

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Joy Organics CBD Softgels
PRODUCT STRENGTH: 25 mg CBD
TINCTURE BATCH: Various Lots exp 9/23/2024
BEST BY DATE: 9/23/2024
HEMP EXTRACT LOT: 22BL06244

Physical Attributes

Test	Method	Specification	Results
Color	Joy Internal	Golden to Amber	PASS
Odor	Joy Internal	No Odor	PASS
Appearance	Joy Internal	Dry, ovoid softgel capsules in container with lid and shrink-band	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 25 mg / softgel	32.4mg	PASS
Potency - D9-THC	HPLC-UV DAD	LOQ: <0.01% (broad spectrum)	ND	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 Panel	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 < 5ppb	Below LOQ	PASS
Residual Solvents	GC-HS-MSD	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	Below LOQ	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

6/21/22

Date

CERTIFICATE OF ANALYSIS

Prepared for:
JOY ORGANICS

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

Joy Organics BS 25mg

Batch ID or Lot Number: 22BL06244	Test: Potency	Reported: 16Jun2022	USDA License: N/A
Matrix: Solution	Test ID: T000210039	Started: 15Jun2022	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis	Received: 13Jun2022	Status: Active

Cannabinoids

	LOD (mg/mL)	LOQ (mg/mL)	Result (mg/mL)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.075	0.233	ND	ND	Density = 1.03196g/mL
Cannabichromenic Acid (CBCA)	0.069	0.213	ND	ND	
Cannabidiol (CBD)	0.208	0.597	74.325	72.02	
Cannabidiolic Acid (CBDA)	0.213	0.613	ND	ND	
Cannabidivarin (CBDV)	0.049	0.141	0.262	0.25	
Cannabidivarinic Acid (CBDVA)	0.089	0.256	ND	ND	
Cannabigerol (CBG)	0.043	0.132	4.436	4.30	
Cannabigerolic Acid (CBGA)	0.178	0.554	ND	ND	
Cannabinol (CBN)	0.056	0.173	ND	ND	
Cannabinolic Acid (CBNA)	0.122	0.378	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.212	0.660	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.193	0.599	ND	ND	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.171	0.531	ND	ND	
Tetrahydrocannabivarin (THCV)	0.039	0.121	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.151	0.468	ND	ND	
Total Cannabinoids			79.023	76.58	
Total Potential THC			ND	ND	
Total Potential CBD			74.325	72.02	

Final Approval



Jacob Miller
16Jun2022
03:49:00 PM MDT

PREPARED BY / DATE



Daniel Weidensaul
16Jun2022
04:35:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/05dc4d17-c0cf-4399-a896-ed16cbb76fd5>

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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Cert #4329.02

CDPHE Certified

05dc4d17c0cf4399a896ed16cbb76fd5.1

CERTIFICATE OF ANALYSIS

Prepared for:
JOY ORGANICS

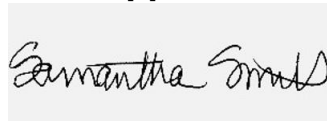
5042 Technology Parkway Ste. 500
FT. COLLINS, CO USA 80528

Joy Organics BS 25mg

Batch ID or Lot Number: 22BL06244	Test: Mycotoxins	Reported: 21Jun2022	USDA License: N/A
Matrix: Concentrate	Test ID: T000210045	Started: 17Jun2022	Sampler ID: N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 13Jun2022	Status: Active

Mycotoxins	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	3.15 - 130.64	ND	N/A
Aflatoxin B1	1.02 - 32.23	ND	
Aflatoxin B2	1.66 - 31.82	ND	
Aflatoxin G1	1.02 - 32.10	ND	
Aflatoxin G2	1.69 - 32.17	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval



Sam Smith
21Jun2022
12:43:00 PM MDT

PREPARED BY / DATE



Jacob Miller
21Jun2022
12:46:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/e114be38-320d-4104-beab-599055791069>

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

e114be38320d4104beab599055791069.1

CERTIFICATE OF ANALYSIS

Prepared for:

JOY ORGANICS

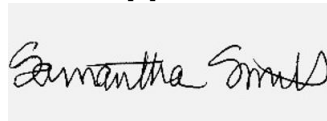
5042 Technology Parkway Ste. 500
FT. COLLINS, CO USA 80528

Joy Organics BS 25mg

Batch ID or Lot Number: 22BL06244	Test: Heavy Metals	Reported: 16Jun2022	USDA License: NA
Matrix: Unit Co	Test ID: T000210042	Started: 16Jun2022	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 13Jun2022	Status: NA

Heavy Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.32	ND	
Cadmium	0.05 - 4.76	ND	
Mercury	0.05 - 4.55	ND	
Lead	0.05 - 4.61	ND	

Final Approval



Sam Smith
16Jun2022
05:38:00 PM MDT

PREPARED BY / DATE



Daniel Weidensaul
16Jun2022
05:42:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/66c5a9df-4185-4a9c-91d0-9192a6067df4>

Definitions

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Dynamic Range = Limit of Quantitation (LOQ) through Upper Limit of Method Range

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Cert #4329.02

CDPHE Certified
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Prepared for:

JOY ORGANICS

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

Joy Organics BS 25mg

Batch ID or Lot Number: 22BL06244	Test: Density	Reported: 15Jun2022	USDA License: NA
Matrix: Concentrate	Test ID: T000210044	Started: 15Jun2022	Sampler ID: NA
	Method(s): TL-SOP-0034 (Gravimetric)	Received: 13Jun2022	Status: NA

Density Analysis

	Result	Notes
Density	1.032 g/ml	Free from visual mold, mildew, and foreign matter N/A

Final Approval



Jacob Miller
15Jun2022
01:58:00 PM MDT

PREPARED BY / DATE



Sam Smith
15Jun2022
02:01:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/4c81b232-c11d-45e5-9af4-eaada3dafb22>

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4c81b232c11d45e59af4eaada3dafb22.1

CERTIFICATE OF ANALYSIS

Prepared for:

JOY ORGANICS

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

Joy Organics BS 25mg

Batch ID or Lot Number: 22BL06244	Test: Residual Solvents	Reported: 15Jun2022	USDA License: N/A
Matrix: Concentrate	Test ID: T000210043	Started: 14Jun2022	Sampler ID: N/A
	Method(s): TM04 (GC-MS): Residual Solvents	Received: 13Jun2022	Status: Active

Residual Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	116 - 2327	ND	
Butanes (Isobutane, n-Butane)	177 - 3543	ND	
Methanol	72 - 1442	ND	
Pentane	104 - 2083	ND	
Ethanol	104 - 2089	ND	
Acetone	112 - 2234	ND	
Isopropyl Alcohol	118 - 2357	ND	
Hexane	7 - 146	ND	
Ethyl Acetate	117 - 2335	ND	
Benzene	0.2 - 4.7	ND	
Heptanes	114 - 2273	ND	
Toluene	21 - 423	ND	
Xylenes (m,p,o-Xylenes)	155 - 3095	ND	

Final Approval



Jacob Miller
15Jun2022
10:55:00 AM MDT

PREPARED BY / DATE



Ryan Weems
15Jun2022
10:56:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/6af82da7-7730-4d71-b1a7-dfe62b1f3792>

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

6af82da777304d71b1a7dfe62b1f3792.1

Prepared for:
JOY ORGANICS

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

Joy Organics BS 25mg

Batch ID or Lot Number: 22BL06244	Test: Pesticides	Reported: 16Jun2022	USDA License: NA
Matrix: Concentrate	Test ID: T000210040	Started: 14Jun2022	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 13Jun2022	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/c05dd92b-e4e2-4d09-9ad6-6966bd306ef1>

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

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
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CERTIFICATE OF ANALYSIS

 Prepared for:
JOY ORGANICS


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

Joy Organics BS 25mg

Batch ID or Lot Number: 22BL06244	Test: Microbial Contaminants	Reported: 16Jun2022	USDA License: N/A
Matrix: Finished Product	Test ID: T000210041	Started: 13Jun2022	Sampler ID: N/A
	Method(s): TM25 (qPCR) TM24, TM26, TM27 (Culture Plating): Microbial (Colorado Panel)	Received: 13Jun2022	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


 Brianne Maillot
 16Jun2022
 10:34:00 AM MDT

PREPARED BY / DATE



 Eden Thompson-Wright
 16Jun2022
 11:17:00 AM MDT

APPROVED BY / DATE


<https://results.botanacor.com/api/v1/coas/uuid/b069b1fa-38b7-46f9-86ed-65d8a62308a6>
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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