prepared for:

NULEAF NATURALS

1550 LARIMER ST. #964

DENVER, CO USA 80202

NuLeaf Naturals CBN Oil Tincture

Batch ID or Lot Number: N438	Test: Microbial Contaminants	Reported: 23Sep2024	USDA License: N/A
Matrix: Finished Product	Test ID: T000290318	Started: 18Sep2024	Sampler ID: N/A
	Method(s): TM25 (qPCR) TM24, TM26, TM27 (Culture Plating): Microbial (Colorado Panel)	Received: 18Sep2024	Status: Active

Microbial

Contaminants

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



Brett Hudson
22Sep2024
10:47:00 AM MDT



Nora Langer
23Sep2024
03:02:00 PM MDT



PREPARED BY / DATE

APPROVED BY / DATE

<https://results.botanacor.com/api/v1/coas/uuid/30958873-4469-4a88-8283-8a65df5c1a53>

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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DENVER, CO USA 80202

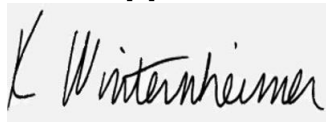
NuLeaf Naturals CBN Oil Tincture

Batch ID or Lot Number: N438	Test: Mycotoxins	Reported: 21Sep2024	USDA License: N/A
Matrix: Concentrate	Test ID: T000290321	Started: 20Sep2024	Sampler ID: N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 18Sep2024	Status: Active

Mycotoxins

	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	3.51 - 123.76	ND	N/A
Aflatoxin B1	0.99 - 31.60	ND	
Aflatoxin B2	0.96 - 31.29	ND	
Aflatoxin G1	1.12 - 30.82	ND	
Aflatoxin G2	1.15 - 31.79	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval



Karen Winternheimer

21Sep2024

12:18:00 PM MDT

PREPARED BY / DATE



Sam Smith

21Sep2024

12:19:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/d03eef4b-934a-48c3-a854-3b837c38c0eb>

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

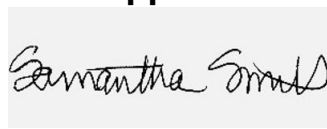
NuLeaf Naturals CBN Oil Tincture

Batch ID or Lot Number: N438	Test: Pesticides	Reported: 25Sep2024	USDA License: NA
Matrix: Concentrate	Test ID: T000290317	Started: 24Sep2024	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 18Sep2024	Status: NA

Pesticides

Pesticides	Dynamic Range (ppb)	Result (ppb)		Dynamic Range (ppb)	Result (ppb)
Abamectin	388 - 2739	ND	Malathion	373 - 2680	ND
Acephate	42 - 2678	ND	Metalaxyl	60 - 2684	ND
Acetamiprid	40 - 2667	ND	Methiocarb	46 - 2719	ND
Azoxystrobin	47 - 2681	ND	Methomyl	40 - 2739	ND
Bifenazate	56 - 2683	ND	MGK 264 1	142 - 1578	ND
Boscalid	37 - 2716	ND	MGK 264 2	168 - 1083	ND
Carbaryl	41 - 2703	ND	Myclobutanil	32 - 2673	ND
Carbofuran	40 - 2718	ND	Naled	49 - 2682	ND
Chlorantraniliprole	47 - 2777	ND	Oxamyl	44 - 2698	ND
Chlorpyrifos	59 - 2711	ND	Paclobutrazol	44 - 2668	ND
Clofentezine	276 - 2710	ND	Permethrin	306 - 2774	ND
Diazinon	362 - 2679	ND	Phosmet	66 - 2579	ND
Dichlorvos	314 - 2694	ND	Prophos	272 - 2651	ND
Dimethoate	39 - 2658	ND	Propoxur	41 - 2712	ND
E-Fenpyroximate	218 - 2872	ND	Pyridaben	267 - 2759	ND
Etofenprox	41 - 2849	ND	Spinosad A	33 - 2086	ND
Etoxazole	236 - 2752	ND	Spinosad D	77 - 653	ND
Fenoxycarb	54 - 2682	ND	Spiromesifen	250 - 2811	ND
Fipronil	14 - 2885	ND	Spirotetramat	354 - 2741	ND
Flonicamid	54 - 2673	ND	Spiroxamine 1	16 - 1028	ND
Fludioxonil	271 - 2620	ND	Spiroxamine 2	24 - 1597	ND
Hexythiazox	62 - 2720	ND	Tebuconazole	368 - 2685	ND
Imazalil	368 - 2686	ND	Thiacloprid	42 - 2721	ND
Imidacloprid	52 - 2719	ND	Thiamethoxam	45 - 2711	ND
Kresoxim-methyl	62 - 2688	ND	Trifloxystrobin	41 - 2702	ND

Final Approval


Sam Smith
25Sep2024
10:22:00 AM MDT
PREPARED BY / DATE


Karen Winternheimer
25Sep2024
10:25:00 AM MDT
APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/e49c9eff-7cd2-463d-8ad8-120483b804fb>

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

1550 LARIMER ST. #964

DENVER, CO USA 80202

NuLeaf Naturals CBN Oil Tincture

Batch ID or Lot Number: N438	Test: Residual Solvents	Reported: 25Sep2024	USDA License: N/A
Matrix: Concentrate	Test ID: T000290320	Started: 24Sep2024	Sampler ID: N/A
	Method(s): TM04 (GC-MS): Residual Solvents	Received: 18Sep2024	Status: Active

Residual Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	78 - 1551	ND	
Butanes (Isobutane, n-Butane)	154 - 3073	ND	
Methanol	56 - 1128	ND	
Pentane	80 - 1603	ND	
Ethanol	82 - 1638	ND	
Acetone	93 - 1862	ND	
Isopropyl Alcohol	94 - 1882	ND	
Hexane	6 - 113	ND	
Ethyl Acetate	94 - 1878	ND	
Benzene	0.2 - 3.8	ND	
Heptanes	87 - 1749	ND	
Toluene	17 - 337	ND	
Xylenes (m,p,o-Xylenes)	122 - 2438	ND	

Final Approval



Sam Smith
25Sep2024
09:15:00 AM MDT

PREPARED BY / DATE



Karen Winternheimer
25Sep2024
09:18:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/591acbfd-7215-4525-9ba3-e408fe61bff9>

Definitions

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