

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Joy Organics Green Apple Gummies - Kosher Certified
PRODUCT STRENGTH: 10 mg CBD / gummy
BATCH: J10GA03
BEST BY DATE: HEMP 07/2023
EXTRACT LOT: CO325-003

Click on the links to view third-party reports

Physical Attributes


| Test | Method | Specification | Results |
|-------------------------|--------------|--|---------|
| Color | Joy Internal | Medium Green | PASS |
| Odor | Joy Internal | Sweet, apple, sour | PASS |
| Appearance | Joy Internal | Medium green 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 10 mg / gummy | 10.28 mg | PASS |
| Potency - D9-THC | HPLC-UV DAD | LOQ: <0.01% (broad spectrum) | ND | 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 < 5ppb | Below LOQ | PASS |
| Residual Solvents | GC-HS-MSD | LOQ: Complies with CDPHE 6 CCR in effect during MFG* | Below LOQ | PASS |

* *Level of Quantitation, † Parts Per Million ‡ Part Per Billion
 CFU/g=Colony Forming Units per Gram
 * Nothing Less Than Manufacture*
 10²=100 CFU
 10³=1,000 CFU

Quality Certified


 Kayla Kolber

Quality Assurance Technician

08/23/2021

Date

5042 Technology Parkway, Fort Collins, CO 80528

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



C0325-003

7USC1639 Certificate of Analysis

sample ID 26419

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

Stillwater Laboratories

certificate ID 1CX18

total cannabinoids 87.39% per gram

THC total ND CBD total 82.44% terpenes

MSP-7.5.1.3

0.000

extract

order 10243 analysis date 3/26/2021 3:55:32 PM test tag 10243.3.4 sample wgt

Inspection MSP-7.5.1.2

DESCRIPTION: Concentrate sample received in a client-labeled bottle, by commercial courier. Labeled 26419 and sample tag 10243.3.4.

- caryophyllene humulene terpinolene ocimene beta pinene alpha pinene limonene myrcene linalool



0.000

Potency per gram

MSP-7.5.1.4 LOD LOQ error (95%CI k=2)

Table with 4 columns: Compound, Result, LOD, LOQ, Error. Rows include tetrahydrocannabinolic acid (THCa), Δ9-tetrahydrocannabinol (Δ9 THC), Δ8-tetrahydrocannabinol (Δ8 THC), tetrahydrocannabivarin (THCv), cannabidiolic acid (CBDa), cannabidiol (CBD), cannabidivarin (CBDv), cannabigerolic acid (CBGa), cannabigerol (CBG), cannabinalol (CBN), and cannabichromene (CBC).

Terpenes

MSP-7.5.1.6

MSP-7.5.1.6

‡ = decarbed NT = not tested NL = no limit, ND = not detected, LOD = detection limit, LOQ = quantitation limit

Microbial

Microbial table with columns: Organism, Limit, Result. Rows include E.coli, Salmonella sp., molds, Ochratoxin A, and Aflatoxin.

Metals

Metals table with columns: Element, Limit, Result. Rows include Arsenic, Cadmium, Lead, and Mercury.

Pesticides

Pesticides table with columns: Pesticide, Limit, Result. Rows include Abamectin, Acephate, Acequinocyl, Acetamiprid, Aldicarb, Azoxystrobin, Bifenazate, Bifenthrin, Boscalid, Carbaryl, Carbofuran, Chloanthraniliprole, Chlorfenapyr, Chlorpyrifos, Clofentezine, Coumaphos, Cyfluthrin, Cypermethrin, Daminozide, Dichlorvos, Diazinon, Dimethoate, Etoxazole, Fenoxycarb, Fenpyroximate.

Pesticides

Pesticides table with columns: Pesticide, Limit, Result. Rows include Fipronil, Flonicamid, Fludioxonil, Hexythiazox, Imazalil, Imidacloprid, Malathion, Metalaxyl, Methiocarb, Methomyl, Methyl parathion, Mevinphos, Myclobutanil, Naled, Oxamyl, Paclobutrazol, and Permethrin.

Solvents

Solvents table with columns: Solvent, Limit, Result. Rows include Acetone, Acetonitrile, Benzene, Butane, Chloroform, Cyclohexane, Ethanol, Heptane, Hexane, Isopropyl alcohol, Methanol, Pentane, Propane, Toluene, and Xylenes.

Pesticides

Pesticides table with columns: Pesticide, Limit, Result. Rows include Permethrin, Phosmet, Piperonylbutoxide, Prallethrin, Propiconazole, Propoxur, Pyrethrin, Pyridaben, Spinetoram, Spinosad, Spiromesifen, Spirotetramat, Spiroxamine, Tebuconazole, Thiachloprid, Thiamethoxam, and Trifloxystrobin.

INSTRUMENTS potency: HPLC (LC2030C-UV) terpenes: GCMS (QP2020/HS20) solvents: GCMS (QP2020/HS20) pesticides: LCMSMS (LC8060) mycotoxins: LCMSMS (LC8060) microbial: qPCR (AriaMx) and plating metals: ICPMS (ICPMS-2030)

SECURITY FEATURE: WATERMARK MUST MATCH CERTIFICATE ID AND ISSUE DATE

Certified by:

[Signature]

Kyle Larson, MSc (Biology) Deputy Director

Stillwater Laboratories Inc. MT License L00001, 7, 8 6073 US93N Suite 5 Olney MT 59927 406-881-2019

Printed 3/31/2021 11:07 AM

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Certificate #4961.01

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

GUMGA10

| | | |
|---|-------------------------|-----------------------------|
| Batch ID or Lot Number: J10GA03 | Test: Potency | Reported: 8/17/21 |
|---|-------------------------|-----------------------------|

| | | | |
|------------------------|------------------------|---------------------|----------------------|
| Matrix: Concentrate | Test ID: T000154922 | Started: 8/12/21 | USDA License: N/A |
|------------------------|------------------------|---------------------|----------------------|

| | | | |
|----------------|---|------------------------------------|--------------------|
| Status: N/A | Method: TM14 (HPLC-DAD): Potency - Broad Spectrum Analysis, 0.01% THC (Colorado Panel) | Received: 08/09/2021 @ 10:18 AM | Sampler ID: N/A |
|----------------|---|------------------------------------|--------------------|

CANNABINOID PROFILE

| Compound | LOD (%) | LOQ (%) | Result (%) | Result (mg/g) | Notes |
|--|---------|---------|--------------|---------------|-------|
| Delta 9-Tetrahydrocannabinolic acid (THCA-A) | 0.002 | 0.008 | ND | ND | N/A |
| Delta 9-Tetrahydrocannabinol (Delta 9THC) | 0.003 | 0.009 | ND | ND | |
| Cannabidiolic acid (CBDA) | 0.023 | 0.055 | ND | ND | |
| Cannabidiol (CBD) | 0.023 | 0.054 | 0.257 | 2.57 | |
| Delta 8-Tetrahydrocannabinol (Delta 8THC) | 0.017 | 0.058 | ND | ND | |
| Cannabinolic Acid (CBNA) | 0.010 | 0.033 | ND | ND | |
| Cannabinol (CBN) | 0.005 | 0.015 | ND | ND | |
| Cannabigerolic acid (CBGA) | 0.015 | 0.048 | ND | ND | |
| Cannabigerol (CBG) | 0.003 | 0.012 | 0.014 | 0.14 | |
| Tetrahydrocannabivarinic Acid (THCVA) | 0.012 | 0.041 | ND | ND | |
| Tetrahydrocannabivarin (THCV) | 0.003 | 0.011 | ND | ND | |
| Cannabidivarinic Acid (CBDVA) | 0.010 | 0.023 | ND | ND | |
| Cannabidivarin (CBDV) | 0.005 | 0.013 | ND | ND | |
| Cannabichromenic Acid (CBCA) | 0.006 | 0.019 | ND | ND | |
| Cannabichromene (CBC) | 0.006 | 0.020 | ND | ND | |
| Total Cannabinoids | | | 0.271 | 2.71 | |
| Total Potential THC** | | | ND | ND | |
| Total Potential CBD** | | | 0.257 | 2.57 | |

Daniel Weidensaul
 Daniel Weidensaul
 17-Aug-2021
 01:50 PM

Taylor Brevik
 Taylor Brevik
 17-Aug-21
 1:56 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.
 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)

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

GUMGA10

Batch ID or Lot Number: **J10GA03** Test: **Pesticides** Reported: **8/16/21**

Matrix: Concentrate Test ID: T000154923 Started: 8/13/21 USDA License: N/A

Status: N/A Method: TM17(LC-QQQ LC MS/MS): Received: 08/09/2021 @ 10:18 AM Sampler ID: N/A

PESTICIDE DETERMINATION

| Compound | LOQ (ppm) | Result (ppm) | Compound | LOQ (ppm) | Result (ppm) | Compound | LOQ (ppm) | Result (ppm) |
|---------------------|-----------|--------------|-----------------|-----------|--------------|-----------------|-----------|--------------|
| Acephate | 39 | ND | Fenoxycarb | 40 | ND | Paclobutrazol | 47 | ND |
| Acetamiprid | 42 | ND | Fipronil | 50 | ND | Permethrin | 290 | ND |
| Avermectin | 407 | ND | Flonicamid | 40 | ND | Phosmet | 44 | ND |
| Azoxystrobin | 45 | ND | Fludioxonil | 327 | ND | Prophos | 308 | ND |
| Bifenazate | 41 | ND | Hexythiazox | 33 | ND | Propoxur | 44 | ND |
| Boscalid | 45 | ND | Imazalil | 282 | ND | Pyridaben | 319 | ND |
| Carbaryl | 41 | ND | Imidacloprid | 41 | ND | Spinosad A | 36 | ND |
| Carbofuran | 44 | ND | Kresoxim-methyl | 150 | ND | Spinosad D | 53 | ND |
| Chlorantraniliprole | 50 | ND | Malathion | 300 | ND | Spiromesifen | 289 | ND |
| Chlorpyrifos | 500 | ND | Metalaxyl | 43 | ND | Spirotetramat | 283 | ND |
| Clofentezine | 273 | ND | Methiocarb | 43 | ND | Spiroxamine 1 | 19 | ND |
| Diazinon | 295 | ND | Methomyl | 41 | ND | Spiroxamine 2 | 26 | ND |
| Dichlorvos | 322 | ND | MGK 264 1 | 167 | ND | Tebuconazole | 293 | ND |
| Dimethoate | 41 | ND | MGK 264 2 | 118 | ND | Thiacloprid | 43 | ND |
| E-Fenpyroximate | 330 | ND | Myclobutanil | 44 | ND | Thiamethoxam | 41 | ND |
| Etofenprox | 45 | ND | Naled | 43 | ND | Trifloxystrobin | 45 | ND |
| Etoxazole | 305 | ND | Oxamyl | 1500 | ND | | | |

 Taylor Brevik
8/16/2021
1:51:00 PM

 Sam Smith
8/16/2021
2:01:00 PM

PREPARED BY / DATE

APPROVED BY / DATE

Definitions

LOQ = Limit of Quantification
ppb = Parts per Billion

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Certificate #4329.02

GUMGA10


| | | |
|---|--|-----------------------------|
| Batch ID or Lot Number: J10GA03 | Test: Microbial Contaminants | Reported: 8/13/21 |
|---|--|-----------------------------|


| | | | |
|-----------------------------|------------------------|--------------------|----------------------|
| Matrix: Finished Product | Test ID: T000154924 | Started: 8/9/21 | USDA License: N/A |
|-----------------------------|------------------------|--------------------|----------------------|

| | | | |
|----------------|---|------------------------------------|--------------------|
| Status: N/A | Methods: TM25 (qPCR) TM24, TM26, TM27(Culture Plating): Microbial (Colorado Panel) | Received: 08/09/2021 @ 10:18 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 | |


 Robert Belfon
 8/13/2021
 12:25:00 PM


 Jackson Osaghae-Nosa
 8/13/2021
 2:24:00 PM

PREPARED BY / DATE

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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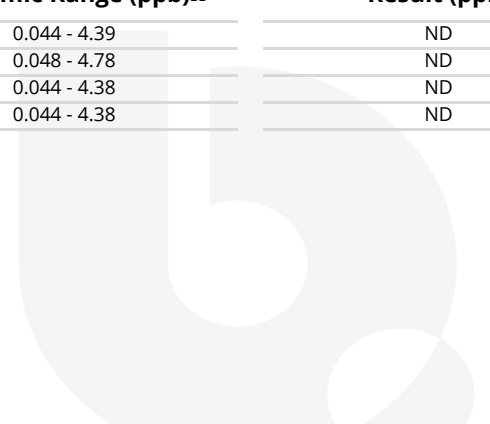



Certificate #4329.02

GUMGA10

| | | | |
|---|--|------------------------------------|----------------------|
| Batch ID or Lot Number: J10GA03 | Test: Metals | Reported: 8/13/21 | |
| Matrix: Unit Co | Test ID: T000154925 | Started: 8/12/21 | USDA License: N/A |
| Status: N/A | Method: TM19 (ICP-MS): Heavy Metals (Colorado Panel) | Received: 08/09/2021 @ 10:18 AM | Sampler ID: N/A |

HEAVY METALS DETERMINATION

| Compound | Dynamic Range (ppb) | Result (ppb) | Notes |
|----------|---------------------|--------------|---|
| Arsenic | 0.044 - 4.39 | ND |  |
| Cadmium | 0.048 - 4.78 | ND | |
| Mercury | 0.044 - 4.38 | ND | |
| Lead | 0.044 - 4.38 | ND | |


 Sam Smith
 13-Aug-21
 1:11 PM

PREPARED BY / DATE


 Daniel Weidensaul
 13-Aug-21
 1:14 PM

APPROVED BY / DATE

Definitions

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

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GUMGA10

| | | | |
|---|---|------------------------------------|----------------------|
| Batch ID or Lot Number: J10GA03 | Test: Mycotoxins | Reported: 8/17/21 | |
| Matrix: Concentrate | Test ID: T000154927 | Started: 8/16/21 | USDA License: N/A |
| Status: N/A | Method: TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins (Colorado Panel) | Received: 08/09/2021 @ 10:18 AM | Sampler ID: N/A |

MYCOTOXIN DETERMINATION

| Compound | Dynamic Range (ppb) | Result (ppb) | Notes |
|--|---------------------|--------------|-------|
| Ochratoxin A | 4.5 - 131.4 | ND | N/A |
| Aflatoxin B1 | 1 - 33 | ND | |
| Aflatoxin B2 | 1.1 - 33.2 | ND | |
| Aflatoxin G1 | 1.1 - 32.5 | ND | |
| Aflatoxin G2 | 1.2 - 32.1 | ND | |
| Total Aflatoxins (B1, B2, G1, and G2) | | ND | |


 Sam Smith
 17-Aug-21
 2:13 PM

PREPARED BY / DATE


 Courtney Richards
 17-Aug-21
 6:13 PM

APPROVED BY / DATE

Definitions

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

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Certificate #4329.02


GUMGA10

| | | | |
|---|--|------------------------------------|----------------------|
| Batch ID or Lot Number: J10GA03 | Test: Residual Solvents | Reported: 8/12/21 | |
| Matrix: N/A | Test ID: T000154926 | Started: 8/11/21 | USDA License: N/A |
| Status: N/A | Methods: TM04 (GC-MS): Residual Solvents (Colorado Panel) | Received: 08/09/2021 @ 10:18 AM | Sampler ID: N/A |

RESIDUAL SOLVENTS DETERMINATION

| Solvent | Dynamic Range (ppm) | Result (ppm) | Notes |
|----------------------------------|---------------------|--------------|-------|
| Propane | 65 - 1301 | *ND | |
| Butanes (Isobutane, n-Butane) | 122 - 2442 | *ND | |
| Methanol | 45 - 904 | *ND | |
| Pentane | 67 - 1336 | *ND | |
| Ethanol | 71 - 1428 | >1428 | |
| Acetone | 74 - 1471 | *ND | |
| Isopropyl Alcohol | 81 - 1624 | *ND | |
| Hexane | 5 - 91 | *ND | |
| Ethyl Acetate | 75 - 1493 | *ND | |
| Benzene | 0 - 3 | *ND | |
| Heptanes | 71 - 1419 | *ND | |
| Toluene | 13 - 270 | *ND | |
| Xylenes (m,p,o-Xylenes) | 100 - 1994 | *ND | |

 Karen Winternheimer
12-Aug-21
3:07 PM

 Ryan Weems
12-Aug-21
3:09 PM

PREPARED BY / DATE

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Definitions

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

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