JOY ORGANICS

CERTIFICATE OF ANALYSIS

PRODUCT NAME:	Organic CBD Tincture - Mint
PRODUCT STRENGTH:	900mg
TINCTURE BATCH:	231107L
BEST BY DATE:	11/7/2025
HEMP EXTRACT LOT:	231030A

Physical Atttributes

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	**1012mg**	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† Afltoxin 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
10^2=100 CFU
10^3=1,000 CFU

Quality Certified — Name — 12/21/23 Date

2519 S Shields St. #1042, Fort Collins, CO 80526
Tel: (833) 569-7223 www.joyorganics.com

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Official Compliance: Colorado

CERTIFICATE OF ANALYSIS

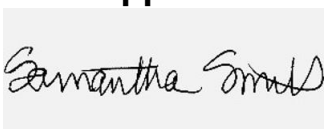
900mg CBD Tincture- Mint

Batch ID or Lot Number:	Test:	Reported:	USDA License:
231107L	**Potency**	**07Nov2023**	N/A
Matrix:	Test ID:	Started:	Sampler ID:
Concentrate	T000260693	06Nov2023	N/A
	Method(s): TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis	Received: 01Nov2023	Status: Active

Cannabinoids

	LOD (%)	**LOQ** (%)	**Result** (%)	**Result** (mg/g)	**Notes**
Cannabichromene (CBC)	0.006	0.020	<LOQ	<LOQ	
Cannabichromenic Acid (CBCA)	0.006	0.018	ND	ND	
Cannabidiol (CBD)	0.020	0.053	3.667	36.67	
Cannabidiolic Acid (CBDA)	0.021	0.054	ND	ND	
Cannabidivarin (CBDV)	0.005	0.012	0.017	0.17	
Cannabidivarinic Acid (CBDVA)	0.009	0.023	ND	ND	
Cannabigerol (CBG)	0.004	0.011	0.255	2.55	
Cannabigerolic Acid (CBGA)	0.015	0.047	ND	ND	
Cannabinol (CBN)	0.005	0.015	ND	ND	
Cannabinolic Acid (CBNA)	0.010	0.032	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.018	0.056	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.016	0.051	ND	ND	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.014	0.045	ND	ND	
Tetrahydrocannabivarin (THCV)	0.003	0.010	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.013	0.040	ND	ND	
Total Cannabinoids			**3.939**	**39.39**	
Total Potential THC			ND	ND	
Total Potential CBD			3.667	36.67	

Final Approval



Sam Smith
07Nov2023
10:35:00 AM MST

PREPARED BY / DATE

Karen Winternheimer
07Nov2023
10:37:00 AM MST

APPROVED BY / DATE

https://results.botanacor.com/api/v1/coas/uuid/d25d9947-e828-40fd-a048-0b9dad93ea29

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)).

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900mg CBD Tincture- Mint

Batch ID or Lot Number:	Test:	Reported:	USDA License:
231107L	**Pesticides**	**10Feb2023**	NA
Matrix:	Test ID:	Started:	Sampler ID:
Concentrate	T000234712	08Feb2023	NA
	Method(s):	Received:	Status:
	TM17 (LC-QQ LC MS/MS)	07Feb2023	NA

Pesticides

	Dynamic Range (ppb)	**Result** (ppb)
Abamectin	358 - 2647	ND
Acephate	42 - 2759	ND
Acetamiprid	43 - 2753	ND
Azoxystrobin	44 - 2729	ND
Bifenazate	43 - 2722	ND
Boscalid	45 - 2744	ND
Carbaryl	43 - 2719	ND
Carbofuran	44 - 2734	ND
Chlorantraniliprole	43 - 2726	ND
Chlorpyrifos	53 - 2824	ND
Clofentezine	275 - 2769	ND
Diazinon	292 - 2733	ND
Dichlorvos	275 - 2786	ND
Dimethoate	41 - 2737	ND
E-Fenpyroximate	293 - 2797	ND
Etofenprox	41 - 2790	ND
Etoxazole	309 - 2762	ND
Fenoxycarb	47 - 2690	ND
Fipronil	56 - 2762	ND
Flonicamid	43 - 2825	ND
Fludioxonil	318 - 2756	ND
Hexythiazox	45 - 2799	ND
Imazalil	288 - 2739	ND
Imidacloprid	41 - 2755	ND
Kresoxim-methyl	23 - 2807	ND

	Dynamic Range (ppb)	**Result** (ppb)
Malathion	280 - 2717	ND
Metalaxyl	46 - 2718	ND
Methiocarb	41 - 2688	ND
Methomyl	43 - 2762	ND
MGK 264 1	154 - 1645	ND
MGK 264 2	116 - 1140	ND
Myclobutanil	45 - 2763	ND
Naled	43 - 2762	ND
Oxamyl	41 - 2766	ND
Paclobutrazol	40 - 2726	ND
Permethrin	313 - 2795	ND
Phosmet	44 - 2709	ND
Prophos	312 - 2672	ND
Propoxur	41 - 2724	ND
Pyridaben	313 - 2786	ND
Spinosad A	35 - 2253	ND
Spinosad D	52 - 508	ND
Spiromesifen	292 - 2770	ND
Spirotetramat	274 - 2731	ND
Spiroxamine 1	16 - 1206	ND
Spiroxamine 2	21 - 1539	ND
Tebuconazole	277 - 2724	ND
Thiacloprid	44 - 2774	ND
Thiamethoxam	42 - 2785	ND
Trifloxystrobin	44 - 2758	ND

Final Approval

Karen Winternheimer
10Feb2023
06:26:00 AM MST
PREPARED BY / DATE

Sam Smith
10Feb2023
06:29:00 AM MST
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https://results.botanacor.com/api/v1/coas/uuid/b68758e5-00df-49b2-b6d6-00d8a2f89f11

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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CERTIFICATE OF ANALYSIS

900mg CBD Tincture- Mint

Batch ID or Lot Number: 231107L	Test: **Heavy Metals**	Reported: **15Feb2023**	USDA License: NA
Matrix: Concentrate Co	Test ID: T000234714	Started: 10Feb2023	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 07Feb2023	Status: NA

Heavy Metals

	Dynamic Range (ppm)	**Result** (ppm)	**Notes**
Arsenic	0.06 - 5.87	ND	
Cadmium	0.06 - 5.98	ND	
Mercury	0.06 - 5.83	ND	
Lead	0.06 - 6.02	ND	

Final Approval

Sam Smith
15Feb2023
09:39:00 AM MST
PREPARED BY / DATE

Karen Winternheimer
15Feb2023
09:42:00 AM MST
APPROVED BY / DATE

https://results.botanacor.com/api/v1/coas/uuid/37f32070-179e-4dc7-a6ae-2eed07b1f475

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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CERTIFICATE OF ANALYSIS

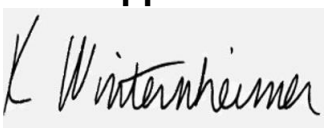
900mg CBD Tincture- Mint

Batch ID or Lot Number:	Test:	Reported:	USDA License:
231107L	**Residual Solvents**	**09Feb2023**	N/A
Matrix:	**Test ID:**	**Started:**	**Sampler ID:**
Concentrate	T000234715	08Feb2023	N/A
	Method(s):	**Received:**	**Status:**
	TM04 (GC-MS): Residual Solvents	07Feb2023	Active

Residual Solvents

	Dynamic Range (ppm)	**Result** (ppm)	**Notes**
Propane	98 - 1954	ND	
Butanes (Isobutane, n-Butane)	202 - 4048	ND	
Methanol	63 - 1259	ND	
Pentane	102 - 2045	ND	
Ethanol	105 - 2103	ND	
Acetone	102 - 2034	ND	
Isopropyl Alcohol	106 - 2113	ND	
Hexane	6 - 121	ND	
Ethyl Acetate	103 - 2056	ND	
Benzene	0.2 - 4.1	ND	
Heptanes	101 - 2016	ND	
Toluene	19 - 375	ND	
Xylenes (m,p,o-Xylenes)	142 - 2839	ND	

Final Approval



Karen Winternheimer
09Feb2023
07:32:00 AM MST

PREPARED BY / DATE

Sam Smith
09Feb2023
07:35:00 AM MST

APPROVED BY / DATE

https://results.botanacor.com/api/v1/coas/uuid/b8d82dcc-283d-4368-be7a-e11cb49b65b9

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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CERTIFICATE OF ANALYSIS

900mg CBD Tincture- Mint

Batch ID or Lot Number: 231107L	Test: **Mycotoxins**	Reported: **09Feb2023**	USDA License: N/A
Matrix: Concentrate	Test ID: T000234716	Started: 08Feb2023	Sampler ID: N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 07Feb2023	Status: Active

Mycotoxins

Mycotoxins	**Dynamic Range** (ppb)	**Result** (ppb)	**Notes**
Ochratoxin A	3.89 - 121.34	ND	N/A
Aflatoxin B1	1.03 - 31.31	ND	
Aflatoxin B2	0.96 - 31.53	ND	
Aflatoxin G1	1.09 - 31.81	ND	
Aflatoxin G2	1.12 - 31.87	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval

Sam Smith
09Feb2023
11:30:00 AM MST
PREPARED BY / DATE

Karen Winternheimer
09Feb2023
11:33:00 AM MST
APPROVED BY / DATE

https://results.botanacor.com/api/v1/coas/uuid/975f7446-3cb1-4984-b0e0-75fe781d8f8b

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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CERTIFICATE OF ANALYSIS

900mg CBD Tincture- Mint

Batch ID or Lot Number:	Test:	Reported:	USDA License:
231107L	**Microbial Contaminants**	**13Nov2023**	N/A
Matrix:	Test ID:	Started:	Sampler ID:
Finished Product	T000261693	10Nov2023	N/A
	Method(s): TM25 (qPCR) TM24, TM26, TM27 (Culture Plating): Microbial (Colorado Panel)	Received: 10Nov2023	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
Salmonella	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
13Nov2023
02:52:00 PM MST

PREPARED BY / DATE

Brianne Maillot
13Nov2023
04:17:00 PM MST

APPROVED BY / DATE

https://results.botanacor.com/api/v1/coas/uuid/f43882f6-f7b0-4a9d-9445-cf92412ff07b

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: 10^2 = 100 CFU, 10^3 = 1,000 CFU, 10^4 = 10,000 CFU, 10^5 = 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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