

CERTIFICATE OF ANALYSIS

PRODUCT NAME:	Organic Full Spectrum CBD Tincture - Natural
PRODUCT STRENGTH:	900mg
TINCTURE BATCH:	452646J
BEST BY DATE:	6/4/17
HEMP EXTRACT LOT:	DEC/2226; ; /442: 47

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	LOQ*: ≥ product strength mg / bottle	1039mg	PASS
Potency - D9-THC	HPLC-UV DAD	LOQ: <0.3% total THC (Full spectrum)	32mg	PASS
Expanded Pesticide Panel	HPLC-QQQ	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	Below LOQ	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	ICP-MS	Arsenic (As): ≤1.5 ppm† Cadmium (Cd): ≤0.5 ppm Lead (Pb): ≤0.5 ppm Mercury (Hg): ≤1.5 ppm	Below LOQ	PASS
Mycotoxins	ICP-MS	Total Aflatoxins <20 ppb†† Aflatoxin B1 < 5 ppb Ochratoxin < 5 ppb	Below LOQ	PASS
Residual Solvents	GC-HS-MSD	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	Below LOQ	PASS

*Level of Quantification
 **Colony Forming Units per Gram
 † Parts Per Million †† Part Per Billion

Values expressed in scientific notation.
 Examples:
 10²=100
 10³=1,000

Quality Certified


 Name

5/3/2023


Date

900mg Full Spectrum CBD Tincture- Natural

Batch ID or Lot Number: 230424H	Test: Potency	Reported: 29Aug2022	USDA License: N/A
Matrix: Concentrate	Test ID: T000219651	Started: 29Aug2022	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis	Received: 29Aug2022	Status: Active

Cannabinoids	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.007	0.021	<LOQ	0.07	
Cannabichromenic Acid (CBCA)	0.006	0.019	ND	ND	
Cannabidiol (CBD)	0.014	0.053	3.497	34.97	
Cannabidiolic Acid (CBDA)	0.015	0.055	ND	ND	
Cannabidivarin (CBDV)	0.003	0.013	0.015	0.15	
Cannabidivarinic Acid (CBDVA)	0.006	0.023	ND	ND	
Cannabigerol (CBG)	0.004	0.012	0.180	1.80	
Cannabigerolic Acid (CBGA)	0.017	0.050	ND	ND	
Cannabinol (CBN)	0.005	0.016	<LOQ	0.13	
Cannabinolic Acid (CBNA)	0.011	0.034	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.020	0.060	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.018	0.054	0.111	1.11	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.016	0.048	ND	ND	
Tetrahydrocannabivarin (THCV)	0.004	0.011	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.014	0.043	ND	ND	
Total Cannabinoids			3.823	38.23	
Total Potential THC			0.111	1.11	
Total Potential CBD			3.497	34.97	

Final Approval


 Sam Smith
 30Aug2022
 06:09:00 PM MDT
 PREPARED BY / DATE


 Daniel Weidensaul
 30Aug2022
 06:12:00 PM MDT
 APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/8a28d9c9-d870-42ca-ae6e-6088efd978bd>

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 SC Laboratories, Inc., in the condition it was received. SC Laboratories, Inc., 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 SC Laboratories, Inc. ISO/IEC 17025:2017 Accredited by A2LA.



Cert #4329.02

CDPHE Certified
 8a28d9c9d87042caae6e6088efd978bd.1

900mg Full Spectrum CBD Tincture- Natural


Batch ID or Lot Number: 230424H	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 1 of 4
Reported: 01Nov2022	Started: 29Oct2022	Received: 28Oct2022	


**Residual Solvents -
Colorado Compliance**

Test ID: T000226181
Methods: TM04 (GC-MS): Residual

Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	86 - 1729	ND	
Butanes (Isobutane, n-Butane)	173 - 3455	ND	
Methanol	54 - 1087	ND	
Pentane	91 - 1812	ND	
Ethanol	88 - 1767	ND	
Acetone	91 - 1814	ND	
Isopropyl Alcohol	94 - 1876	ND	
Hexane	5 - 107	ND	
Ethyl Acetate	91 - 1810	ND	
Benzene	0.2 - 3.6	ND	
Heptanes	91 - 1825	ND	
Toluene	16 - 326	ND	
Xylenes (m,p,o-Xylenes)	118 - 2364	ND	

Final Approval


 Karen Winternheimer
 01Nov2022
 07:32:00 AM MDT
 PREPARED BY / DATE


 Sam Smith
 01Nov2022
 07:36:00 AM MDT
 APPROVED BY / DATE

900mg Full Spectrum CBD Tincture- Natural


Batch ID or Lot Number: 230424H	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 2 of 4
Reported: 01Nov2022	Started: 29Oct2022	Received: 28Oct2022	


Mycotoxins - Colorado Compliance

Test ID: T000226182
Methods: TM18 (UHPLC-QQQ)
LCMS/MS: Mycotoxins

	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	3.71 - 121.49	ND	N/A
Aflatoxin B1	0.86 - 31.15	ND	
Aflatoxin B2	0.89 - 31.45	ND	
Aflatoxin G1	0.92 - 30.87	ND	
Aflatoxin G2	0.92 - 31.67	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval


Sam Smith
01Nov2022
08:27:00 AM MDT
PREPARED BY / DATE



Karen Winternheimer
01Nov2022
08:34:00 AM MDT
APPROVED BY / DATE

Heavy Metals - Colorado Compliance

Test ID: T000226180
Methods: TM19 (ICP-MS): Heavy Metals

	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.17	ND	
Cadmium	0.04 - 4.21	ND	
Mercury	0.04 - 4.14	ND	
Lead	0.04 - 4.02	ND	

Final Approval


Sam Smith
03Nov2022
09:29:00 AM MDT
PREPARED BY / DATE


Phillip Travisano
03Nov2022
10:09:00 AM MDT
APPROVED BY / DATE

900mg Full Spectrum CBD Tincture- Natural

Batch ID or Lot Number: 230424H	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 3 of 4
Reported: 01Nov2022	Started: 29Oct2022	Received: 28Oct2022	


Pesticides


Test ID: T000226179

Methods: TM17

(LC-QQ LC MS/MS)	Dynamic Range (ppb)	Result (ppb)	Dynamic Range (ppb)	Result (ppb)	
Abamectin	347 - 2834	ND	Malathion	280 - 2714	ND
Acephate	40 - 2789	ND	Metalaxyl	41 - 2751	ND
Acetamiprid	40 - 2739	ND	Methiocarb	42 - 2712	ND
Azoxystrobin	40 - 2728	ND	Methomyl	37 - 2759	ND
Bifenazate	40 - 2740	ND	MGK 264 1	171 - 1610	ND
Boscalid	24 - 2691	ND	MGK 264 2	119 - 1152	ND
Carbaryl	41 - 2714	ND	Myclobutanil	32 - 2701	ND
Carbofuran	41 - 2728	ND	Naled	43 - 2724	ND
Chlorantraniliprole	38 - 2701	ND	Oxamyl	39 - 2754	ND
Chlorpyrifos	46 - 2777	ND	Paclobutrazol	41 - 2716	ND
Clofentezine	279 - 2740	ND	Permethrin	280 - 2784	ND
Diazinon	283 - 2727	ND	Phosmet	43 - 2726	ND
Dichlorvos	155 - 2662	ND	Prophos	294 - 2723	ND
Dimethoate	39 - 2722	ND	Propoxur	42 - 2717	ND
E-Fenpyroximate	284 - 2765	ND	Pyridaben	311 - 2726	ND
Etofenprox	41 - 2788	ND	Spinosad A	30 - 2236	ND
Etoxazole	296 - 2775	ND	Spinosad D	46 - 503	ND
Fenoxycarb	34 - 2706	ND	Spiromesifen	264 - 2798	ND
Fipronil	36 - 2830	ND	Spirotetramat	289 - 2729	ND
Flonicamid	41 - 2750	ND	Spiroxamine 1	18 - 1170	ND
Fludioxonil	293 - 2728	ND	Spiroxamine 2	22 - 1529	ND
Hexythiazox	41 - 2789	ND	Tebuconazole	294 - 2713	ND
Imazalil	256 - 2752	ND	Thiacloprid	39 - 2731	ND
Imidacloprid	42 - 2718	ND	Thiamethoxam	38 - 2767	ND
Kresoxim-methyl	41 - 2792	ND	Trifloxystrobin	42 - 2729	ND

Final Approval

 Karen Winternheimer
04Nov2022
08:49:00 AM MDT
PREPARED BY / DATE

 Sam Smith
04Nov2022
08:53:00 AM MDT
APPROVED BY / DATE

900mg Full Spectrum CBD Tincture- Natural

Batch ID or Lot Number: 230424H	Test: Microbial Contaminants	Reported: 01May2023	USDA License: N/A
Matrix: Finished Product	Test ID: T000242485	Started: 27Apr2023	Sampler ID: N/A
	Method(s): TM25 (qPCR) TM24, TM26, TM27 (Culture Plating): Microbial (Colorado Panel)	Received: 27Apr2023	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
01May2023
12:32:00 PM MDT

PREPARED BY / DATE



Eden Thompson-Wright
01May2023
04:46:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/59b8951b-7a2b-4ec4-b391-e3f6ac698535>

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 SC Laboratories, Inc., in the condition it was received. SC Laboratories, Inc., 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 SC Laboratories, Inc. ISO/IEC 17025:2017 Accredited by A2LA.



Cert #4329.02

CDPHE Certified

59b8951b7a2b4ec4b391e3f6ac698535.1