

# CERTIFICATE OF ANALYSIS

**PRODUCT NAME:** Joy Organics CBD Softgels with Melatonin  
**PRODUCT STRENGTH:** 25 mg CBD / 3 mg Melatonin / 3mg CBN  
**SOFTGEL BATCH:** 22012C  
**BEST BY DATE:** 03/30/2023  
**BULK LOT:** 21198

*\*Click on the links to view third-party reports\**

## 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
<b>Potency</b> - Total CBD	HPLC-UV DAD	LOQ*: $\geq$ product strength mg / bottle	<b>26.4 mg</b>	PASS
<b>Potency</b> - D9-THC	HPLC-UV DAD	LOQ: $<0.01\%$ THC (Broad Spectrum)	<b>Below LOQ</b>	PASS
<b>Expanded Pesticide Panel</b>	HPLC-QQQ	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	<b>Below LOQ</b>	PASS
<b>Microbial</b> Escherichia coli (STEC)	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 **CFU/25	<b>Absent</b>	PASS
<b>Microbial</b> Salmonella	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram	<b>Absent</b>	PASS
<b>Microbial</b> Yeast and Mold	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ $10^2$ CFU/gram	<b>Below LOQ</b>	PASS
<b>Microbial</b> Total Coliforms*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ $10^2$ CFU/gram	<b>Below LOQ</b>	PASS
<b>Microbial</b> Total Aerobic Count*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ $10^3$ CFU/gram	<b>Below LOQ</b>	PASS
<b>Heavy Metals</b>	ICP-MS	Arsenic (As): $\leq 1.5$ ppm† Cadmium (Cd): $\leq 0.5$ ppm Lead (Pb): $\leq 0.5$ ppm Mercury (Hg): $\leq 1.5$ ppm	<b>Below LOQ</b>	PASS
<b>Mycotoxins</b>	ICP-MS	Total Aflatoxins $<20$ ppb†† Aflatoxin B1 $<5$ ppb Ochratoxin $<5$ ppb	<b>Below LOQ</b>	PASS
<b>Residual Solvents</b>	GC-HS-MSD	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	<b>Below LOQ</b>	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

*Keegan Schlittler*  
Keegan Schlittler

01/18/2022

Date

Quality Assurance Manager

5042 Technology Parkway, Fort Collins, CO 80528

Tel: (833) 569-7223 www.joyorganics.com

## Nano BS 25mg Sleep

## Certificate of Analysis



total cannabinoids	Δ9-THC	THCa	total THC
<b>31 mg</b>	0.000 mg	0.000 mg	0.000 mg
per pill	CBD	CBDa	total CBD
	26.4 mg	0.15 mg	26.5 mg

Lot# 21198

This Product  
Has Been  
Tested and  
Complies with  
7USC1639o(1)  
Definition of  
Hemp



Stillwater  
Laboratories

<https://portal.a2la.org/scopepdf/4961-01.pdf>

## Sample Handling

test ID 10291.1.	sample wt 48.4 g
type gelcap	order 10291
lab ID 1DA39	sample date 3/31/2021
unit pill	unit weight 0.6 g

gelcap



## Methods

method	equipment
weights	MSP-7.3.1.3 AUX120.1
potency	MSP-7.5.1.5 LC-2030
terpenes	MSP-7.5.1.7 QP2020/HS20
pesticides	MSP-7.5.1.8 LC-8060
mycotoxins	MSP-7.5.1.8 LC-8060
microbial	MSP-7.5.1.1 AriaMx/Hardy
solvents	MSP-7.5.1.6 QP2020/HS20
metals	MSP-7.5.1.1 ICPMS2030

## Potency

per pill	estimated error
tetrahydrocannabinolic acid (THCa)	0% 0.000 mg ± 0.01 mg
Δ <sup>9</sup> -tetrahydrocannabinol (Δ <sup>9</sup> THC)	0% 0.000 mg ± 0.01 mg
Δ <sup>8</sup> -tetrahydrocannabinol (Δ <sup>8</sup> THC)	0% 0.000 mg ± 0.01 mg
tetrahydrocannabivarin (THCv)	0% 0.000 mg ± 0.01 mg
cannabidiolic acid (CBDa)	.03% 0.15 mg ± 0.01 mg
cannabidiol (CBD)	4.59% 26.4 mg ± 0.15 mg
cannabidivarin (CBDv)	.05% 0.28 mg ± 0.02 mg
cannabigerolic acid (CBGa)	0% 0.000 mg ± 0.01 mg
cannabigerol (CBG)	.1% 0.55 mg ± 0.02 mg
cannabinol (CBN)	.59% 3.37 mg ± 0.06 mg
cannabichromene (CBC)	0% 0.000 mg ± 0.01 mg

## Terpenes

terpenes  
not tested / not required

## Solvents

MT limit	1DA41	LOQ
propane	5,000	0 ppm <10ppm
butanes	5,000	0 ppm <10ppm
pentanes	5,000	0 ppm <10ppm
hexanes	290	0 ppm <10ppm
cyclohexane	3,880	0 ppm <10ppm
heptanes	5,000	0 ppm <10ppm
methanol	3,000	0 ppm <10ppm
isopropanol	5,000	0 ppm <10ppm
acetone	5,000	0 ppm <10ppm
ethyl acetate	5,000	0 ppm <10ppm
benzene	2	0 ppm <0.2ppm
toluene	890	0 ppm <10ppm
xylene	2,170	0 ppm <10ppm
chloroform	2	0 ppm <0.2ppm
dichloromethane	600	0 ppm <10ppm
acetonitrile	NA	0 ppm <10ppm
ethanol	NA	0 ppm <10ppm
tetrahydrofuran	NA	0 ppm <10ppm

## Pesticides (MT)

MT limit	1DA39	LOQ
abamectin	0.00 ppm	<10ppb
acequinocyl	0.00 ppm	<10ppb
bifenazate	0.00 ppm	<10ppb
bifenthrin	0.00 ppm	<10ppb
chlormequat cl.	0.00 ppm	<10ppb
cyfluthrin	0.00 ppm	<80ppb
diaminazide	0.00 ppm	<10ppb
etoxazole	0.00 ppm	<10ppb
fenoxycarb	0.00 ppm	<10ppb
imazalil	0.00 ppm	<10ppb
imidacloprid	0.00 ppm	<10ppb
myclobutanil	0.00 ppm	<10ppb
paclobutrazol	0.00 ppm	<10ppb
pyrethrins	0.00 ppm	<10ppb
spinosad	0.00 ppm	<10ppb
spiromesifen	0.00 ppm	<10ppb
spirotetramat	0.00 ppm	<10ppb
trifloxystrobin	0.00 ppm	<10ppb

## Pesticides (other)

1DA39	LOQ
acephate	0.00 ppm <10ppb
acetamiprid	0.00 ppm <10ppb
aldicarb	0.00 ppm <10ppb
azoxystrobin	0.00 ppm <10ppb
boscalid	0.00 ppm <10ppb
carbaryl	0.00 ppm <10ppb
carbofuran	0.00 ppm <10ppb
chlorantraniliprole	0.00 ppm <10ppb
chlorpyrifos	0.00 ppm <10ppb
clofentezine	0.00 ppm <10ppb
cypermethrin	0.00 ppm <10ppb
diazinon	0.00 ppm <10ppb
dichlorvos	0.00 ppm <10ppb
dimethoate	0.00 ppm <10ppb
etofenprox	0.00 ppm <10ppb
fenpyroximate	0.00 ppm <10ppb
flupyrifur	0.00 ppm <10ppb
flonicamid	0.00 ppm <10ppb
fludioxonil	0.00 ppm <10ppb
hexythiazox	0.00 ppm <10ppb
kresoxym-methyl	0.00 ppm <10ppb
malathion	0.00 ppm <10ppb
metalaxyl	0.00 ppm <10ppb
methiocarb	0.00 ppm <10ppb
methomyl	0.00 ppm <10ppb
oxamyl	0.00 ppm <10ppb
permethrin	0.00 ppm <10ppb
phosmet	0.00 ppm <10ppb
piperonyl butoxide	0.00 ppm <10ppb
prallethrin	0.00 ppm <10ppb
propiconazole	0.00 ppm <10ppb
pyridaben	0.00 ppm <10ppb
spiroxamine	0.00 ppm <10ppb
tebuconazole	0.00 ppm <10ppb
thiacloprid	0.00 ppm <10ppb
thiamethoxam	0.00 ppm <10ppb

## Toxic Metals

MT limit	1DA39	LOQ
arsenic	2 ppm	0.0 ppm <10ppb
cadmium	4.1 ppm	0.0 ppm <10ppb
lead	1.2 ppm	0.0 ppm <10ppb
mercury	0.4 ppm	0.0 ppm <10ppb

## Microbial

MT limit	1DA39	LOQ
<i>E. coli</i>	10 CFU	0 CFU <10 CFU/g
<i>Salmonella</i> sp.	10 CFU	0 CFU <10 CFU/g
molds	10000 CFU	0 CFU <10k CFU/g
Aflatoxin B1,B2,G1,G2	20 ppb	0 ppb <20 ppb
Ochratoxin A	20 ppb	0 ppb <20 ppb

## Comments

\* All testing was completed onsite at 6073 US93N, Olney MT. \*\* Potency (cannabinoid concentration) is calculated from the equation: [cannabinoid] = [cannabinoid]<sub>HPLC</sub> x volume<sub>dilution</sub>/m<sub>dry</sub>. Terpene concentration is calculated from the equation: [terpene] = (terpene mass)<sub>GCMS</sub> / m<sub>dry</sub>. \*\*\* Decarboxylated cannabinoid concentration is calculated from the equation XXX<sub>total</sub> = 0.877 x XXX<sub>a</sub> + XXX. Standards are used to calibrate the resulting data and estimate error using a standard estimate of error method; this is combined with error from weighing and dilution using the propagation of error formula  $s_y^2 = \sum (\partial f / \partial x_i)^2 s_i^2$  where  $i$  is the contributor to error. The 95% confidence range is calculated from the equation: (concentration) ±  $t_{CL90} \times s_y$ . Sampling error is not

Certified by:

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Deputy Director  
6073 US93N, Olney MT 59927  
406-881-2019 rdb@stflabs.com

Prepared for:

**SG25M****JOY ORGANICS**


Batch ID or Lot Number: <b>22012C</b>	Test: <b>Microbial Contaminants</b>	Reported: <b>1/17/22</b>	Location: 5042 Technology Parkway Ste. 50 FT. COLLINS, CO 80528
Matrix: Finished Product	Test ID: T000187432	Started: 1/14/22	USDA License: N/A
Status: N/A	Methods: TM25 (qPCR) TM24, TM26, TM27(Culture Plating): Microbial (Colorado Panel)	Received: 01/14/2022 @ 10:39 AM	Sampler ID: N/A

**MICROBIAL CONTAMINANTS DETERMINATION**

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

 Brianne Maillot  
1/17/2022  
4:28:00 PM

PREPARED BY / DATE

 Brett Hudson  
1/17/2022  
5:27:00 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<sup>2</sup> = 100 CFU  
10<sup>3</sup> = 1,000 CFU  
10<sup>4</sup> = 10,000 CFU  
10<sup>5</sup> = 100,000 CFU

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



1309 Record Crossing Rd  
Dallas, TX 75235

## Analytical Report

Report Date: 04/06/2021

Work Order: CHSG210331-019

Received Date: 03/31/2021

P.O. #:

Comments:

Sample Num:

Lot Number: 21198

Client Sample Num:

Comments:

<u>Analysis</u>	<u>Method Reference</u>	<u>Result</u>	<u>Unit</u>	<u>Analysis Date</u>	<u>Approval Date</u>
Melatonin	USP Assay Melatonin	3.17	mg/svg	04/06/2021	04/06/2021

Reviewed by:

Cheri Turman, PhD., Vice President