

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Joy Organics - Organic CBD Salve Stick
PRODUCT STRENGTH: 250 mg / stick
BATCH: 21252-09
BEST BY DATE: 09/09/2023
HEMP EXTRACT LOT: _____

Click on the links to view third-party reports

Physical Attributes

Test	Method	Specification	Results
Color	Joy Internal	off white to cream	PASS
Odor	Joy Internal	Neutral scent w/hint of hemp oil, sweet beeswax	PASS
Appearance	Joy Internal	Firm textured salve in white roll-on container with cap	PASS
Primary Package Eval.	Joy Internal	Container clean and free of filth. Container caps tight and tamper-evident label 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	LOQ*: ≥ 250 mg / stick		PASS
Potency - D9-THC	HPLC-UV DAD	LOQ: $<0.01\%$ THC (Broad Spectrum)	Below LOQ	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†† Afltoxin 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:
 $10^2=100$
 $10^3=1,000$


Quality Certified _____ *Kayla Kolber* _____ 10/06/2021
 Kayla Kolber _____ Date
 Quality Assurance Technician


OSALS250

Batch ID or Lot Number: 21252-09	Test: Potency	Reported: 9/22/21	Location: 480 Airport Blvd Watsonville, CA 95076
Matrix: Concentrate	Test ID: T000163135	Started: 9/21/21	USDA License: N/A
Status: N/A	Method: TM14 (HPLC-DAD): Potency - Broad Spectrum Analysis, 0.01% THC (Colorado Panel)	Received: 09/16/2021 @ 10:44 AM	Sampler ID: N/A

CANNABINOID PROFILE

Compound	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.003	0.009	ND	ND	N/A
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.003	0.010	ND	ND	
Cannabidiolic acid (CBDA)	0.022	0.056	ND	ND	
Cannabidiol (CBD)	0.021	0.054	1.666	16.66	
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.020	0.067	ND	ND	
Cannabinolic Acid (CBNA)	0.011	0.038	ND	ND	
Cannabinol (CBN)	0.005	0.018	ND	ND	
Cannabigerolic acid (CBGA)	0.016	0.056	ND	ND	
Cannabigerol (CBG)	0.004	0.013	0.103	1.03	
Tetrahydrocannabivarinic Acid (THCVA)	0.014	0.048	ND	ND	
Tetrahydrocannabivarin (THCV)	0.004	0.012	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.009	0.023	ND	ND	
Cannabidivarin (CBDV)	0.005	0.013	0.013*	0.13*	
Cannabichromenic Acid (CBCA)	0.006	0.022	ND	ND	
Cannabichromene (CBC)	0.007	0.024	ND	ND	
Total Cannabinoids			1.782	17.82	
Total Potential THC**			ND	ND	
Total Potential CBD**			1.666	16.66	


 Hannah Wright
 22-Sep-2021
 05:41 PM


 Ryan Weems
 22-Sep-21
 5:42 PM

PREPARED BY / DATE

APPROVED BY / DATE

Definitions

% = % (w/w) = Percent (Weight of Analyte / Weight of Product)

* Indicates a value below the Limit of Quantitation (LOQ) and above the Limit of Detection (LOD).

** Total Potential THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during decarboxylation step.

$$\text{Total THC} = \text{THC} + (\text{THCa} * (0.877)) \text{ and}$$

$$\text{Total CBD} = \text{CBD} + (\text{CBDa} * (0.877))$$

Total Cannabinoids result reflects the absolute sum of all cannabinoids detected.

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

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.



CDPHE Certified



Certificate #4329.02

OSALS250

Batch ID or Lot Number: **21252-09** Test: **Pesticides** Reported: **9/20/21**

Matrix: Concentrate Test ID: T000163136 Started: 9/17/21 USDA License: N/A

Status: N/A Method: TM17(LC-QQQ LC MS/MS): Received: 09/16/2021 @ 10:44 AM Sampler ID: N/A

PESTICIDE DETERMINATION

Compound	LOQ (ppb)	Result (ppb)	Compound	LOQ (ppb)	Result (ppb)	Compound	LOQ (ppb)	Result (ppb)
Acephate	38	ND	Fenoxycarb	43	ND	Paclobutrazol	41	ND
Acetamiprid	38	ND	Fipronil	55	ND	Permethrin	305	ND
Avermectin	312	ND	Fonicamid	40	ND	Phosmet	39	ND
Azoxystrobin	42	ND	Fludioxonil	286	ND	Prophos	291	ND
Bifenazate	39	ND	Hexythiazox	35	ND	Propoxur	41	ND
Boscalid	41	ND	Imazalil	278	ND	Pyridaben	303	ND
Carbaryl	35	ND	Imidacloprid	37	ND	Spinosad A	34	ND
Carbofuran	40	ND	Kresoxim-methyl	150	ND	Spinosad D	52	ND
Chlorantraniliprole	34	ND	Malathion	286	ND	Spiromesifen	274	ND
Chlorpyrifos	500	ND	Metaxyl	42	ND	Spirotetramat	303	ND
Clofentezine	287	ND	Methiocarb	38	ND	Spiroxamine 1	18	ND
Diazinon	290	ND	Methomyl	38	ND	Spiroxamine 2	24	ND
Dichlorvos	286	ND	MGK 264 1	160	ND	Tebuconazole	283	ND
Dimethoate	40	ND	MGK 264 2	117	ND	Thiacloprid	38	ND
E-Fenpyroximate	277	ND	Myclobutanil	39	ND	Thiamethoxam	38	ND
Etofenprox	41	ND	Naled	44	ND	Trifloxystrobin	44	ND
Etoxazole	304	ND	Oxamyl	1500	ND			

Samantha Smith
 Sam Smith
 9/20/2021
 1:03:00 PM

Courtney Richards
 Courtney Richards
 9/20/2021
 4:57:00 PM

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Definitions

LOQ = Limit of Quantification
 ppb = Parts per Billion

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Certificate #4329.02

OSALS250

Batch ID or Lot Number: 21252-09	Test: Microbial Contaminants	Reported: 9/20/21	
Matrix: Finished Product	Test ID: T000163137	Started: 9/16/21	USDA License: N/A
Status: N/A	Methods: TM25 (qPCR) TM24, TM26, TM27(Culture Plating): Microbial (Colorado Panel)	Received: 09/16/2021 @ 10:44 AM	Sampler ID: N/A

MICROBIAL CONTAMINANTS DETERMINATION

Contaminant	Method	LOD	LLOQ	ULOQ	Result	Notes
Total Aerobic Count*	TM-26, Culture Plating	10 ² CFU/g	10 ³ CFU/g	1.5x10 ⁵ CFU/g	None Detected	Free from visual mold, mildew, and foreign matter
Total Coliforms*	TM-27, Culture Plating	10 ² CFU/g	10 ² CFU/g	1.5x10 ⁴ CFU/g	None Detected	
Total Yeast and Mold*	TM-24, Culture Plating	10 ² CFU/g	10 ² CFU/g	1.5x10 ⁴ CFU/g	None Detected	
E. coli (STEC)	TM-25, PCR	1 CFU/25 g	NA	NA	Absent	
Salmonella	TM-25, PCR	1 CFU/25 g	NA	NA	Absent	



 Carly Bader
 9/19/2021
 1:34:00 PM



 Tori King
 9/20/2021
 2:27:00 PM

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APPROVED BY / DATE

Definitions

LOD = Limit of Detection | LLOQ = Lower Limit of Quantitation | ULOQ = Upper Limit of Quantitation

 CFU/g = Colony Forming Units per Gram | STEC = Shiga Toxin-Producing *E. coli*

* 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

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OSALS250

Batch ID or Lot Number: 21252-09	Test: Metals	Reported: 9/22/21	
Matrix: Unit Co	Test ID: T000163138	Started: 9/21/21	USDA License: N/A
Status: N/A	Method: TM19 (ICP-MS): Heavy Metals (Colorado Panel)	Received: 09/16/2021 @ 10:44 AM	Sampler ID: N/A

HEAVY METALS DETERMINATION

Compound	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.047 - 4.70	ND	
Cadmium	0.046 - 4.56	ND	
Mercury	0.044 - 4.43	ND	
Lead	0.046 - 4.59	ND	

 Daniel Weidensaul
22-Sep-21
2:20 PM

 Ryan Weems
22-Sep-21
2:23 PM

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Definitions

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

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OSALS250


Batch ID or Lot Number: 21252-09	Test: Mycotoxins	Reported: 9/27/21	
Matrix: Concentrate	Test ID: T000163140	Started: 9/24/21	USDA License: N/A
Status: N/A	Method: TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins (Colorado Panel)	Received: 09/16/2021 @ 10:44 AM	Sampler ID: N/A

MYCOTOXIN DETERMINATION

Compound	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	4 - 128.7	ND	N/A
Aflatoxin B1	1.3 - 33	ND	
Aflatoxin B2	1.2 - 32.7	ND	
Aflatoxin G1	0.9 - 31.6	ND	
Aflatoxin G2	1.2 - 31.9	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	


 Sam Smith
 27-Sep-21
 8:43 AM

PREPARED BY / DATE


 Alex Smith
 27-Sep-21
 3:02 PM

APPROVED BY / DATE

Definitions

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OSALS250

Batch ID or Lot Number: 21252-09	Test: Residual Solvents	Reported: 9/22/21	
Matrix: N/A	Test ID: T000163139	Started: 9/22/21	USDA License: N/A
Status: N/A	Methods: TM04 (GC-MS): Residual Solvents (Colorado Panel)	Received: 09/16/2021 @ 10:44 AM	Sampler ID: N/A

RESIDUAL SOLVENTS DETERMINATION

Solvent	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	68 - 1359	*ND	
Butanes (Isobutane, n-Butane)	134 - 2689	*ND	
Methanol	62 - 1247	*ND	
Pentane	83 - 1665	*ND	
Ethanol	99 - 1986	*ND	
Acetone	98 - 1963	*ND	
Isopropyl Alcohol	110 - 2210	*ND	
Hexane	6 - 117	*ND	
Ethyl Acetate	101 - 2026	*ND	
Benzene	0 - 4	*ND	
Heptanes	94 - 1873	*ND	
Toluene	19 - 380	*ND	
Xylenes (m,p,o-Xylenes)	142 - 2831	*ND	

 Hannah Wright
22-Sep-21
4:21 PM

 Ryan Weems
22-Sep-21
4:24 PM

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APPROVED BY / DATE

Definitions

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