

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Joy Organics CBD Gummies for Sleep
PRODUCT STRENGTH: 30mg CBD, 3mg CBN, 1mg THC, + 3mg Melatonin / gummy
BATCH: 22J25001
BEST BY DATE: HEMP 5/14/2027 & 11/14/2027

Physical Attributes

Test	Method	Specification	Results
Color	Joy Internal	Purple	PASS
Odor	Joy Internal	Sweet, berry	PASS
Appearance	Joy Internal	Purple gummies with sugar coating in child proof container	PASS
Primary Package Eval.	Joy Internal	Container clean and free of filth. Container caps tight and seals intact	PASS
Secondary Package Eval.	Joy Internal	Labeling Compliance Checked, 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 30 mg / gummy	27mg	PASS
Potency - D9-THC	HPLC-UV DAD	<0.3% (full spectrum)	0.9mg	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 < 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 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

12/12/2025

Date



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: 0.903 mg/unit

Total THC (Δ^9 -THC+0.877*THCa)

TOTAL CBD: 27.180 mg/unit

Total CBD (CBD+0.877*CBDA)

TOTAL CANNABINOIDS: 30.943 mg/unit

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

TOTAL CBG: ND

Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND

Total THCV (THCV+0.877*THCVa)

TOTAL CBC: ND

Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 0.073 mg/unit

Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 11/28/2025

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
CBD	0.004 / 0.011	±0.2358	6.321	0.6321
CBN	0.001 / 0.007	±0.0186	0.648	0.0648
Δ^9 -THC	0.002 / 0.014	±0.0115	0.210	0.0210
CBDV	0.002 / 0.012	±0.0007	0.017	0.0017
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
CBG	0.002 / 0.006	N/A	ND	ND
CBGa	0.002 / 0.007	N/A	ND	ND
CBL	0.003 / 0.010	N/A	ND	ND
CBC	0.003 / 0.010	N/A	ND	ND
CBCa	0.001 / 0.015	N/A	ND	ND
SUM OF CANNABINOIDS			7.196 mg/g	0.7196%

Unit Mass: 4.3 grams per Unit / Serving Size: 4.3 grams per Serving

Δ^9 -THC per Unit	0.903 mg/unit
Δ^9 -THC per Serving	0.903 mg/serving
Total THC per Unit	0.903 mg/unit
Total THC per Serving	0.903 mg/serving
CBD per Unit	27.180 mg/unit
CBD per Serving	27.180 mg/serving
Total CBD per Unit	27.180 mg/unit
Total CBD per Serving	27.180 mg/serving
Sum of Cannabinoids per Unit	30.943 mg/unit
Sum of Cannabinoids per Serving	30.943 mg/serving
Total Cannabinoids per Unit	30.943 mg/unit
Total Cannabinoids per Serving	30.943 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).

*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 - 12/01/2025 ✓ PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Abamectin	0.032 / 0.097	0.25	N/A	ND	PASS
Acephate	0.006 / 0.018	0.05	N/A	ND	PASS
Acequinocyl	0.009 / 0.027	≥ LOQ	N/A	ND	PASS
Acetamiprid	0.016 / 0.049	0.05	N/A	ND	PASS
Aldicarb	0.030 / 0.090	0.5	N/A	ND	PASS
Allethrin	0.030 / 0.092	0.1	N/A	ND	PASS
Atrazine	0.006 / 0.019	≥ LOQ	N/A	ND	PASS
Azadirachtin	0.082 / 0.248	0.5	N/A	ND	PASS
Azoxystrobin	0.003 / 0.009	0.01	N/A	ND	PASS
Benzovindiflupyr	0.003 / 0.009	0.01	N/A	ND	PASS
Bifenazate	0.003 / 0.009	0.01	N/A	ND	PASS
Bifenthrin	0.021 / 0.064	≥ LOQ	N/A	ND	PASS
Boscalid	0.003 / 0.009	0.01	N/A	ND	PASS
Buprofezin†	0.006 / 0.019	≥ LOQ	N/A	ND	PASS
Carbaryl	0.007 / 0.020	0.025	N/A	ND	PASS
Carbofuran	0.003 / 0.008	0.01	N/A	ND	PASS
Chlorantraniliprole	0.006 / 0.018	≥ LOQ	N/A	ND	PASS
Chlorfenapyr*	0.005 / 0.015	1.5	N/A	ND	PASS
Chlorpyrifos	0.013 / 0.039	0.5	N/A	ND	PASS
Clofentezine	0.003 / 0.009	0.01	N/A	ND	PASS
Clothianidin	0.008 / 0.025	0.025	N/A	ND	PASS
Coumaphos	0.003 / 0.010	0.01	N/A	ND	PASS
Cyantraniliprole	0.003 / 0.010	0.01	N/A	ND	PASS
Cyfluthrin	0.052 / 0.159	≥ LOQ	N/A	ND	PASS
Cypermethrin	0.051 / 0.153	≥ LOQ	N/A	ND	PASS
Cyprodinil†	0.003 / 0.008	0.01	N/A	ND	PASS
Daminozide	0.026 / 0.077	≥ LOQ	N/A	ND	PASS
Deltamethrin	0.059 / 0.180	≥ LOQ	N/A	ND	PASS
Diazinon	0.006 / 0.017	≥ LOQ	N/A	ND	PASS
Dichlorvos (DDVP)	0.012 / 0.038	0.05	N/A	ND	PASS
Dimethoate	0.003 / 0.009	0.01	N/A	ND	PASS
Dimethomorph	0.016 / 0.050	≥ LOQ	N/A	ND	PASS
Dinotefuran	0.010 / 0.030	0.05	N/A	ND	PASS
Diuron	0.013 / 0.040	≥ LOQ	N/A	ND	PASS
Dodemorph	0.012 / 0.035	≥ LOQ	N/A	ND	PASS
Endosulfan sulfate	0.016 / 0.048	2.5	N/A	ND	PASS
Endosulfan-α*	0.004 / 0.014	2.5	N/A	ND	PASS
Endosulfan-β*	0.006 / 0.019	2.5	N/A	ND	PASS
Ethoprophos	0.003 / 0.009	0.01	N/A	ND	PASS
Etofenprox	0.014 / 0.042	≥ LOQ	N/A	ND	PASS
Etoxazole	0.007 / 0.020	≥ LOQ	N/A	ND	PASS

Continued on next page



Pesticide Analysis *Continued*

PESTICIDE TEST RESULTS - 12/01/2025 *continued* ✓ PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Etridiazole*	0.002 / 0.005	0.15	N/A	ND	PASS
Fenhexamid	0.003 / 0.008	≥ LOQ	N/A	ND	PASS
Fenoxycarb	0.003 / 0.010	0.01	N/A	ND	PASS
Fenpyroximate	0.007 / 0.020	≥ LOQ	N/A	ND	PASS
Fensulfothion	0.003 / 0.010	0.01	N/A	ND	PASS
Fenthion	0.003 / 0.010	0.01	N/A	ND	PASS
Fenvalerate†	0.033 / 0.099	≥ LOQ	N/A	ND	PASS
Fipronil	0.003 / 0.010	0.01	N/A	ND	PASS
Flonicamid	0.007 / 0.022	0.025	N/A	ND	PASS
Fludioxonil	0.003 / 0.010	0.01	N/A	ND	PASS
Fluopyram†	0.003 / 0.009	0.01	N/A	ND	PASS
Hexythiazox	0.003 / 0.010	≥ LOQ	N/A	ND	PASS
Imazalil	0.003 / 0.009	0.01	N/A	ND	PASS
Imidacloprid	0.003 / 0.010	0.01	N/A	ND	PASS
Iprodione	0.077 / 0.233	0.5	N/A	ND	PASS
Kinoprene	0.077 / 0.233	1.25	N/A	ND	PASS
Kresoxim-methyl	0.006 / 0.019	0.15	N/A	ND	PASS
λ-Cyhalothrin	0.068 / 0.206	≥ LOQ	N/A	ND	PASS
Malathion	0.003 / 0.009	0.01	N/A	ND	PASS
Metaxyl	0.003 / 0.010	0.01	N/A	ND	PASS
Methiocarb	0.003 / 0.008	0.01	N/A	ND	PASS
Methomyl	0.008 / 0.025	0.025	N/A	ND	PASS
Methoprene	0.172 / 0.521	≥ LOQ	N/A	ND	PASS
Mevinphos	0.008 / 0.024	0.025	N/A	ND	PASS
MGK-264	0.015 / 0.047	≥ LOQ	N/A	ND	PASS
Myclobutanil	0.003 / 0.009	0.01	N/A	ND	PASS
Naled	0.021 / 0.064	≥ LOQ	N/A	ND	PASS
Novaluron	0.002 / 0.005	0.025	N/A	ND	PASS
Oxamyl	0.017 / 0.051	1.5	N/A	ND	PASS
Paclobutrazol	0.003 / 0.010	0.01	N/A	ND	PASS
Parathion-methyl	0.016 / 0.050	≥ LOQ	N/A	ND	PASS
Pentachloronitro- benzene (Quintozene)*	0.004 / 0.012	≥ LOQ	N/A	ND	PASS
Permethrin	0.056 / 0.168	≥ LOQ	N/A	ND	PASS
Phenothrin	0.016 / 0.047	≥ LOQ	N/A	ND	PASS
Phosmet	0.007 / 0.020	≥ LOQ	N/A	ND	PASS
Piperonyl Butoxide	0.010 / 0.029	1.25	N/A	ND	PASS
Pirimicarb	0.003 / 0.009	0.01	N/A	ND	PASS
Prallethrin	0.015 / 0.046	≥ LOQ	N/A	ND	PASS
Propiconazole	0.027 / 0.080	≥ LOQ	N/A	ND	PASS
Propoxur	0.003 / 0.008	0.01	N/A	ND	PASS
Pyraclostrobin	0.003 / 0.010	0.01	N/A	ND	PASS

Continued on next page



Pesticide Analysis *Continued*

PESTICIDE TEST RESULTS - 12/01/2025 *continued* ✓ PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Pyrethrins	0.016 / 0.049	≥ LOQ	N/A	ND	PASS
Pyridaben	0.005 / 0.017	0.02	N/A	ND	PASS
Pyriproxyfen	0.003 / 0.009	≥ LOQ	N/A	ND	PASS
Resmethrin	0.013 / 0.039	0.05	N/A	ND	PASS
Spinetoram	0.003 / 0.010	0.01	N/A	ND	PASS
Spinosad	0.003 / 0.010	0.01	N/A	ND	PASS
Spirodiclofen	0.031 / 0.093	≥ LOQ	N/A	ND	PASS
Spiromesifen	0.016 / 0.050	≥ LOQ	N/A	ND	PASS
Spirotetramat	0.003 / 0.010	0.01	N/A	ND	PASS
Spiroxamine	0.020 / 0.062	≥ LOQ	N/A	ND	PASS
Tebuconazole	0.003 / 0.010	0.01	N/A	ND	PASS
Tebufenozide	0.003 / 0.008	0.01	N/A	ND	PASS
Teflubenzuron	0.007 / 0.022	0.025	N/A	ND	PASS
Tetrachlorvinphos	0.003 / 0.008	0.01	N/A	ND	PASS
Tetramethrin	0.021 / 0.063	≥ LOQ	N/A	ND	PASS
Thiabendazole	0.006 / 0.020	≥ LOQ	N/A	ND	PASS
Thiacloprid	0.003 / 0.009	0.01	N/A	ND	PASS
Thiamethoxam	0.003 / 0.010	0.01	N/A	ND	PASS
Thiophanate-methyl	0.013 / 0.040	≥ LOQ	N/A	ND	PASS
Trifloxystrobin	0.003 / 0.009	0.01	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 - 12/01/2025 ✓ PASS

COMPOUND	LOD/LOQ (µg/kg)	ACTION LIMIT (µg/kg)	MEASUREMENT UNCERTAINTY (µg/kg)	RESULT (µg/kg)	RESULT
Aflatoxin B1	1.6 / 5.0	5	N/A	ND	PASS
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	5	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 - 12/01/2025 ✓ PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Propane	0.234 / 0.781	1000	N/A	ND	PASS
2-Methylpropane (Isobutane)	0.052 / 0.173		N/A	ND	
n-Butane	0.019 / 0.063		N/A	ND	
Total Butanes		1000		ND	PASS
n-Pentane	0.310 / 1.033	1000	N/A	ND	PASS
n-Hexane	0.110 / 0.366	60	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	
3-Methylhexane	0.235 / 0.785		N/A	ND	
3-Ethylpentane	0.304 / 1.012		N/A	ND	
n-Heptane	13.12 / 43.72		N/A	ND	
Total Heptanes		1000		ND	PASS
Benzene	0.089 / 0.295	2	N/A	ND	PASS
Toluene	0.115 / 0.382	180	N/A	ND	PASS
1,3-Dimethylbenzene (m-Xylene) / 1,4-Dimethylbenzene (p-Xylene)	0.451 / 1.502		N/A	ND	
1,2-Dimethylbenzene (o-Xylene)	0.387 / 1.289		N/A	ND	
Total Xylenes		430		ND	PASS
Methanol	53.92 / 163.4	600	N/A	ND	PASS
Ethanol	8.984 / 27.23	1000	N/A	ND	PASS
2-Propanol (Isopropyl Alcohol)	8.421 / 25.52	1000	N/A	ND	PASS
Acetone	10.59 / 32.08	1000	N/A	ND	PASS
Ethyl Acetate	1.123 / 3.745	1000	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 - 11/30/2025 ✓ 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	ND	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	1.5	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

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

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

MICROBIOLOGY TEST RESULTS (PCR) - 11/30/2025 PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Salmonella spp.	Not Detected in 25g	ND	PASS
Shiga toxin-producing Escherichia coli	Not Detected in 25g	ND	PASS

MICROBIOLOGY TEST RESULTS (PLATING) - 11/30/2025 PASS

COMPOUND	ACTION LIMIT (cfu/g)	RESULT (cfu/g)	RESULT
Coliforms	100	ND	PASS
Total Aerobic Bacteria	10000	ND	PASS
Total Yeast and Mold	1000	ND	PASS

NOTES

Sample serving mass provided by client. Sample unit mass provided by client.