JOY ORGANICS

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Joy Organics CBD Cream
PRODUCT STRENGTH: 1000 mg / bottle
BATCH: 24310-25
BEST BY DATE: 11/13/2026

Physical Atttributes

Test	Method	Specification	Results
Color	Joy Internal	Off white to light cream	PASS
Odor	Joy Internal	Neutral with light hemp/CBD oil scent	PASS
Appearance	Joy Internal	Medium viscosity skin cream in white container with clear 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*: ≥ 1000 mg / bottle	**1183mg**	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

9/23/2025

Quality Certified — Name — Date

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

Cannabinoid Analysis

Tested by high-performance liquid chromatography with diode-array detection (HPLC-DAD).

Method: QSP 1157 - Analysis of Cannabinoids by HPLC-DAD

TOTAL THC: Not Detected

Total THC (Δ^9-THC+0.877*THCa)

TOTAL CBD: 1.0434%

Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 1.1041%

Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) + Δ^8-THC + CBL + CBN

TOTAL CBG: 0.017%

Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND

Total THCV (THCV+0.877*THCVa)

TOTAL CBC: 0.0024%

Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 0.0179%

Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 11/09/2024

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
CBD	*0.004 / 0.011*	*±0.3892*	10.434	1.0434
CBN	*0.001 / 0.007*	*±0.0060*	0.209	0.0209
CBDV	*0.002 / 0.012*	*±0.0073*	0.179	0.0179
CBG	*0.002 / 0.006*	*±0.0082*	0.170	0.0170
CBL	*0.003 / 0.010*	*±0.0009*	0.025	0.0025
CBC	*0.003 / 0.010*	*±0.0008*	0.024	0.0024
Δ^9-THC	*0.002 / 0.014*	*N/A*	ND	ND
Δ^8-THC	*0.01 / 0.02*	*N/A*	ND	ND
THCa	*0.001 / 0.005*	*N/A*	ND	ND
THCV	*0.002 / 0.012*	*N/A*	ND	ND
THCVa	*0.002 / 0.019*	*N/A*	ND	ND
CBDa	*0.001 / 0.026*	*N/A*	ND	ND
CBDVa	*0.001 / 0.018*	*N/A*	ND	ND
CBGa	*0.002 / 0.007*	*N/A*	ND	ND
CBCa	*0.001 / 0.015*	*N/A*	ND	ND
SUM OF CANNABINOIDS			11.041 mg/g	1.1041%

Serving Size: 1 grams per Serving

Δ^9-THC per Serving	ND
Total THC per Serving	ND
CBD per Serving	10.434 mg/serving
Total CBD per Serving	10.434 mg/serving
Sum of Cannabinoids per Serving	11.041 mg/serving
Total Cannabinoids per Serving	11.041 mg/serving

Pesticide Analysis

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS). ‡Analytes part of our California Select Panel.

*GC-MS utilized where indicated.

Method: QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS or QSP 1213 - Analysis of Pesticides by GC-MS

PESTICIDE TEST RESULTS - 11/22/2024 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Abamectin	*0.032 / 0.097*	*0.3*	*N/A*	ND	PASS
Acephate	*0.006 / 0.018*	*5*	*N/A*	ND	PASS
Acequinocyl	*0.009 / 0.027*	*4*	*N/A*	ND	PASS
Acetamiprid	*0.016 / 0.049*	*5*	*N/A*	ND	PASS
Aldicarb	*0.030 / 0.090*	*≥ LOD*	*N/A*	ND	PASS
Allethrin	*0.030 / 0.092*		*N/A*	ND	
Atrazine	*0.006 / 0.019*		*N/A*	ND	
Azadirachtin	*0.082 / 0.248*		*N/A*	ND	
Azoxystrobin	*0.003 / 0.009*	*40*	*N/A*	ND	PASS
Benzovindiflupyr	*0.003 / 0.009*		*N/A*	ND	
Bifenazate	*0.003 / 0.009*	*5*	*N/A*	ND	PASS

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Pesticide Analysis *Continued*

PESTICIDE TEST RESULTS - 11/22/2024 *continued* PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Bifenthrin	0.021 / 0.064	0.5	N/A	ND	PASS
Boscalid	0.003 / 0.009	10	N/A	ND	PASS
Buprofezin‡	0.006 / 0.019		N/A	ND	
Carbaryl	0.007 / 0.020	0.5	N/A	ND	PASS
Carbofuran	0.003 / 0.008	≥ LOD	N/A	ND	PASS
Chlorantraniliprole	0.006 / 0.018	40	N/A	ND	PASS
Chlorfenapyr*	0.005 / 0.015	≥ LOD	N/A	ND	PASS
Chlorpyrifos	0.013 / 0.039	≥ LOD	N/A	ND	PASS
cis-Permethrin				0.00	
Clofentezine	0.003 / 0.009	0.5	N/A	ND	PASS
Clothianidin	0.008 / 0.025		N/A	ND	
Coumaphos	0.003 / 0.010	≥ LOD	N/A	ND	PASS
Cyantraniliprole	0.003 / 0.010		N/A	ND	
Cyfluthrin	0.052 / 0.159	1	N/A	ND	PASS
Cypermethrin	0.051 / 0.153	1	N/A	ND	PASS
Cyprodinil‡	0.003 / 0.008		N/A	ND	
Daminozide	0.026 / 0.077	≥ LOD	N/A	ND	PASS
Deltamethrin	0.059 / 0.180		N/A	ND	
Diazinon	0.006 / 0.017	0.2	N/A	ND	PASS
Dichlorvos (DDVP)	0.012 / 0.038	≥ LOD	N/A	ND	PASS
Dimethoate	0.003 / 0.009	≥ LOD	N/A	ND	PASS
Dimethomorph	0.016 / 0.050	20	N/A	ND	PASS
Dinotefuran	0.010 / 0.030		N/A	ND	
Diuron	0.013 / 0.040		N/A	ND	
Dodemorph	0.012 / 0.035		N/A	ND	
Endosulfan sulfate	0.016 / 0.048		N/A	ND	
Endosulfan-α*	0.004 / 0.014		N/A	ND	
Endosulfan-β*	0.006 / 0.019		N/A	ND	
Ethoprophos	0.003 / 0.009	≥ LOD	N/A	ND	PASS
Etofenprox	0.014 / 0.042	≥ LOD	N/A	ND	PASS
Etoxazole	0.007 / 0.020	1.5	N/A	ND	PASS
Etridiazole*	0.002 / 0.005		N/A	ND	
Fenhexamid	0.003 / 0.008	10	N/A	ND	PASS
Fenoxycarb	0.003 / 0.010	≥ LOD	N/A	ND	PASS
Fenpyroximate	0.007 / 0.020	2	N/A	ND	PASS
Fensulfothion	0.003 / 0.010		N/A	ND	
Fenthion	0.003 / 0.010		N/A	ND	
Fenvalerate‡	0.033 / 0.099		N/A	ND	
Fipronil	0.003 / 0.010	≥ LOD	N/A	ND	PASS
Flonicamid	0.007 / 0.022	2	N/A	ND	PASS
Fludioxonil	0.003 / 0.010	30	N/A	ND	PASS

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Pesticide Analysis *Continued*

PESTICIDE TEST RESULTS - 11/22/2024 *continued* PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Fluopyram‡	0.003 / 0.009		N/A	ND	
Hexythiazox	0.003 / 0.010	2	N/A	ND	PASS
Imazalil	0.003 / 0.009	≥ LOD	N/A	ND	PASS
Imidacloprid	0.003 / 0.010	3	N/A	ND	PASS
Iprodione	0.077 / 0.233		N/A	ND	
Kinoprene	0.077 / 0.233		N/A	ND	
Kresoxim-methyl	0.006 / 0.019	1	N/A	ND	PASS
λ-Cyhalothrin	0.068 / 0.206		N/A	ND	
Malathion	0.003 / 0.009	5	N/A	ND	PASS
Metalaxyl	0.003 / 0.010	15	N/A	ND	PASS
Methiocarb	0.003 / 0.008	≥ LOD	N/A	ND	PASS
Methomyl	0.008 / 0.025	0.1	N/A	ND	PASS
Methoprene‡	0.172 / 0.521		N/A	ND	
Mevinphos	0.008 / 0.024	≥ LOD	N/A	ND	PASS
MGK-264	0.015 / 0.047		N/A	ND	
Myclobutanil	0.003 / 0.009	9	N/A	ND	PASS
Naled	0.021 / 0.064	0.5	N/A	ND	PASS
Novaluron	0.002 / 0.005		N/A	ND	
Oxamyl	0.017 / 0.051	0.2	N/A	ND	PASS
Paclobutrazol	0.003 / 0.010	≥ LOD	N/A	ND	PASS
Parathion-methyl	0.016 / 0.050	≥ LOD	N/A	ND	PASS
Pentachloronitro-benzene (Quintozene)*	0.004 / 0.012	0.2	N/A	ND	PASS
Permethrin	0.056 / 0.168	20	N/A	ND	PASS
Phenothrin	0.016 / 0.047		N/A	ND	
Phosmet	0.007 / 0.020	0.2	N/A	ND	PASS
Piperonyl Butoxide	0.010 / 0.029	8	N/A	ND	PASS
Pirimicarb	0.003 / 0.009		N/A	ND	
Prallethrin	0.015 / 0.046	0.4	N/A	ND	PASS
Propiconazole	0.027 / 0.080	20	N/A	ND	PASS
Propoxur	0.003 / 0.008	≥ LOD	N/A	ND	PASS
Pyraclostrobin	0.003 / 0.010		N/A	ND	
Pyrethrins	0.016 / 0.049	1	N/A	ND	PASS
Pyridaben	0.005 / 0.017	3	N/A	ND	PASS
Pyriproxyfen	0.003 / 0.009		N/A	ND	
Resmethrin	0.013 / 0.039		N/A	ND	
Spinetoram	0.003 / 0.010	3	N/A	ND	PASS
Spinosad	0.003 / 0.010	3	N/A	ND	PASS
Spirodiclofen	0.031 / 0.093		N/A	ND	
Spiromesifen	0.016 / 0.050	12	N/A	ND	PASS
Spirotetramat	0.003 / 0.010	13	N/A	ND	PASS
Spiroxamine	0.020 / 0.062	≥ LOD	N/A	ND	PASS

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Pesticide Analysis *Continued*

PESTICIDE TEST RESULTS - 11/22/2024 *continued* PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Tebuconazole	*0.003 / 0.010*	*2*	*N/A*	ND	PASS
Tebufenozide	*0.003 / 0.008*		*N/A*	ND	
Teflubenzuron	*0.007 / 0.022*		*N/A*	ND	
Tetrachlorvinphos	*0.003 / 0.008*		*N/A*	ND	
Tetramethrin	*0.021 / 0.063*		*N/A*	ND	
Thiabendazole	*0.006 / 0.020*		*N/A*	ND	
Thiacloprid	*0.003 / 0.009*	*≥ LOD*	*N/A*	ND	PASS
Thiamethoxam	*0.003 / 0.010*	*4.5*	*N/A*	ND	PASS
Thiophanate-methyl	*0.013 / 0.040*		*N/A*	ND	
trans-Permethrin				0.00	
Trifloxystrobin	*0.003 / 0.009*	*30*	*N/A*	ND	PASS

Mycotoxin Analysis

Mycotoxin analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS).

Method: QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS

MYCOTOXIN TEST RESULTS - 11/22/2024 PASS

COMPOUND	LOD/LOQ (µg/kg)	ACTION LIMIT (µg/kg)	MEASUREMENT UNCERTAINTY (µg/kg)	RESULT (µg/kg)	RESULT
Aflatoxin B1	*1.6 / 5.0*		*N/A*	ND	
Aflatoxin B2	*1.4 / 4.1*		*N/A*	ND	
Aflatoxin G1	*1.6 / 4.9*		*N/A*	ND	
Aflatoxin G2	*1.6 / 5.0*		*N/A*	ND	
Ochratoxin A	*1.6 / 5.0*	*20*	*N/A*	ND	PASS
Total Aflatoxin		*20*		ND	PASS

Residual Solvents Analysis

Residual Solvent analysis utilizing gas chromatography-mass spectrometry (GC-MS).

Method: QSP 1204 - Analysis of Residual Solvents by GC-MS

Total Butanes = n-Butane + 2-Methylpropane (Isobutane)
Total Heptanes = 2,2-Dimethylpentane (Neoheptane) + 2,3-Dimethylpentane + 2,4-Dimethylpentane + 3,3-Dimethylpentane + 2,2,3-Trimethylbutane (Triptane) + 2-Methylhexane (Isoheptane) + 3-Methylhexane + 3-Ethylpentane + n-Heptane
Total Xylenes = 1,2-Dimethylbenzene (o-Xylene) + 1,3-Dimethylbenzene (m-Xylene) / 1,4-Dimethylbenzene (p-Xylene)

RESIDUAL SOLVENTS TEST RESULTS - 11/21/2024 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Propane	*0.234 / 0.781*	*5000*	*N/A*	ND	PASS
2-Methylpropane (Isobutane)	*0.052 / 0.173*		*N/A*	ND	
n-Butane	*0.019 / 0.063*	*5000*	*N/A*	ND	PASS
Total Butanes				ND	
n-Pentane	*0.310 / 1.033*	*5000*	*N/A*	ND	PASS
n-Hexane	*0.110 / 0.366*	*290*	*N/A*	ND	PASS
2,2-Dimethylpentane (Neoheptane)	*0.493 / 1.642*		*N/A*	ND	
2,3-Dimethylpentane	*1.009 / 3.365*		*N/A*	ND	
2,4-Dimethylpentane	*0.737 / 2.458*		*N/A*	ND	
3,3-Dimethylpentane	*0.198 / 0.660*		*N/A*	ND	
2,2,3-Trimethylbutane (Triptane)	*0.521 / 1.738*		*N/A*	ND	
2-Methylhexane (Isoheptane)	*0.610 / 2.034*		*N/A*	ND	

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Residual Solvents Analysis
Continued

RESIDUAL SOLVENTS TEST RESULTS - 11/21/2024 *continued* PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
3-Methylhexane	*0.235 / 0.785*		*N/A*	ND	
3-Ethylpentane	*0.304 / 1.012*		*N/A*	ND	
n-Heptane	*13.12 / 43.72*	*5000*	*N/A*	ND	PASS
Total Heptanes				ND	
Benzene	*0.089 / 0.295*	*1*	*N/A*	ND	PASS
Toluene	*0.115 / 0.382*	*890*	*N/A*	ND	PASS
1,3-Dimethylbenzene / 1,4-Dimethylbenzene	*0.451 / 1.502*		*N/A*	ND	
1,2-Dimethylbenzene (o-Xylene)	*0.387 / 1.289*		*N/A*	ND	
Total Xylenes		*2170*		ND	PASS
Methanol	*53.92 / 163.4*	*3000*	*N/A*	ND	PASS
Ethanol	*8.984 / 27.23*	*5000*	*N/A*	ND	PASS
2-Propanol (Isopropyl Alcohol)	*8.421 / 25.52*	*5000*	*N/A*	<LOQ	PASS
Acetone	*10.59 / 32.08*	*5000*	*N/A*	ND	PASS
Ethyl Acetate	*1.123 / 3.745*	*5000*	*N/A*	ND	PASS

Heavy Metals Analysis

Heavy metal analysis utilizing inductively coupled plasma-mass spectrometry (ICP-MS).

Method: QSP 1160 - Analysis of Heavy Metals by ICP-MS

HEAVY METALS TEST RESULTS - 11/20/2024 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Arsenic	*0.02 / 0.1*	*1.5*	*N/A*	<LOQ	PASS
Cadmium	*0.02 / 0.05*	*0.5*	*N/A*	ND	PASS
Lead	*0.04 / 0.1*	*0.5*	*N/A*	ND	PASS
Mercury	*0.002 / 0.01*	*3*	*N/A*	ND	PASS

Microbiology Analysis

PCR AND PLATING

Analysis conducted by polymerase chain reaction (PCR) and fluorescence detection of microbiological contaminants.

Method: QSP 1221 - Analysis of Microbiological Contaminants

MICROBIOLOGY TEST RESULTS (PCR) - 11/22/2024 PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Salmonella spp.	*Not Detected in 1g*	ND	PASS
Shiga toxin-producing *Escherichia coli*	*Not Detected in 1g*	ND	PASS

Microbiology Analysis *Continued*

MICROBIOLOGY TEST RESULTS (PLATING) - 11/22/2024 **ND**

Analysis conducted by 3M™ Petrifilm™ and plate counts of microbiological contaminants.

Method: QSP 6794 - Plating with 3M™ Petrifilm™

COMPOUND	RESULT (cfu/g)
Coliforms	ND
Total Aerobic Bacteria	ND
Total Yeast and Mold	ND

NOTES
Reason for Amendment: Add/Remove Test(s)