

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Organic Green Apple Gummies
PRODUCT STRENGTH: 10 mg CBD / gummy
BATCH: 220620A & 220427D
BEST BY DATE: HEMP 5/2/2024
EXTRACT LOT: 616

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	12.8mg	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 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 Manufacture*
 10²=100 CFU
 10³=1,000 CFU

Quality Certified



Name
Title

6/28/22

Date

10mg BS Green Apple (organic)


Batch ID or Lot Number: 616	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 4 of 5
Reported: 19May2022	Started: 27Apr2022	Received: 26Apr2022	


Cannabinoids - Colorado Compliance

Test ID: T000203995
Methods: TM14 (HPLC-DAD): Potency – Standard

Cannabinoid Analysis	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.011	0.022	ND	ND	Amendment to T000203995 issued 26Apr2022 to correct batch ID.
Cannabichromenic Acid (CBCA)	0.010	0.020	ND	ND	
Cannabidiol (CBD)	0.034	0.060	0.388	3.88	
Cannabidiolic Acid (CBDA)	0.035	0.061	ND	ND	
Cannabidivarin (CBDV)	0.008	0.014	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.014	0.025	ND	ND	
Cannabigerol (CBG)	0.006	0.013	0.036	0.36	
Cannabigerolic Acid (CBGA)	0.025	0.052	ND	ND	
Cannabinol (CBN)	0.008	0.016	ND	ND	
Cannabinolic Acid (CBNA)	0.017	0.036	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.030	0.062	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.027	0.057	ND	ND	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.024	0.050	ND	ND	
Tetrahydrocannabivarin (THCV)	0.005	0.011	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.021	0.044	ND	ND	
Total Cannabinoids			0.424	4.24	
Total Potential THC			ND	ND	
Total Potential CBD			0.388	3.88	

Final Approval


Sam Smith
19May2022
02:14:00 PM MDT
PREPARED BY / DATE



Ryan Weems
19May2022
02:18:00 PM MDT
APPROVED BY / DATE


Heavy Metals - Colorado Compliance

Test ID: T000203998
Methods: TM19 (ICP-MS): Heavy

Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.31	ND	Amendment to certificate T000203998 issued on 27Apr2022, batch ID updated.
Cadmium	0.04 - 4.25	ND	
Mercury	0.04 - 4.21	ND	
Lead	0.04 - 4.11	ND	

Final Approval


Ryan Weems
19May2022
01:47:00 PM MDT
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Sam Smith
19May2022
02:21:00 PM MDT
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10mg BS Green Apple (organic)

Batch ID or Lot Number: 616	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 1 of 5
Reported: 19May2022	Started: 27Apr2022	Received: 26Apr2022	

Pesticides


Test ID: T000203996

Methods: TM17

(LC-QQ LC MS/MS)	Dynamic Range (ppb)	Result (ppb)		Dynamic Range (ppb)	Result (ppb)	
Abamectin	285 - 2628	ND		Malathion	282 - 2708	ND
Acephate	38 - 2770	ND		Metalaxyl	45 - 2675	ND
Acetamiprid	39 - 2819	ND		Methiocarb	42 - 2677	ND
Azoxystrobin	46 - 2530	ND		Methomyl	40 - 2841	ND
Bifenazate	48 - 2573	ND		MGK 264 1	173 - 1600	ND
Boscalid	47 - 2600	ND		MGK 264 2	109 - 1113	ND
Carbaryl	42 - 2744	ND		Myclobutanil	15 - 2793	ND
Carbofuran	45 - 2678	ND		Naled	53 - 2738	ND
Chlorantraniliprole	61 - 2572	ND		Oxamyl	38 - 2874	ND
Chlorpyrifos	48 - 2876	ND		Paclobutrazol	42 - 2774	ND
Clofentezine	246 - 2796	ND		Permethrin	300 - 2836	ND
Diazinon	294 - 2647	ND		Phosmet	44 - 2680	ND
Dichlorvos	279 - 2796	ND		Prophos	285 - 2734	ND
Dimethoate	41 - 2757	ND		Propoxur	42 - 2745	ND
E-Fenpyroximate	296 - 2610	ND		Pyridaben	291 - 2779	ND
Etofenprox	41 - 2786	ND		Spinosad A	35 - 2261	ND
Etoazole	301 - 2740	ND		Spinosad D	48 - 509	ND
Fenoxycarb	33 - 2712	ND		Spiromesifen	316 - 2783	ND
Fipronil	32 - 2578	ND		Spirotetramat	248 - 2558	ND
Flonicamid	48 - 2811	ND		Spiroxamine 1	19 - 1170	ND
Fludioxonil	297 - 2676	ND		Spiroxamine 2	26 - 1553	ND
Hexythiazox	44 - 2697	ND		Tebuconazole	275 - 2750	ND
Imazalil	300 - 2740	ND		Thiacloprid	42 - 2777	ND
Imidacloprid	40 - 2795	ND		Thiamethoxam	40 - 2739	ND
Kresoxim-methyl	66 - 2546	ND		Trifloxystrobin	45 - 2705	ND

Final Approval


 Ryan Weems
 19May2022
 02:09:00 PM MDT
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 Sam Smith
 19May2022
 02:26:00 PM MDT
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10mg BS Green Apple (organic)

Batch ID or Lot Number: 616	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 2 of 5
Reported: 19May2022	Started: 27Apr2022	Received: 26Apr2022	

**Residual Solvents -
Colorado Compliance**

Test ID: T000203999


Methods: TM04 (GC-MS): Residual

Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	81 - 1614	ND	Amendment to certificate T000203999 issued on 29Apr2022, batch ID updated.
Butanes (Isobutane, n-Butane)	163 - 3254	ND	
Methanol	59 - 1184	ND	
Pentane	86 - 1725	ND	
Ethanol	92 - 1845	>1845	
Acetone	93 - 1851	ND	
Isopropyl Alcohol	99 - 1987	ND	
Hexane	6 - 118	ND	
Ethyl Acetate	96 - 1922	ND	
Benzene	0.2 - 3.9	ND	
Heptanes	94 - 1871	ND	
Toluene	17 - 345	ND	
Xylenes (m,p,o-Xylenes)	125 - 2496	ND	

Final Approval

Ryan Weems
19May2022
12:46:00 PM MDT

PREPARED BY / DATE



Sam Smith
19May2022
02:33:00 PM MDT

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10mg BS Green Apple (organic)

Batch ID or Lot Number: 616	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 3 of 5
Reported: 19May2022	Started: 27Apr2022	Received: 26Apr2022	



Mycotoxins - Colorado Compliance

Test ID: T000204000

Methods: TM18 (UHPLC-QQQ)

LCMS/MS: Mycotoxins

	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	2.34 - 132.99	ND	Amendment to T000204000 issued 28Apr2022 to correct batch ID. N/A
Aflatoxin B1	1.08 - 35.62	ND	
Aflatoxin B2	1.19 - 34.91	ND	
Aflatoxin G1	1.08 - 35.15	ND	
Aflatoxin G2	1.15 - 34.54	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval
PREPARED BY / DATE
Sam Smith
19May2022
12:46:00 PM MDT
APPROVED BY / DATE
Ryan Weems
19May2022
12:51:00 PM MDT

10mg BS Green Apple (organic)

Batch ID or Lot Number: 616	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 5 of 5
Reported: 19May2022	Started: 27Apr2022	Received: 26Apr2022	


Microbial Contaminants - Colorado Compliance

Test ID: T000203997
 Methods: TM25 (qPCR) TM24, TM26, TM27 (Culture Plating): Microbial (Colorado Panel)

	Method	LOD	Quantitation Range	Result	Notes
STEC	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	Free from visual mold, mildew, and foreign matter Amendment to report T000203997 for batch ID correction. SCH 19May2022
<i>Salmonella</i>	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	
Total Yeast and Mold*	TM24: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	
Total Aerobic Count*	TM26: Culture Plating	10 ² CFU/g	1.0x10 ³ - 1.5x10 ⁵	None Detected	
Total Coliforms*	TM27: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	

Final Approval


 Sarah Henning
 19May2022
 03:17:00 PM MDT
 PREPARED BY / DATE


 Carly Bader
 19May2022
 03:55:00 PM MDT
 APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/20161338-dc2b-40de-ae00-ab0eaeacd34e>

Definitions
 LOD = Limit of Detection, ULOQ = Upper Limit of Quantitation, LLOQ = Lower Limit of Quantitation, PPB = Parts per Billion, % = % (w/w) = Percent (weight of analyte / weight of product). ND = None Detected (defined by dynamic range of the method). Total Potential Delta 9-THC or CBD is calculated to take into account the loss of a carboxyl group during decarboxylation step, using the following formulas: Total Potential Delta 9-THC = Delta 9-THC + (Delta 9-THCa *(0.877)) and Total CBD = CBD + (CBDa *(0.877)). Fail equates to a concentration level of Delta 9-THC, on a dry weight basis, higher than 0.3 percent + or - the measurement uncertainty. Total Potential THC 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)). ALOQ = Above Limit Of Quantitation (defined by dynamic range of the method), CFU/g = Colony Forming Units per Gram. 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.

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. ISO/IEC 17025:2017 Accredited by A2LA. Some tests listed on this COA may not be within our scope of A2LA accreditation. Please visit [A2LA for more details.](#)



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