

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Organic Full Spectrum CBG + CBD Tincture - Mint
PRODUCT STRENGTH: 450mg CBG + 450mg CBD
TINCTURE BATCH: 452352D
BEST BY DATE: 3/5/24
HEMP EXTRACT LOT: DJ /: 894/46

Physical Attributes

Test	Method	Specification	Results
Color	Joy Internal	Golden to Amber	PASS
Odor	Joy Internal	Characteristic - Olive and Hemp, Mint	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

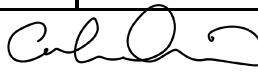
Review of Third-Party Analysis

Panel	Method	Specification	Results*	Pass/Fail
Potency - Total CBD	HPLC-UV DAD	450mg product strength mg / bottle	471mg	PASS
Potency - Total CBG	HPLC-UV DAD	450mg product strength mg / bottle	476mg	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

2/21/2023

Date

400mg CBD: 400mg CBG Tincture

Batch ID or Lot Number: 230103B	Test: Potency	Reported: 09Sep2022	USDA License: N/A
Matrix: Concentrate	Test ID: T000220549	Started: 07Sep2022	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis	Received: 07Sep2022	Status: Active

Cannabinoids

	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.018	0.053	0.090	0.90	
Cannabichromenic Acid (CBCA)	0.016	0.049	ND	ND	
Cannabidiol (CBD)	0.051	0.142	1.656	16.56	
Cannabidiolic Acid (CBDA)	0.052	0.145	ND	ND	
Cannabidivarin (CBDV)	0.012	0.033	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.022	0.061	ND	ND	
Cannabigerol (CBG)	0.010	0.030	1.673	16.73	
Cannabigerolic Acid (CBGA)	0.042	0.126	ND	ND	
Cannabinol (CBN)	0.013	0.039	ND	ND	
Cannabinolic Acid (CBNA)	0.028	0.086	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.049	0.151	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.045	0.137	0.068	0.68	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.040	0.121	ND	ND	
Tetrahydrocannabivarin (THCV)	0.009	0.027	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.035	0.107	ND	ND	
Total Cannabinoids			3.487	34.87	
Total Potential THC			0.068	0.68	
Total Potential CBD			1.656	16.56	

Final Approval



Karen Winternheimer
09Sep2022
02:31:00 PM MDT

PREPARED BY / DATE



Jacob Miller
09Sep2022
02:44:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/54c8b603-4a45-45ad-89bc-03bfe534d592>

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


54c8b603a4545ad89bc03bfe534d592.1


400mg CBD: 400mg CBG Tincture

Batch ID or Lot Number: 230130B	Test: Residual Solvents	Reported: 10/7/22	
Matrix: N/A	Test ID: T000223742	Started: 10/7/22	USDA License: N/A
Status: Active	Methods: TM04 (GC-MS): Residual Solvents	Received: 10/06/2022 @ 09:02 AM	Sampler ID: N/A

RESIDUAL SOLVENTS DETERMINATION

Solvent	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	96 - 1917	*ND	
Butanes (Isobutane, n-Butane)	201 - 4013	*ND	
Methanol	68 - 1368	*ND	
Pentane	106 - 2127	*ND	
Ethanol	106 - 2126	*ND	
Acetone	108 - 2162	*ND	
Isopropyl Alcohol	111 - 2221	*ND	
Hexane	6 - 130	*ND	
Ethyl Acetate	107 - 2141	*ND	
Benzene	0.2 - 4.4	*ND	
Heptanes	111 - 2223	*ND	
Toluene	20 - 395	*ND	
Xylenes (m,p,o-Xylenes)	145 - 2895	*ND	


 Sam Smith
 7-Oct-22
 3:52 PM


 Karen Winternheimer
 7-Oct-22
 3:56 PM

PREPARED BY / DATE

APPROVED BY / DATE

Definitions

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

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Certificate #4329.02

400mg CBD: 400mg CBG Tincture

Batch ID or Lot Number: **230130B** Test: **Pesticides** Reported: **10/9/22**

Matrix: Concentrate Test ID: T000223739 Started: 10/7/22 USDA License: N/A

Status: N/A Method: TM17(LC-QQQ LC MS/MS): Received: 10/06/2022 @ 09:02 AM Sampler ID: N/A

PESTICIDE DETERMINATION

Compound	LOQ (ppb)	Result (ppb)	Compound	LOQ (ppb)	Result (ppb)	Compound	LOQ (ppb)	Result (ppb)
Acephate	40	ND	Fenoxycarb	50	ND	Paclobutrazol	47	ND
Acetamiprid	42	ND	Fipronil	73	ND	Permethrin	308	ND
Abamectin	343	ND	Flonicamid	53	ND	Phosmet	48	ND
Azoxystrobin	50	ND	Fludioxonil	293	ND	Prophos	280	ND
Bifenazate	46	ND	Hexythiazox	42	ND	Propoxur	44	ND
Boscalid	47	ND	Imazalil	248	ND	Pyridaben	287	ND
Carbaryl	41	ND	Imidacloprid	51	ND	Spinosad A	43	ND
Carbofuran	44	ND	Kresoxim-methyl	150	ND	Spinosad D	51	ND
Chlorantraniliprole	47	ND	Malathion	287	ND	Spiromesifen	249	ND
Chlorpyrifos	500	ND	Metalaxyl	44	ND	Spirotetramat	296	ND
Clofentezine	310	ND	Methiocarb	41	ND	Spiroxamine 1	17	ND
Diazinon	293	ND	Methomyl	37	ND	Spiroxamine 2	23	ND
Dichlorvos	273	ND	MGK 264 1	194	ND	Tebuconazole	292	ND
Dimethoate	41	ND	MGK 264 2	118	ND	Thiacloprid	42	ND
E-Fenpyroximate	288	ND	Myclobutanil	47	ND	Thiamethoxam	41	ND
Etofenprox	49	ND	Naled	55	ND	Trifloxystrobin	53	ND
Etoxazole	291	ND	Oxamyl	1500	ND			

Samantha Smith Sam Smith
10/9/2022
7:15:00 PM

K Winterheimer Karen Winterheimer
10/9/2022
7:19:00 PM

PREPARED BY / DATE

APPROVED BY / DATE

Definitions

LOQ = Limit of Quantification
ppb = Parts per Billion

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Certificate #4329.02

400mg CBD: 400mg CBG Tincture

Batch ID or Lot Number: 230130B	Test: Mycotoxins	Reported: 10/21/22	
Matrix: Concentrate	Test ID: T000223743	Started: 10/19/22	USDA License: N/A
Status: Active	Method: TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 10/06/2022 @ 09:02 AM	Sampler ID: N/A

MYCOTOXIN DETERMINATION

Compound	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	1.4 - 132.1	ND	N/A
Aflatoxin B1	1 - 33.7	ND	
Aflatoxin B2	2.6 - 33.1	ND	
Aflatoxin G1	1.1 - 33.4	ND	
Aflatoxin G2	1.3 - 33.2	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Samantha Smith
Sam Smith
21-Oct-22
10:29 AM

PREPARED BY / DATE

K Winterheimer
Karen Winterheimer
21-Oct-22
10:31 AM

APPROVED BY / DATE

Definitions

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

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Certificate #4329.02

400mg CBD: 400mg CBG Tincture


Batch ID or Lot Number: 230130B	Test: Metals	Reported: 10/10/22	
Matrix: Concentrate Co	Test ID: T000223741	Started: 10/10/22	USDA License: N/A
Status: Active	Method: TM19 (ICP-MS): Heavy Metals	Received: 10/06/2022 @ 09:02 AM	Sampler ID: N/A

HEAVY METALS DETERMINATION

Compound	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.043 - 4.29	ND	
Cadmium	0.046 - 4.58	ND	
Mercury	0.046 - 4.60	ND	
Lead	0.043 - 4.30	ND	


 Sam Smith
 10-Oct-22
 4:45 PM

PREPARED BY / DATE


 Karen Winterheimer
 10-Oct-22
 4:52 PM

APPROVED BY / DATE

Definitions

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

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Certificate #4329.02

400mg CBD: 400mg CBG Tincture

Batch ID or Lot Number: 230130B	Test: Microbial Contaminants	Reported: 12Sep2022	USDA License: N/A
Matrix: Finished Product	Test ID: T000220763	Started: 08Sep2022	Sampler ID: N/A
	Method(s): TM25 (qPCR) TM24, TM26, TM27 (Culture Plating): Microbial (Colorado Panel)	Received: 07Sep2022	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



Brianne Maillot
11Sep2022
04:02:00 PM MDT



Brett Hudson
12Sep2022
09:52:00 AM MDT



PREPARED BY / DATE

APPROVED BY / DATE

<https://results.botanacor.com/api/v1/coas/uuid/8b4c1c59-026b-4d58-b8d4-e71dff5e3aa2>

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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