

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Organic Full Spectrum CBD Tincture - Tropical
PRODUCT STRENGTH: 2250mg
TINCTURE BATCH: 230424D
BEST BY DATE: 6/4/24
HEMP EXTRACT LOT: 221707B- LD-0-00108

Physical Attributes

Test	Method	Specification	Results
Color	Joy Internal	Golden to Amber	PASS
Odor	Joy Internal	Characteristic - Coconut and Hemp, Tropical	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*: \geq product strength mg / bottle	2625mg	PASS
Potency - D9-THC	HPLC-UV DAD	LOQ: $<0.3\%$ total THC product strength mg / bottle	80mg	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:
 $10^2=100$
 $10^3=1,000$

Quality Certified

Name

5/2/2023

Date

2250mg Full Spectrum Tincture- Tropical

Batch ID or Lot Number: 230424D	Test: Potency	Reported: 10Dec2022	USDA License: N/A
Matrix: Concentrate	Test ID: T000230175	Started: 08Dec2022	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis	Received: 08Dec2022	Status: Active

Cannabinoids

	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.006	0.022	0.362	3.62	
Cannabichromenic Acid (CBCA)	0.006	0.020	ND	ND	
Cannabidiol (CBD)	0.019	0.060	8.939	89.39	
Cannabidiolic Acid (CBDA)	0.019	0.062	<LOQ	<LOQ	
Cannabidivarin (CBDV)	0.004	0.014	0.065	0.65	
Cannabidivarinic Acid (CBDVA)	0.008	0.026	ND	ND	
Cannabigerol (CBG)	0.004	0.013	0.199	1.99	
Cannabigerolic Acid (CBGA)	0.015	0.053	ND	ND	
Cannabinol (CBN)	0.005	0.017	<LOQ	<LOQ	
Cannabinolic Acid (CBNA)	0.010	0.036	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.018	0.063	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.016	0.057	0.272	2.72	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.014	0.051	ND	ND	
Tetrahydrocannabivarin (THCV)	0.003	0.012	<LOQ	<LOQ	
Tetrahydrocannabivarinic Acid (THCVA)	0.013	0.045	ND	ND	
Total Cannabinoids			9.837	98.37	
Total Potential THC			0.272	2.72	
Total Potential CBD			8.939	89.39	

Final Approval



Karen Winternheimer
10Dec2022
01:35:00 PM MST

PREPARED BY / DATE



Sam Smith
10Dec2022
01:37:00 PM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/b49eda96-a82f-4995-a76c-aef3517b9fce>

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

b49eda96a82f4995a76caef3517b9fce.2

2250mg Full Spectrum Tincture- Tropical

Batch ID or Lot Number: 230424D	Test: Microbial Contaminants	Reported: 01May2023	USDA License: N/A
Matrix: Finished Product	Test ID: T000242578	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/f03fe434-1bb4-4008-8e2f-53d73429ce5e>

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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Cert #4329.02



CDPHE Certified




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2250mg Full Spectrum Tincture- Tropical

Batch ID or Lot Number: 230424D	Test: Mycotoxins	Reported: 21Oct2022	USDA License: N/A
Matrix: Concentrate	Test ID: T000223802	Started: 19Oct2022	Sampler ID: N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 07Oct2022	Status: Active

Mycotoxins	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	1.29 - 118.48	ND	N/A
Aflatoxin B1	0.85 - 30.17	ND	
Aflatoxin B2	2.29 - 29.70	ND	
Aflatoxin G1	0.97 - 29.91	ND	
Aflatoxin G2	1.18 - 29.79	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval


 Sam Smith
 21Oct2022
 10:29:00 AM MDT
 PREPARED BY / DATE


 Karen Winternheimer
 21Oct2022
 10:31:00 AM MDT
 APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/8ccc393e-3ea3-4eb0-90d5-8e4c9ec4fb5e>

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

CDPHE Certified
 8ccc393e3ea34eb090d58e4c9ec4fb5e.1

2250mg Full Spectrum Tincture- Tropical

Batch ID: 230424D	Test ID: T000126131
Type: Concentrate	Submitted: 02/25/2021 @ 12:03 PM
Test: Pesticides	Started: 2/25/2021
Method: TM17	Reported: 3/1/2021


PESTICIDE RESIDUE

Compound	Dynamic Range (ppb)	Result (ppb)	Compound	Dynamic Range (ppb)	Result (ppb)
Acephate	34 - 2468	ND*	Malathion	291 - 2468	ND*
Acetamiprid	40 - 2468	ND*	Metalaxyl	39 - 2468	ND*
Abamectin	>342	ND*	Methiocarb	38 - 2468	ND*
Azoxystrobin	42 - 2468	ND*	Methomyl	42 - 2468	ND*
Bifenazate	28 - 2468	ND*	MGK 264 1	160 - 2468	ND*
Boscalid	42 - 2468	ND*	MGK 264 2	101 - 2468	ND*
Carbaryl	38 - 2468	ND*	Myclobutanil	38 - 2468	ND*
Carbofuran	39 - 2468	ND*	Naled	41 - 2468	ND*
Chlorantraniliprole	37 - 2468	ND*	Oxamyl	38 - 2468	ND*
Chlorpyrifos	42 - 2468	ND*	Paclobutrazol	40 - 2468	ND*
Clofentezine	269 - 2468	ND*	Permethrin	269 - 2468	ND*
Diazinon	280 - 2468	ND*	Phosmet	41 - 2468	ND*
Dichlorvos	>286	ND*	Propfos	298 - 2468	ND*
Dimethoate	40 - 2468	ND*	Propxur	38 - 2468	ND*
E-Fenpyroximate	279 - 2468	ND*	Pyridaben	281 - 2468	ND*
Etofenprox	41 - 2468	ND*	Spinosad A	30 - 2468	ND*
Etoazole	289 - 2468	ND*	Spinosad D	76 - 2468	ND*
Fenoxycarb	>31	ND*	Spiromesifen	>273	ND*
Fipronil	38 - 2468	ND*	Spirotetramat	>299	ND*
Flonicamid	38 - 2468	ND*	Spiroxamine 1	17 - 2468	ND*
Fludioxonil	>286	ND*	Spiroxamine 2	22 - 2468	ND*
Hexythiazox	36 - 2468	ND*	Tebuconazole	285 - 2468	ND*
Imazalil	272 - 2468	ND*	Thiacloprid	42 - 2468	ND*
Imidacloprid	41 - 2468	ND*	Thiamethoxam	38 - 2468	ND*
Kresoxim-methyl	43 - 2468	ND*	Trifloxystrobin	40 - 2468	ND*


* ND = None Detected (Defined by Dynamic Range of the method)

N/A

FINAL APPROVAL


 Tyler Wiese
 1-Mar-2021
 12:03 PM

PREPARED BY / DATE


 Ben Minton
 1-Mar-2021
 1:06 PM

APPROVED BY / DATE

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.

2250mg Full Spectrum Tincture- Tropical

Batch ID: 230424D	Test ID: T000126134
Type: Concentrate	Submitted: 02/25/2021 @ 12:03 PM
Test: Residual Solvents	Started: 3/2/2021
Method: TM04	Reported: 3/2/2021

RESIDUAL SOLVENTS

Solvent	Dynamic Range (ppm)	Result (ppm)
Propane	96 - 1911	*ND
Butanes (Isobutane, n-Butane)	178 - 3556	*ND
Methanol	53 - 1054	*ND
Pentane	91 - 1816	*ND
Ethanol	92 - 1838	*ND
Acetone	92 - 1849	*ND
Isopropyl Alcohol	97 - 1933	*ND
Hexane	6 - 116	*ND
Ethyl Acetate	96 - 1919	*ND
Benzene	0.2 - 3.7	*ND
Heptanes	92 - 1838	*ND
Toluene	17 - 335	*ND
Xylenes (m,p,o-Xylenes)	118 - 2359	*ND


* ND = None Detected (Defined by Dynamic Range of the method)

NOTES:
N/A

FINAL APPROVAL


 Ryan Weems
 2-Mar-2021
 3:08 PM

PREPARED BY / DATE


 Ben Minton
 2-Mar-2021
 6:32 PM

APPROVED BY / DATE

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Certificate #4329.02

2250mg Full Spectrum Tincture- Tropical

Batch ID: 230424D	Test ID: T000126133
Type: Concentrate	Submitted: 02/25/2021 @ 12:03 PM
Test: Metals	Started: 3/2/2021
Method: TM19	Reported: 3/3/2021

HEAVY METALS

Analyte	Dynamic Range (ppm)	Result (ppm)
Arsenic	0.092 - 9.20	ND
Cadmium	0.095 - 9.53	ND
Mercury	0.095 - 9.55	ND
Lead	0.095 - 9.52	ND

* ND = None Detected (Defined by Dynamic Range of the method)

FINAL APPROVALDaniel Weidensaul
3-Mar-2021
11:00 AMBen Minton
3-Mar-2021
12:36 PM

PREPARED BY / DATE

APPROVED BY / DATE

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.