

# CERTIFICATE OF ANALYSIS

<b>PRODUCT NAME:</b>	Organic CBD Tincture - Mint
<b>PRODUCT STRENGTH:</b>	900mg
<b>TINCTURE BATCH:</b>	220804C
<b>BEST BY DATE:</b>	06/30/2024
<b>HEMP EXTRACT LOT:</b>	BCA-000389-220607

### Physical Attributes

Test	Method	Specification	Results
Color	Joy Internal	Golden to Amber	PASS
Odor	Joy Internal	Characteristic - Olive and Hemp, Minty	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
<b>Potency - Total CBD</b>	HPLC-UV DAD	LOQ*: $\geq$ product strength mg / bottle	<b>939mg</b>	PASS
<b>Potency - D9-THC</b>	HPLC-UV DAD	LOQ: $<0.01\%$ (broad spectrum)	<b>Below LOQ</b>	PASS
<b>Expanded Pesticide Panel</b>	HPLC-QQQ	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	<b>Below LOQ</b>	PASS
<b>Microbial</b> Escherichia coli (STEC)	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram**	<b>Absent</b>	PASS
<b>Microbial</b> Salmonella	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram	<b>Absent</b>	PASS
<b>Microbial</b> Yeast and Mold	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ $10^2$ CFU/gram	<b>Below LOQ</b>	PASS
<b>Microbial</b> Total Coliforms	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ $10^2$ CFU/gram	<b>Below LOQ</b>	PASS
<b>Microbial</b> Total Aerobic Count	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ $10^3$ CFU/gram	<b>Below LOQ</b>	PASS
<b>Heavy Metals</b>	ICP-MS	Arsenic (As): $\leq 1.5$ ppm† Cadmium (Cd): $\leq 0.5$ ppm Lead (Pb): $\leq 0.5$ ppm Mercury (Hg): $\leq 1.5$ ppm	<b>Below LOQ</b>	PASS
<b>Mycotoxins</b>	ICP-MS	Total Aflatoxins $<20$ ppb†† Aflatoxin B1 $< 5$ ppb Ochratoxin $< 5$ ppb	<b>Below LOQ</b>	PASS
<b>Residual Solvents</b>	GC-HS-MSD	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	<b>Below LOQ</b>	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

8/24/22

Date

# CERTIFICATE OF ANALYSIS

Prepared for:  
**JOY ORGANICS**

5042 Technology Parkway Ste. 500  
FT. COLLINS, CO USA 80528


## 900 mg 5G Broad Spectrum Tincture Bulk in EVOO

Batch ID or Lot Number: <b>BCA-000389-220607</b>	Test: <b>Potency</b>	Reported: <b>14Jun2022</b>	USDA License: N/A
Matrix: Concentrate	Test ID: T000209811	Started: 13Jun2022	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis	Received: 10Jun2022	Status: Active

### Cannabinoids

	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.017	0.054	ND	ND	
Cannabichromenic Acid (CBCA)	0.015	0.049	ND	ND	
Cannabidiol (CBD)	0.047	0.139	3.405	34.05	
Cannabidiolic Acid (CBDA)	0.048	0.143	ND	ND	
Cannabidivarin (CBDV)	0.011	0.033	<LOQ	0.12	
Cannabidivarinic Acid (CBDVA)	0.020	0.060	ND	ND	
Cannabigerol (CBG)	0.009	0.030	0.221	2.21	
Cannabigerolic Acid (CBGA)	0.039	0.127	ND	ND	
Cannabinol (CBN)	0.012	0.040	ND	ND	
Cannabinolic Acid (CBNA)	0.027	0.087	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.047	0.152	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.042	0.138	ND	ND	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.038	0.122	ND	ND	
Tetrahydrocannabivarin (THCV)	0.009	0.028	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.033	0.108	ND	ND	
<b>Total Cannabinoids</b>			<b>3.638</b>	<b>36.38</b>	
Total Potential THC			ND	ND	
Total Potential CBD			3.405	34.05	

### Final Approval



Ryan Weems  
14Jun2022  
12:07:00 PM MDT

PREPARED BY / DATE



Karen Winternheimer  
14Jun2022  
12:11:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/08cc1533-84b5-4a8e-80c5-f618bbdeb67b>

#### 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

CDPHE Certified  
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12423 NE Whitaker Way  
 Portland, OR 97230  
 503-254-1794



**Report Number:** 22-009427/D005.R000  
**Report Date:** 08/16/2022  
**ORELAP#:** OR100028  
**Purchase Order:** 22082A + 220804C  
**Received:** 08/09/22 10:18

Microbiology

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
Aerobic Plate Count	< LOQ		cfu/g	10	2206728	08/12/22 AOAC 990.12 (Petrifilm) <sup>b</sup>		
E.coli	< LOQ		cfu/g	10	2206726	08/12/22 AOAC 991.14 (Petrifilm) <sup>b</sup>		
Total Coliforms	< LOQ		cfu/g	10	2206726	08/12/22 AOAC 991.14 (Petrifilm) <sup>b</sup>		
Mold (RAPID Petrifilm)	< LOQ		cfu/g	10	2206727	08/13/22 AOAC 2014.05 (RAPID) <sup>b</sup>		
Yeast (RAPID Petrifilm)	< LOQ		cfu/g	10	2206727	08/13/22 AOAC 2014.05 (RAPID) <sup>b</sup>		
Salmonella spp. by PCR	Negative		/5g		2206731	08/11/22 AOAC 2020.02 <sup>b</sup>		I
EHEC including STEC	Negative		/5g		2206734	08/11/22 AOAC RI 121806 <sup>b</sup>		I

# CERTIFICATE OF ANALYSIS

Prepared for:

**JOY ORGANICS**

5042 Technology Parkway Ste. 500  
FT. COLLINS, CO USA 80528

## 900 mg 5G Broad Spectrum Tincture Bulk in EVOO

Batch ID or Lot Number: <b>BCA-000389-220607</b>	Test: <b>Residual Solvents</b>	Reported: <b>14Jun2022</b>	USDA License: N/A
Matrix: Concentrate	Test ID: T000209814	Started: 14Jun2022	Sampler ID: N/A
	Method(s): TM04 (GC-MS): Residual Solvents	Received: 10Jun2022	Status: Active

Residual Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	91 - 1825	ND	
Butanes (Isobutane, n-Butane)	139 - 2779	ND	
Methanol	57 - 1131	ND	
Pentane	81 - 1620	ND	
Ethanol	82 - 1640	ND	
Acetone	88 - 1752	ND	
Isopropyl Alcohol	93 - 1850	ND	
Hexane	6 - 114	ND	
Ethyl Acetate	91 - 1828	ND	
Benzene	0.2 - 3.7	ND	
Heptanes	89 - 1783	ND	
Toluene	17 - 332	ND	
Xylenes (m,p,o-Xylenes)	121 - 2428	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



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#### 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

8bdc2347eb5941b2b5b8b052adf9cdbc.1

# CERTIFICATE OF ANALYSIS

Prepared for:

**JOY ORGANICS**

5042 Technology Parkway Ste. 500  
FT. COLLINS, CO USA 80528

## 900 mg 5G Broad Spectrum Tincture Bulk in EVOO

Batch ID or Lot Number: <b>BCA-000389-220607</b>	Test: <b>Mycotoxins</b>	Reported: <b>14Jun2022</b>	USDA License: N/A
Matrix: Concentrate	Test ID: T000209815	Started: 13Jun2022	Sampler ID: N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 10Jun2022	Status: Active

Mycotoxins	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	3.75 - 130.56	ND	N/A
Aflatoxin B1	1.02 - 32.57	ND	
Aflatoxin B2	1.05 - 32.35	ND	
Aflatoxin G1	0.99 - 32.70	ND	
Aflatoxin G2	1.05 - 32.66	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



<https://results.botanacor.com/api/v1/coas/uuid/c59f3eb4-008d-41b3-a826-15b3a83185b3>

#### Definitions

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Cert #4329.02

CDPHE Certified  
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## CERTIFICATE OF ANALYSIS

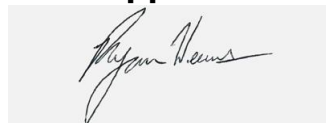
Prepared for:

**JOY ORGANICS**5042 Technology Parkway Ste. 500  
FT. COLLINS, CO USA 80528**900 mg 5G Broad Spectrum Tincture Bulk in EVOO**

Batch ID or Lot Number: <b>BCA-000389-220607</b>	Test: <b>Heavy Metals</b>	Reported: <b>14Jun2022</b>	USDA License: NA
Matrix: Unit Co	Test ID: T000209813	Started: 14Jun2022	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 10Jun2022	Status: NA

**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

<https://results.botanacor.com/api/v1/coas/uuid/f6748d30-6fdd-4791-80a7-c909ec3f3a99>**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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CDPHE Certified



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Prepared for:  
**JOY ORGANICS**

5042 Technology Parkway Ste. 500  
FT. COLLINS, CO USA 80528

## 900 mg 5G Broad Spectrum Tincture Bulk in EVOO

Batch ID or Lot Number: <b>BCA-000389-220607</b>	Test: <b>Pesticides</b>	Reported: <b>16Jun2022</b>	USDA License: NA
Matrix: Concentrate	Test ID: T000209812	Started: 14Jun2022	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 10Jun2022	Status: NA

Pesticides	Dynamic Range (ppb)	Result (ppb)	Pesticides	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	Pacllobutrazol	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



<https://results.botanacor.com/api/v1/coas/uuid/f3024b12-9b3e-454e-8b15-031fa6dc723d>

#### 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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