JOY ORGANICS

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Joy Organics Sports Cream
PRODUCT STRENGTH: 400 mg / bottle
BATCH: 21256-08
BEST BY DATE: 09/21/2023
HEMP EXTRACT LOT: CO407-001/CO623-001

Click on the links to view third-party reports

Physical Atttributes

Test	Method	Specification	Results
Color	Joy Internal	white to off white	PASS
Odor	Joy Internal	Blend of Menthol, Camphor, Eucalytpus, Lavender, Rosemary, Wintergreen & Marjoram.	PASS
Appearance	Joy Internal	Creamy smooth cream consistency with medium viscosity	PASS
Primary Package Eval.	Joy Internal	Container clean and free of filth. Lid 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*: ≥ 400 mg / bottle	**509.97 mg**	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 < 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 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 10/05/2021

Kayla Kolber
Quality Assurance Technician
Date

5042 Technology Parkway, Fort Collins, CO 80528
Tel: (833) 569-7223 www.joyorganics.com

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Official Compliance: Colorado
CERTIFICATE OF ANALYSIS

HSC400

Batch ID or Lot Number:	Test:	Reported:
21256-08	**Potency**	**9/30/21**

Matrix:	Test ID:	Started:	USDA License:
Concentrate	T000164705	9/29/21	N/A

Status:	Method:	Received:	Sampler ID:
N/A	TM14 (HPLC-DAD): Potency - Broad Spectrum Analysis, 0.01% THC (Colorado Panel)	09/22/2021 @ 10:38 AM	N/A

CANNABINOID PROFILE

Compound	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.003	0.009	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.003	0.010	ND	ND
Cannabidiolic acid (CBDA)	0.017	0.057	ND	ND
Cannabidiol (CBD)	0.016	0.056	0.441	4.41
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.024	0.063	ND	ND
Cannabinolic Acid (CBNA)	0.014	0.036	ND	ND
Cannabinol (CBN)	0.006	0.017	ND	ND
Cannabigerolic acid (CBGA)	0.020	0.053	ND	ND
Cannabigerol (CBG)	0.005	0.013	0.045	0.45
Tetrahydrocannabivarinic Acid (THCVA)	0.017	0.045	ND	ND
Tetrahydrocannabivarin (THCV)	0.004	0.012	ND	ND
Cannabidivarinic Acid (CBDVA)	0.007	0.024	ND	ND
Cannabidivarin (CBDV)	0.004	0.013	ND	ND
Cannabichromenic Acid (CBCA)	0.008	0.020	ND	ND
Cannabichromene (CBC)	0.009	0.022	ND	ND
Total Cannabinoids			**0.486**	**4.86**
Total Potential THC**			ND	ND
Total Potential CBD**			0.441	4.41

Notes

N/A

Density: 0.98 g/mL

Daniel Weidensaul
30-Sep-2021
04:48 PM
PREPARED BY / DATE

Karen Winternheimer
30-Sep-21
4:50 PM
APPROVED BY / DATE

Definitions

% = % (w/w) = Percent (Weight of Analyte / Weight of Product)
* Indicates a value below the Limit of Quantitiation (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.
Total THC = THC + (THCa *(0.877)) and
Total CBD = CBD + (CBDa *(0.877))
Total Cannabinoids result reflects the absolute sum of all cannabinoids detected.
ND = None Detected (Defined by Dynamic Range of the method)

CDPHE Certified

Certificate #4329.02

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.

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CERTIFICATE OF ANALYSIS

HSC400

Batch ID or Lot Number:	Test:	Reported:
21256-08	**Pesticides**	**9/29/21**

Matrix:	Test ID:	Started:	USDA License:
Concentrate	t000164706	9/28/21	N/A

Status:	Method:	Received:	Sampler ID:
N/A	TM17(LC-QQQ LC MS/MS):	09/22/2021 @ 10:38 AM	N/A

PESTICIDE DETERMINATION

Compound	LOQ (ppb)	Result (ppb)	Compound	LOQ (ppb)	Result (ppb)	Compound	LOQ (ppb)	Result (ppb)
Acephate	41	ND	**Fenoxycarb**	42	ND	**Paclobutrazol**	42	ND
Acetamiprid	40	ND	**Fipronil**	33	ND	**Permethrin**	287	ND
Avermectin	316	ND	**Flonicamid**	51	ND	**Phosmet**	43	ND
Azoxystrobin	43	ND	**Fludioxonil**	295	ND	**Prophos**	293	ND
Bifenazate	46	ND	**Hexythiazox**	47	ND	**Propoxur**	41	ND
Boscalid	54	ND	**Imazalil**	284	ND	**Pyridaben**	298	ND
Carbaryl	39	ND	**Imidacloprid**	42	ND	**Spinosad A**	35	ND
Carbofuran	41	ND	**Kresoxim-methyl**	150	ND	**Spinosad D**	54	ND
Chlorantraniliprole	53	ND	**Malathion**	299	ND	**Spiromesifen**	272	ND
Chlorpyrifos	500	ND	**Metalaxyl**	43	ND	**Spirotetramat**	305	ND
Clofentezine	285	ND	**Methiocarb**	42	ND	**Spiroxamine 1**	18	ND
Diazinon	290	ND	**Methomyl**	44	ND	**Spiroxamine 2**	24	ND
Dichlorvos	290	ND	**MGK 264 1**	160	ND	**Tebuconazole**	290	ND
Dimethoate	42	ND	**MGK 264 2**	136	ND	**Thiacloprid**	41	ND
E-Fenpyroximate	317	ND	**Myclobutanil**	40	ND	**Thiamethoxam**	43	ND
Etofenprox	44	ND	**Naled**	44	ND	**Trifloxystrobin**	43	ND
Etoxazole	307	ND	**Oxamyl**	1500	ND			

Samantha Smith
Sam Smith
9/29/2021
5:13:00 PM
PREPARED BY / DATE

Courtney Richards
Courtney Richards
9/29/2021
7:12:00 PM
APPROVED BY / DATE

Definitions

LOQ = Limit of Quantification
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.

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Certificate #4329.02

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CERTIFICATE OF ANALYSIS

HSC400

Batch ID or Lot Number:	Test:	Reported:
21256-08	**Microbial Contaminants**	**9/25/21**

Matrix:	Test ID:	Started:	USDA License:
Finished Product	T000164707	9/22/21	N/A

Status:	Methods:	Received:	Sampler ID:
N/A	TM25 (qPCR) TM24, TM26, TM27(Culture Plating): Microbial (Colorado Panel)	09/22/2021 @ 10:38 AM	N/A

MICROBIAL CONTAMINANTS DETERMINATION

Contaminant	Method	LOD	LLOQ	ULOQ	Result
Total Aerobic Count*	TM-26, Culture Plating	10^2 CFU/g	10^3 CFU/g	1.5x10^5 CFU/g	None Detected
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

Notes

Free from visual mold, mildew, and foreign matter

Jackson Osaghae-Nosa
9/25/2021
1:53:00 PM
PREPARED BY / DATE

Courtney Richards
9/25/2021
10:06:00 PM
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:
10^2 = 100 CFU
10^3 = 1,000 CFU
10^4 = 10,000 CFU
10^5 = 100,000 CFU

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CERTIFICATE OF ANALYSIS

HSC400

Batch ID or Lot Number:	Test:	Reported:
21256-08	**Metals**	**9/30/21**

Matrix:	Test ID:	Started:	USDA License:
Unit Co	T000164708	9/29/21	N/A

Status:	Method:	Received:	Sampler ID:
N/A	TM19 (ICP-MS): Heavy Metals (Colorado Panel)	09/22/2021 @ 10:38 AM	N/A

HEAVY METALS DETERMINATION

Compound	Dynamic Range (ppm)	Result (ppm)
Arsenic	0.047 - 4.73	ND
Cadmium	0.046 - 4.60	ND
Mercury	0.044 - 4.38	ND
Lead	0.048 - 4.76	ND

Notes

Ryan Weems
30-Sep-21
12:59 PM
PREPARED BY / DATE

Sam Smith
30-Sep-21
1:02 PM
APPROVED BY / DATE

Definitions

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

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Certificate #4329.02

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CERTIFICATE OF ANALYSIS

HSC400

Batch ID or Lot Number:	Test:	Reported:
21256-08	**Mycotoxins**	**10/1/21**

Matrix:	Test ID:	Started:	USDA License:
Concentrate	T000164710	9/29/21	N/A

Status:	Method:	Received:	Sampler ID:
N/A	TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins (Colorado Panel)	09/22/2021 @ 10:38 AM	N/A

MYCOTOXIN DETERMINATION

Compound	Dynamic Range (ppb)	Result (ppb)
Ochratoxin A	1.8 - 130.2	ND
Aflatoxin B1	1.1 - 33.3	ND
Aflatoxin B2	1.1 - 33	ND
Aflatoxin G1	0.9 - 32.9	ND
Aflatoxin G2	1.1 - 31.8	ND
Total Aflatoxins (B1, B2, G1, and G2)		ND

Notes

N/A

Samantha Smith
Sam Smith
30-Sep-21
11:46 AM

PREPARED BY / DATE

Courtney Richards
Courtney Richards
1-Oct-21
8:35 AM

APPROVED BY / DATE

Definitions

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

CDPHE Certified

Certificate #4329.02

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CERTIFICATE OF ANALYSIS

HSC400

Batch ID or Lot Number:	Test:	Reported:
21256-08	**Residual Solvents**	**10/1/21**

Matrix:	Test ID:	Started:	USDA License:
N/A	T000164709	9/30/21	N/A

Status:	Methods:	Received:	Sampler ID:
N/A	TM04 (GC-MS): Residual Solvents (Colorado Panel)	09/22/2021 @ 10:38 AM	N/A

RESIDUAL SOLVENTS DETERMINATION

Solvent	Dynamic Range (ppm)	Result (ppm)
Propane	105 - 2105	*ND
Butanes (Isobutane, n-Butane)	208 - 4168	*ND
Methanol	79 - 1583	*ND
Pentane	111 - 2225	*ND
Ethanol	123 - 2456	*ND
Acetone	125 - 2500	*ND
Isopropyl Alcohol	134 - 2684	*ND
Hexane	8 - 152	*ND
Ethyl Acetate	128 - 2556	*ND
Benzene	0 - 5	*ND
Heptanes	119 - 2375	*ND
Toluene	23 - 463	*ND
Xylenes (m,p,o-Xylenes)	170 - 3410	*ND

Notes

Hannah Wright
1-Oct-21
10:29 AM
PREPARED BY / DATE

Ryan Weems
1-Oct-21
10:31 AM
APPROVED BY / DATE

Definitions

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

CDPHE Certified

Certificate #4329.02

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