

CERTIFICATE OF ANALYSIS

PRODUCT NAME:	Organic CBD Tincture - Natural
PRODUCT STRENGTH:	1350mg
TINCTURE BATCH:	220630A
BEST BY DATE:	6/9/2024
HEMP EXTRACT LOT:	BCA-000390-220607

Physical Attributes

Test	Method	Specification	Results
Color	Joy Internal	Golden to Amber	PASS
Odor	Joy Internal	Characteristic - Olive and Hemp	PASS
Appearance	Joy Internal	Golden to Amber oil in brown glass bottle with dropper.	PASS
Primary Package Eval.	Joy Internal	Container clean and free of filth. Container caps tight and shrink bands intact	PASS
Secondary Package Eval.	Joy Internal	Labeling Compliance Checked, Cartons sturdy and clean. Sufficient cushion material exists. Box taped and secure.	PASS

Review of Third-Party Analysis

Panel	Method	Specification	Results*	Pass/Fail
Potency - Total CBD	HPLC-UV DAD	*NLT (product strength) mg / bottle	49.3mg	PASS
Potency - D9-THC	HPLC-UV DAD	LOQ: 10 ppm (.001-0.3%)	ND	PASS
Expanded Pesticide Panel	HPLC-QQQ	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	ND	PASS
Microbial Escherichia coli (STEC)	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram	Absent	PASS
Microbial Salmonella	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram	Absent	PASS
Microbial Yeast and Mold	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 ² CFU/gram	Below LOQ	PASS
Microbial Total Coliforms*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 ² CFU/gram	Below LOQ	PASS
Microbial Total Aerobic Count*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 ³ CFU/gram	Below LOQ	PASS
Heavy Metals Panel	ICP-MS	Arsenic (As): ≤1.5 ppm Cadmium (Cd): ≤0.5 ppm Lead (Pb): ≤0.5 ppm Mercury (Hg): ≤1.5 ppm	ND	PASS
Mycotoxins	ICP-MS	Total Aflatoxins <20 ppb† Afltoxin B1 < 5 ppb Ochratoxin < 5ppb		PASS
Residual Solvents	GC-HS-MSD	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	ND	PASS

* Level of Quantitation, † Parts Per Million ‡ Part Per Billion CFU/g=Colony Forming Units per Gram
*Nothing Less Than
10²=100 CFU
10³=1,000 CFU

Quality Certified



Name

8/1/22

Date

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Batch ID or Lot Number: 220630A	Test: Potency	Reported: 28Jul2022	USDA License: N/A
Matrix: Concentrate	Test ID: T000215434	Started: 27Jul2022	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD)	Received: 25Jul2022	Status: N/A

Cannabinoids

	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.005	0.017	0.010	0.10	
Cannabichromenic Acid (CBCA)	0.005	0.015	ND	ND	
Cannabidiol (CBD)	0.013	0.042	5.010	50.10	
Cannabidiolic Acid (CBDA)	0.014	0.043	ND	ND	
Cannabidivarin (CBDV)	0.003	0.010	0.020	0.20	
Cannabidivarinic Acid (CBDVA)	0.006	0.018	ND	ND	
Cannabigerol (CBG)	0.003	0.010	0.320	3.20	
Cannabigerolic Acid (CBGA)	0.012	0.040	ND	ND	
Cannabinol (CBN)	0.004	0.012	0.000	0.00	
Cannabinolic Acid (CBNA)	0.008	0.027	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.014	0.048	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.013	0.043	ND	ND	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.012	0.038	ND	ND	
Tetrahydrocannabivarin (THCV)	0.003	0.009	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.010	0.034	ND	ND	
Total Cannabinoids			5.360	53.60	
Total Potential THC			ND	ND	
Total Potential CBD			5.010	50.10	

Final Approval



Jacob Miller
28Jul2022
04:10:00 PM MDT

PREPARED BY / DATE



Karen Winternheimer
28Jul2022
04:12:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/92d0ed18-5ba3-4f16-9ba4-36419af1eaba>

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)).

Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of Botanacor Laboratories, LLC. ISO/IEC 17025:2017 Accredited by A2LA.



Cert #4329.02
92d0ed185ba34f169ba436419af1eaba.1

1350 BS Natural

Batch ID or Lot Number: 220630A	Test: Microbial Contaminants	Reported: 29Jul2022	USDA License: NA
Matrix: Finished Product	Test ID: T000215435	Started: 26Jul2022	Sampler ID: NA
	Method(s): TM25 (PCR) TM24, TM26, TM27 (Culture Plating)	Received: 25Jul2022	Status: NA

Microbial Contaminants

Contaminants	Method	LOD	Quantitation Range	Result	Notes
STEC	TM25: PCR	10 ⁰ CFU/g	NA	Absent	Free from visual mold, mildew, and foreign matter
<i>Salmonella</i>	TM25: PCR	10 ⁰ CFU/g	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


 Brianne Maillot
 29Jul2022
 10:38:00 AM MDT

PREPARED BY / DATE



 Carly Bader
 29Jul2022
 12:55:00 PM MDT

APPROVED BY / DATE


<https://results.botanacor.com/api/v1/coas/uuid/f76b8f37-9b82-4c09-9ce1-c37728e2ffe8>
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

Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of Botanacor Laboratories, LLC. ISO/IEC 17025:2017 Accredited by A2LA.


 Cert #4329.02
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1350 mg Broad Spectrum Natural


Batch ID or Lot Number: 220630A	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 2 of 5
Reported: 14Jun2022	Started: 13Jun2022	Received: 10Jun2022	

Mycotoxins - Colorado Compliance

Test ID: T000209820
Methods: TM18 (UHPLC-QQQ)
LCMS/MS: Mycotoxins

	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	3.71 - 129.04	ND	N/A
Aflatoxin B1	1.01 - 32.19	ND	
Aflatoxin B2	1.04 - 31.97	ND	
Aflatoxin G1	0.97 - 32.32	ND	
Aflatoxin G2	1.04 - 32.28	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval


Jacob Miller
14Jun2022
02:49:00 PM MDT
PREPARED BY / DATE


Ryan Weems
14Jun2022
02:52:00 PM MDT
APPROVED BY / DATE


Heavy Metals - Colorado Compliance

Test ID: T000209818
Methods: TM19 (ICP-MS): Heavy Metals

	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.05 - 4.58	ND	
Cadmium	0.05 - 4.53	ND	
Mercury	0.04 - 4.43	ND	
Lead	0.05 - 4.66	ND	

Final Approval


Ryan Weems
14Jun2022
02:50:00 PM MDT
PREPARED BY / DATE


Daniel Weidensaul
14Jun2022
02:53:00 PM MDT
APPROVED BY / DATE

1350 mg Broad Spectrum Natural

Batch ID or Lot Number: 220630A	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 3 of 5
Reported: 14Jun2022	Started: 13Jun2022	Received: 10Jun2022	

**Residual Solvents -
Colorado Compliance**

Test ID: T000209819


Methods: TM04 (GC-MS): Residual

Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	82 - 1630	ND	
Butanes (Isobutane, n-Butane)	124 - 2481	ND	
Methanol	50 - 1010	ND	
Pentane	72 - 1446	ND	
Ethanol	73 - 1465	ND	
Acetone	78 - 1565	ND	
Isopropyl Alcohol	83 - 1652	ND	
Hexane	5 - 102	ND	
Ethyl Acetate	82 - 1633	ND	
Benzene	0.2 - 3.3	ND	
Heptanes	80 - 1592	ND	
Toluene	15 - 296	ND	
Xylenes (m,p,o-Xylenes)	108 - 2168	ND	

Final Approval

Jacob Miller
14Jun2022
05:51:00 PM MDT

PREPARED BY / DATE



Ryan Weems
14Jun2022
05:55:00 PM MDT

APPROVED BY / DATE

1350 mg Broad Spectrum Natural

Batch ID or Lot Number: 220630A	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 4 of 5
Reported: 14Jun2022	Started: 13Jun2022	Received: 10Jun2022	

Pesticides


Test ID: T000209817

Methods: TM17

(LC-QQ LC MS/MS)	Dynamic Range (ppb)	Result (ppb)		Dynamic Range (ppb)	Result (ppb)	
Abamectin	365 - 2660	ND		Malathion	304 - 2758	ND
Acephate	45 - 2774	ND		Metalaxyl	51 - 2788	ND
Acetamiprid	43 - 2778	ND		Methiocarb	39 - 2735	ND
Azoxystrobin	40 - 2739	ND		Methomyl	42 - 2747	ND
Bifenazate	42 - 2765	ND		MGK 264 1	187 - 1618	ND
Boscalid	15 - 2744	ND		MGK 264 2	129 - 1129	ND
Carbaryl	40 - 2776	ND		Myclobutanil	37 - 2661	ND
Carbofuran	43 - 2761	ND		Naled	28 - 2666	ND
Chlorantraniliprole	46 - 2731	ND		Oxamyl	3 - 2768	ND
Chlorpyrifos	47 - 2776	ND		Paclobutrazol	41 - 2732	ND
Clofentezine	306 - 2776	ND		Permethrin	340 - 2681	ND
Diazinon	298 - 2777	ND		Phosmet	41 - 2752	ND
Dichlorvos	311 - 2758	ND		Prophos	290 - 2708	ND
Dimethoate	45 - 2766	ND		Propoxur	39 - 2744	ND
E-Fenpyroximate	296 - 2737	ND		Pyridaben	302 - 2767	ND
Etofenprox	42 - 2726	ND		Spinosad A	36 - 2242	ND
Etoxazole	299 - 2708	ND		Spinosad D	55 - 497	ND
Fenoxycarb	45 - 2737	ND		Spiromesifen	306 - 2722	ND
Fipronil	39 - 2733	ND		Spirotetramat	292 - 2784	ND
Flonicamid	4 - 2732	ND		Spiroxamine 1	17 - 1160	ND
Fludioxonil	260 - 2633	ND		Spiroxamine 2	21 - 1502	ND
Hexythiazox	49 - 2737	ND		Tebuconazole	259 - 2755	ND
Imazalil	286 - 2760	ND		Thiacloprid	41 - 2763	ND
Imidacloprid	51 - 2800	ND		Thiamethoxam	45 - 2752	ND
Kresoxim-methyl	53 - 2822	ND		Trifloxystrobin	41 - 2736	ND

Final Approval

 Karen Winternheimer
16Jun2022
04:48:00 PM MDT
PREPARED BY / DATE

 Daniel Weidensaul
16Jun2022
05:01:00 PM MDT
APPROVED BY / DATE