

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Organic CBD Tincture - Natural
PRODUCT STRENGTH: 900mg
TINCTURE BATCH: 221017E
BEST BY DATE: 4/11/2024
HEMP EXTRACT LOT: 221012D

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	1097mg	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† Aflatoxin B1 < 5 ppb Ochratoxin < 5ppb	ND	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



12/15/2022

Date

OPTNAT900

Batch ID or Lot Number: 221017E	Test: Potency	Reported: 14Oct2022	USDA License: N/A
Matrix: Concentrate	Test ID: T000224610	Started: 13Oct2022	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD)	Received: 13Oct2022	Status: N/A

Cannabinoids

	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.005	0.016	ND	ND	
Cannabichromenic Acid (CBCA)	0.004	0.015	ND	ND	
Cannabidiol (CBD)	0.014	0.042	3.850	38.50	
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	0.009	0.190	1.90	
Cannabigerolic Acid (CBGA)	0.011	0.039	ND	ND	
Cannabinol (CBN)	0.003	0.012	ND	ND	
Cannabinolic Acid (CBNA)	0.008	0.026	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.013	0.046	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.012	0.042	ND	ND	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.011	0.037	ND	ND	
Tetrahydrocannabivarin (THCV)	0.002	0.008	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.009	0.033	ND	ND	
Total Cannabinoids			4.060	40.60	
Total Potential THC			ND	ND	
Total Potential CBD			3.850	38.50	

Final Approval



Karen Winternheimer
15Oct2022
07:37:00 PM MDT

PREPARED BY / DATE



Sam Smith
15Oct2022
07:38:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/cce27fad-2c9a-4e10-b33c-d0fc0c2b7c4a>

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
cce27fad2c9a4e10b33cd0fc0c2b7c4a.2


OPTNAT900

Batch ID or Lot Number: 221017E	Test: Residual Solvents	Reported: 20Oct2022	USDA License: N/A
Matrix: Concentrate	Test ID: T000224970	Started: 19Oct2022	Sampler ID: N/A
	Method(s): TM04 (GC-MS): Residual Solvents	Received: 18Oct2022	Status: Active

Residual Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	84 - 1681	ND	
Butanes (Isobutane, n-Butane)	175 - 3502	ND	
Methanol	55 - 1101	ND	
Pentane	93 - 1864	ND	
Ethanol	90 - 1795	ND	
Acetone	92 - 1841	ND	
Isopropyl Alcohol	93 - 1862	ND	
Hexane	6 - 113	ND	
Ethyl Acetate	92 - 1843	ND	
Benzene	0.2 - 3.7	ND	
Heptanes	94 - 1874	ND	
Toluene	17 - 332	ND	
Xylenes (m,p,o-Xylenes)	124 - 2480	ND	

Final Approval


 Sam Smith
 20Oct2022
 08:51:00 AM MDT
 PREPARED BY / DATE


 Karen Winternheimer
 20Oct2022
 08:54:00 AM MDT
 APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/65057241-e949-4515-b308-7d8225cc2fec>

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
 65057241e9494515b3087d8225cc2fec.1


OPTNAT900

Batch ID or Lot Number: 221017E	Test: Mycotoxins	Reported: 21Oct2022	USDA License: N/A
Matrix: Concentrate	Test ID: T000224971	Started: 19Oct2022	Sampler ID: N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 18Oct2022	Status: Active

Mycotoxins	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	1.37 - 125.83	ND	N/A
Aflatoxin B1	0.90 - 32.04	ND	
Aflatoxin B2	2.43 - 31.54	ND	
Aflatoxin G1	1.03 - 31.76	ND	
Aflatoxin G2	1.25 - 31.64	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval


 Sam Smith
 21Oct2022
 10:29:00 AM MDT
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 Karen Winternheimer
 21Oct2022
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<https://results.botanacor.com/api/v1/coas/uuid/3f8e71af-5d87-4f9a-92c0-9e6981d49124>

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
 3f8e71af5d874f9a92c09e6981d49124.1


OPTNAT900

Batch ID or Lot Number: 221017E	Test: Microbial Contaminants	Reported: 21Oct2022	USDA License: N/A
Matrix: Finished Product	Test ID: T000224968	Started: 18Oct2022	Sampler ID: N/A
	Method(s): TM25 (qPCR) TM24, TM26, TM27 (Culture Plating): Microbial (Colorado Panel)	Received: 18Oct2022	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



Eden Thompson-Wright
21Oct2022
03:19:00 PM MDT

PREPARED BY / DATE



Brianne Maillot
21Oct2022
04:17:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/547f3cf3-dd19-43e4-8014-96cde555b797>

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

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OPTNAT900

Batch ID or Lot Number: 221017E	Test: Microbial Contaminants	Reported: 21Oct2022	USDA License: N/A
Matrix: Finished Product	Test ID: T000224968	Started: 18Oct2022	Sampler ID: N/A
	Method(s): TM25 (qPCR) TM24, TM26, TM27 (Culture Plating): Microbial (Colorado Panel)	Received: 18Oct2022	Status: Active

Microbial

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



Eden Thompson-Wright
21Oct2022
03:19:00 PM MDT

PREPARED BY / DATE



Brianne Maillot
21Oct2022
04:17:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/547f3cf3-dd19-43e4-8014-96cde555b797>

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
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Cert #4329.02

CDPHE Certified


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OPTNAT900

Batch ID or Lot Number: 221017E	Test: Heavy Metals	Reported: 25Oct2022	USDA License: NA
Matrix: Unit Co	Test ID: T000224969	Started: 24Oct2022	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 18Oct2022	Status: NA

Heavy Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.19	ND	
Cadmium	0.04 - 4.28	ND	
Mercury	0.04 - 3.79	ND	
Lead	0.04 - 4.13	ND	

Final Approval


 Sam Smith
 25Oct2022
 08:37:00 AM MDT
 PREPARED BY / DATE


 Karen Winternheimer
 25Oct2022
 08:42:00 AM MDT
 APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/2a942933-e8d0-4d3d-b035-7455aee89fc2>

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
 2a942933e8d04d3db0357455aee89fc2.1

OPTNAT900

Batch ID or Lot Number: 221017E	Test: Pesticides	Reported: 26Oct2022	USDA License: NA
Matrix: Concentrate	Test ID: T000224967	Started: 25Oct2022	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 18Oct2022	Status: NA

Pesticides	Dynamic Range (ppb)	Result (ppb)	Pesticides	Dynamic Range (ppb)	Result (ppb)
Abamectin	251 - 2634	ND	Malathion	288 - 2733	ND
Acephate	35 - 2752	ND	Metalaxyl	40 - 2748	ND
Acetamiprid	36 - 2688	ND	Methiocarb	42 - 2801	ND
Azoxystrobin	40 - 2741	ND	Methomyl	34 - 2705	ND
Bifenazate	38 - 2718	ND	MGK 264 1	144 - 1597	ND
Boscalid	41 - 2823	ND	MGK 264 2	113 - 1138	ND
Carbaryl	40 - 2721	ND	Myclobutanil	45 - 2760	ND
Carbofuran	41 - 2709	ND	Naled	47 - 2735	ND
Chlorantraniliprole	43 - 2763	ND	Oxamyl	38 - 2691	ND
Chlorpyrifos	56 - 2830	ND	Pacllobutrazol	43 - 2705	ND
Clofentezine	279 - 2735	ND	Permethrin	282 - 2780	ND
Diazinon	277 - 2745	ND	Phosmet	42 - 2720	ND
Dichlorvos	258 - 2688	ND	Prophos	287 - 2746	ND
Dimethoate	37 - 2672	ND	Propoxur	40 - 2714	ND
E-Fenpyroximate	283 - 2752	ND	Pyridaben	289 - 2762	ND
Etofenprox	42 - 2757	ND	Spinosad A	30 - 2259	ND
Etoxazole	288 - 2732	ND	Spinosad D	43 - 500	ND
Fenoxycarb	45 - 2766	ND	Spiromesifen	270 - 2789	ND
Fipronil	58 - 2756	ND	Spirotetramat	260 - 2788	ND
Flonicamid	39 - 2707	ND	Spiroxamine 1	16 - 1183	ND
Fludioxonil	286 - 2787	ND	Spiroxamine 2	20 - 1603	ND
Hexythiazox	39 - 2786	ND	Tebuconazole	294 - 2729	ND
Imazalil	259 - 2800	ND	Thiacloprid	36 - 2683	ND
Imidacloprid	42 - 2697	ND	Thiamethoxam	40 - 2711	ND
Kresoxim-methyl	17 - 2783	ND	Trifloxystrobin	41 - 2738	ND

Final Approval


Samantha Smith
26Oct2022
11:01:00 AM MDT

PREPARED BY / DATE


Karen Winternheimer
26Oct2022
11:05:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/a5612923-6a80-4973-8bd1-9ce5edf65caa>

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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