

Certificate of Analysis

Product: P245 PHB Tincture 1,500 mg CBD Full Spectrum - LA Compliant

Batch Number: 50901B

Best-By Date: 7/21/2022

Characteristic	Instrument	Specification	Result	Pass/ Fail/ N/A
Identity				
Color & Appearance	Visual	Golden tinted oily liquid	Complies	Pass
Odor	Organoleptic	Characteristic of standard	Complies	Pass
Taste	Organoleptic	Neutral to bitter	Complies	Pass
Composition				
Density	Density Meter	0.908 – 0.955 g/mL	Complies	Pass
Fill Volume	In-Process Verification	30.0 - 31.5 mL/bottle	Complies	Pass
Strength - Cannabinoids				
Total CBD ¹	HPLC	1,500.0 - 2,040.0 mg/bottle	1,758.0 mg/bottle ⁴	Pass
Total THC ¹	HPLC	≤ 0.30%; Detected	0.11% ⁴	Pass
CBDa	HPLC	Report Result	Not Detected ⁴	N/A
CBG	HPLC	Report Result	0.11% ⁴	N/A
CBD	HPLC	Report Result	6.28% ⁴	N/A
CBN	HPLC	Report Result	0.01% ⁴	N/A
THC	HPLC	Report Result	0.11% ⁴	N/A
CBC	HPLC	Report Result	Not Detected ⁴	N/A
THCa	HPLC	Report Result	Not Detected ⁴	N/A
Contaminants - Residual Solvents				
Acetone	GC-FID	< 1,000 ppm	Complies ⁴	Pass
Butanes	GC-FID	< 1,000 ppm	Complies ⁴	Pass
Ethanol	GC-FID	< 1,000 ppm	Complies ⁴	Pass
Heptanes	GC-FID	< 1,000 ppm	Complies ⁴	Pass
Isopropyl Alcohol	GC-FID	< 1,000 ppm	Complies ⁴	Pass
Propane	GC-FID	< 1,000 ppm	Complies ⁴	Pass
Benzene	GC-FID	< 2 ppm	Complies ⁴	Pass
Toluene	GC-FID	< 180 ppm	Complies ⁴	Pass
Pentane	GC-FID	< 1,000 ppm	Complies ⁴	Pass
Hexane	GC-FID	< 60 ppm	Complies ⁴	Pass
Total Xylenes (m,p,o-xylenes)	GC-FID	< 430 ppm	Complies ⁴	Pass
Methanol	GC-FID	< 600 ppm	Complies ⁴	Pass
Ethyl Acetate	GC-FID	< 1,000 ppm	Complies ⁴	Pass



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Characteristic	Instrument	Specification	Result	Pass/ Fail/ N/A
Contaminants - Pesticides				
Abamectin (avermectins: B1a & B1b)	GC-MS / LC-MS	< 0.07 ppm	Complies ⁴	Pass
Azoxystrobin	GC-MS / LC-MS	< 0.02 ppm	Complies ⁴	Pass
Bifenazate	GC-MS / LC-MS	< 0.02 ppm	Complies ⁴	Pass
Etoazole	GC-MS / LC-MS	< 0.01 ppm	Complies ⁴	Pass
Imazalil	GC-MS / LC-MS	< 0.04 ppm	Complies ⁴	Pass
Imidacloprid	GC-MS / LC-MS	< 0.02 ppm	Complies ⁴	Pass
Malathion	GC-MS / LC-MS	< 0.05 ppm	Complies ⁴	Pass
Myclobutanil	GC-MS / LC-MS	< 0.04 ppm	Complies ⁴	Pass
Permethrin (mix of isomers)	GC-MS / LC-MS	< 0.04 ppm	Complies ⁴	Pass
Spinosad (mixture of A and D)	GC-MS / LC-MS	< 0.06 ppm	Complies ⁴	Pass
Spiromesifen	GC-MS / LC-MS	< 0.03 ppm	Complies ⁴	Pass
Spirotetramat	GC-MS / LC-MS	< 0.02 ppm	Complies ⁴	Pass
Tebuconazole	GC-MS / LC-MS	< 0.01 ppm	Complies ⁴	Pass
Contaminants - Heavy Metals				
Arsenic	ICP-MS USP <730>	< 1.36 µg/mL	Complies ⁴	Pass
Cadmium	ICP-MS USP <730>	< 0.45 µg/mL	Complies ⁴	Pass
Lead	ICP-MS USP <730>	< 0.50 µg/mL	Complies ⁴	Pass
Mercury	ICP-MS USP <730>	< 0.30 µg/mL	Complies ⁴	Pass
Microbial Purity				
Total Plate Count	USP <2021>	< 10,000 CFU/g	Complies ⁴	Pass
Yeast & Mold	USP <2021>	≤ 1,000 CFU/g	Complies ⁴	Pass
<i>E. coli</i>	FDA BAM	< 3 MPN/g	Complies ⁴	Pass
Shiga-Toxin Producing <i>Escherichia coli</i> (STEC)	qPCR	< 1 CFU/g	S.L. ²	N/A
<i>Salmonella spp.</i>	USP <2022>	Absent/10 g	Complies ⁴	Pass

¹ All cannabinoids in their acid forms (ending in "a") are convertible to their non-acid forms via a decarboxylation process (heating). The THC and CBD maximum values reported are the maximum theoretical amounts of THC and CBD the tested product would have if it were fully decarboxylated.

² S.L. means "Skip Lot". Parameters are being monitored through product qualification testing and are currently in skip lot protocol.

³ Cannabinoid detected below Limit of Quantitation (LOQ).

⁴ Result was acquired by 3rd party laboratory.

Reviewed By: _____

Date: 05.28.20

Approved By: _____

Date: 05.28.20

RESIDUAL SOLVENTS LABORATORY REPORT

Customer Name:	Greenhouse Growing Systems LLC	Product Name:	Tincture Formulation
Customer License:	403H-65086	Product Type:	Liquid Edible
Batch Number:	50901C	Sample ID:	322568
METRC Tag:	1A400071267EC1E000000478	Date Received:	02/06/2020
Instrument Name:	GC 5890	Test Date:	02/11/2020
		Report Date:	02/12/2020

RESIDUAL SOLVENTS
parts per million (ppm)

Acetone	ND*
Benzene	ND*
Butane	ND*
Ethanol	ND*
Heptane	ND*
Hexane	ND*
Isobutane	ND*
Isopropyl Alcohol	ND*
Pentane	5.56
Propane	ND*
Toluene	ND*
Xylene	ND*

Notes:
R&D

* None Reported (NR) because the compound exists at or below the limit of quantitation but above the limit of detection.

* None Detected (ND) because the compound exists at or below the limit of detection.

* Residual Solvents (SOP 032)

* Sample Condition deemed acceptable upon receipt by Phytatech. Sampling done by outside party.

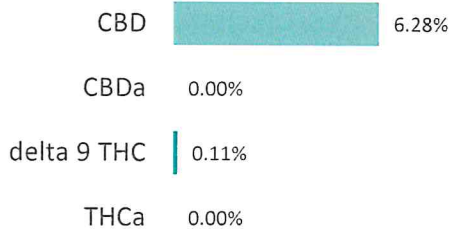
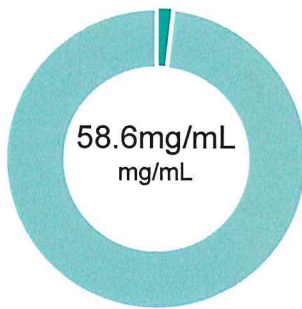


Stephen Goldman
Laboratory Director



F053-2 1,500mg FS HSO Tincture - LA Compliant

Batch ID:	50901B	Test ID:	2883848.0035
Reported:	5-May-2020	Method:	TM14
Type:	Solution		
Test:	Potency		

CANNABINOID PROFILE


Compound	LOQ (mg/mL)	Result (mg/mL)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.20	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.10	1.10	1.1
Cannabidiolic acid (CBDA)	0.16	ND	ND
Cannabidiol (CBD)	0.09	58.60	62.8
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.11	ND	ND
Cannabinolic Acid (CBNA)	0.28	ND	ND
Cannabinol (CBN)	0.12	0.10	0.1
Cannabigerolic acid (CBGA)	0.18	ND	ND
Cannabigerol (CBG)	0.10	1.00	1.1
Tetrahydrocannabivarinic Acid (THCVA)	0.17	ND	ND
Tetrahydrocannabivarin (THCV)	0.09	ND	ND
Cannabidivarinic Acid (CBDVA)	0.15	ND	ND
Cannabidivarin (CBDV)	0.08	0.20	0.2
Cannabichromenic Acid (CBCA)	0.15	ND	ND
Cannabichromene (CBC)	0.18	ND	ND
Total Cannabinoids		61.00	65.35
Total Potential THC**		1.10	1.13
Total Potential CBD**		58.60	62.82

NOTES:

Density = 0.9326g/mL

N/A

% = % (w/w) = Percent (Weight of Analyte / Weight of Product)

* Total Cannabinoids result reflects the absolute sum of all cannabinoids detected.

** 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))

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

FINAL APPROVAL


Mara Miller
5-May-2020
12:53 PM



Greg Zimpfer
5-May-2020
1:16 PM

PREPARED BY / DATE

APPROVED BY / DATE

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 17025:2005 Accredited A2LA Certificate Number 4329.02



Certificate #4329.02

PESTICIDES LABORATORY REPORT

Customer Name: Greenhouse Growing Systems LLC Product Name: Tincture Formulation
Customer License: 403H-65086 Product Type: Liquid Edible
Batch Number: 50901C Sample ID: 322568
METRC Tag: 1A400071267EC1E000000478 Date Received: 02/06/2020
Instrument Name: HPLC 1050 Test Date: 02/07/2020
Report Date: 02/07/2020

PESTICIDE	ppb
■ Abamectin	ND*
■ Avermectin B1b	ND*
■ Azoxystrobin	ND*
■ Bifenazate	ND*
■ Etoxazole	ND*
■ Imazalil	ND*
■ Imidacloprid	ND*
■ Malathion A	ND*
■ Myclobutanil	ND*
■ Cis Permethrin	ND*
■ Trans Permethrin	ND*
■ Spinosyn A	ND*
■ Spinosyn D	ND*
■ Spiromesifen	ND*
■ Spirotetramat	ND*
■ Tebuconazole	ND*

Notes:
R&D

* None Reported (NR) because the compound exists at or below the detection limit of the method.

* None Detected (ND) because the compound was not detected.



Stephen Goldman
Laboratory Director





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 Phone: (801) 485-1800 Fax: (801) 484-9211
 Email: utlab@advancedlabsinc.com
 FDA Registration #14353128308

If you liked our service, please tell a friend. If you didn't, please tell us!

Test Certificate

Description: 50 mg CBD/mL FS HSO Tincture
 Sample ID: 50901C
 Lot No:
 Location:
 Received: 2/4/2020
 Completed: 2/11/2020

Client: Advanced Extraction
 5455 Spine Road #E
 Boulder, CO 80301

Lab No: 187842-07

Analysis	Result	Per Unit	Specifications	Method
Mercury	< 0.001	mcg/mL	< 0.3 mcg/mL	ICP-MS USP <730>
Lead	0.005	mcg/mL	< 0.5 mcg/mL	ICP-MS USP <730>
Arsenic	0.081	mcg/mL	< 1.36 mcg/mL	ICP-MS USP <730>
Cadmium	< 0.001	mcg/mL	< 0.45 mcg/mL	ICP-MS USP <730>

THESE RESULTS APPLY ONLY TO THE SAMPLE SUBMITTED AND NOT TO THE PRODUCT FROM WHICH IT WAS TAKEN. THESE RESULTS ARE PROVIDED ONLY FOR THE BENEFIT OF CLIENT, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT FOR THE EXPRESS LIMITED WARRANTY PROVIDED SOLELY TO CLIENT IN ADVANCED LABORATORIES' TERMS OF SERVICE.

THIS CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL FROM ADVANCED LABORATORIES.

Results Approved By:


 Alisa Farnsworth-Quality Technician

Dated:

2/11/2020

Printed: 2/11/2020 7:32:40 PM





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 FDA Registration #14353128308

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Test Certificate

Description: 1,500 mg FS Tincture - LA
 Sample ID: 50901B
 Lot No:
 Location:
 Received: 5/19/2020
 Completed: 5/27/2020

Client: Dylan Neal
 Anthology Brands
 1026 S Williams Street
 Denver, CO 90209
 United States

Lab No: 196631-01

Analysis	Result	Per Unit	Specifications	Method
Total Aerobic Microbial Count	<10	CFU/g	< 10,000 CFU/g	USP <2021>
E. Coli Count	<3	MPN/g	< 3 MPN/g	FDABAM
Salmonella	Absent	per 10 grams	Absent	USP <2022>
Total Yeast & Mold	<10	CFU/g	< 1,000 CFU/g	USP <2021>
Yeast *	<10	CFU/g	< 1,000 CFU/g	
Mold *	<10	CFU/g	< 1,000 CFU/g	

* For informational purposes only.

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Results Approved By:

Kristina Noll - Quality Technician

Dated:

5/27/2020

Printed: 5/27/2020 11:42:00 AM

