

CERTIFICATE OF ANALYSIS

PRODUCT NAME: Tincture - Natural
PRODUCT STRENGTH: 450 mg
LOT NUMBER: 191213B
BEST BY DATE: 06/21
HEMP EXTRACT LOT NUMBER: 111919

Physical Attributes

Test	Method	Specification	Results
Color	SOP-100	Golden to Amber	PASS
Odor	SOP-100	Characteristic - Olive and hemp	PASS
Appearance	SOP-100	Golden to Amber oil in brown glass bottle with dropper	PASS
Primary Package Eval.	SOP-132	Container clean and free of filth. Container caps tight and shrink bands intact	PASS
Secondary Package Eval.	SOP-132	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
Potency - Total CBD	SOP-111	427.5-562.2 mg CBD LOQ*: 10 PPM† (0.001%)	<u>479.9 mg</u>	PASS
Potency - D9-THC	SOP-111	None Detected LOQ: 10 PPM (0.001%)	<u>ND</u>	PASS
FL Compliant Pesticide Panel	SOP-111	Florida State Hemp Program Rule 5B-57.014: Action Limits for Pesticides	<u>ND</u>	PASS
Microbial - Stec E.Coli	SOP-111	Complies with USP 61/62	<u>>LOD</u>	PASS
Microbial - Salmonella	SOP-111	Complies with USP 61/62	<u>>LOD</u>	PASS
Microbial - Aspergillus	SOP-111	Complies with USP 61/62	<u>>LOD</u>	PASS
CA Compliant Heavy Metal Panel	SOP-111	Arsenic (As): ≤1.5 PPM Cadmium (Cd): ≤0.5 PPM Mercury (Hg): ≤1.0 PPM Lead (Pb): ≤0.5 PPM	<u>>LOQ</u>	PASS

* Level of Quantitation, † Parts Per Million

Quality Certified by: Darcie Moran 1/17/2020
 Darcie Moran Date
 Director of Quality Assurance

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ISO/IEC 17025:2017 ACCREDITATION #103104



Order #: 44697
 Order Name: CTNAT450-191213B
 Batch#: 4
 Received: 12/20/2019
 Completed: 01/24/2020



Sample



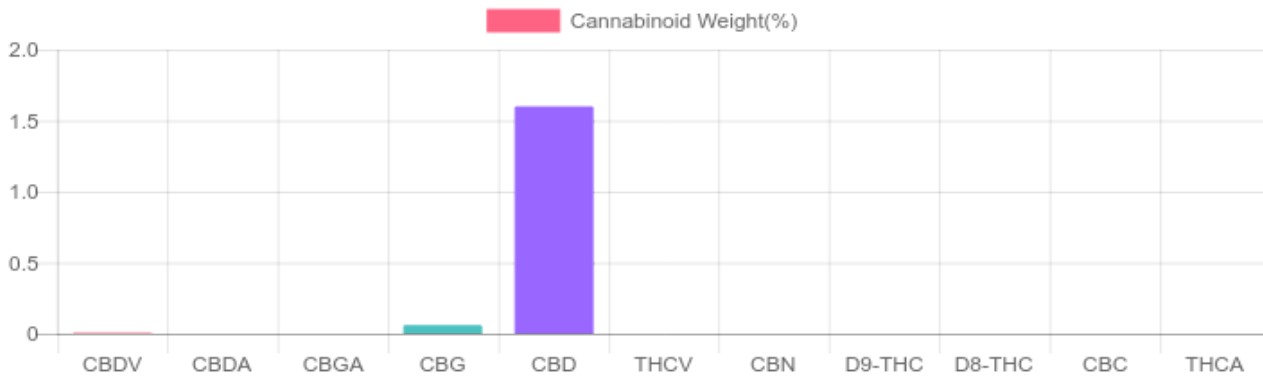
N/D D9-THC	1.600% Total CBD
499.1 mg Cannabinoids per bottle	479.9 mg CBD per bottle

Cannabinoids Test

SHIMADZU INTEGRATED UPLC-PDA
 GSL SOP 400 **PREPARED:** 12/23/2019 11:57:57 **UPLOADED:** 12/23/2019 18:05:46

Cannabinoids	LOQ	weight(%)	mg/g	mg/bottle
D9-THC	10 PPM	N/D	N/D	N/D
THCA	10 PPM	N/D	N/D	N/D
CBD	10 PPM	1.600%	15.995	479.9
CBDA	20 PPM	N/D	N/D	N/D
CBDV	20 PPM	0.005%	0.052	1.6
CBC	10 PPM	N/D	N/D	N/D
CBN	10 PPM	N/D	N/D	N/D
CBG	10 PPM	0.059%	0.588	17.6
CBGA	20 PPM	N/D	N/D	N/D
D8-THC	10 PPM	N/D	N/D	N/D
THCV	10 PPM	N/D	N/D	N/D
TOTAL D9-THC		N/D	N/D	N/D
TOTAL CBD*		1.600%	15.995	479.9
TOTAL CANNABINOIDS		1.664%	16.635	499.1

1 bottle = 30 ml per bottle x density (1) x Cannabinoid concentration



Reporting Limit 10 ppm
 *Total CBD = CBD + CBDA x 0.877
 N/D - Not Detected, B/LOQ - Below Limit of Quantification

Dr. Andrew Hall, Ph.D., Chief Scientific Officer

Ben Witten, MS, MT., Lab Director

Green Scientific Labs
 info@greenscientificlabs.com
 1-833 TEST CBD



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PESTICIDE ANALYSIS:

GSL SOP 401

PREPARED: 12/23/2019 15:47:09

UPLOADED: 12/26/2019 11:47:55

GCMS-MS - Shimadzu GCMS-TQ8040

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
CHLORFENAPYR	0.010	N/D	0.003	0.001
COUMAPHOS	0.010	N/D	0.003	0.001
CYFLUTHRIN	0.010	N/D	0.003	0.001
CYPERMETHRIN	0.500	N/D	0.003	0.001


Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
FIPRONIL	0.010	N/D	0.003	0.001
FLUDIOXONIL	0.020	N/D	0.003	0.001
PENTACHLORONITROBENZENE	0.030	N/D	0.003	0.001


LCMS-MS - Shimadzu LCMS-8060

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
ABAMECTIN B1A	0.020	N/D	0.005	0.001
ACEPHATE	0.020	N/D	0.001	0.001
ACEQUINOCYL	0.020	N/D	0.001	0.001
ACETAMIPRID	10.000	N/D	0.005	0.001
ALDICARB	0.010	N/D	0.005	0.001
AZOXYSTROBIN	0.100	N/D	0.001	0.001
BIFENAZATE	0.010	N/D	0.005	0.001
CHLORPYRIFOS	0.020	N/D	0.001	0.001
CLOFENTEZINE	0.040	N/D	0.001	0.001
DAMINOZIDE	0.010	N/D	0.005	0.001
DIAZANON	0.010	N/D	0.001	0.001
DICHLORVOS	0.020	N/D	0.005	0.001
DIMETHOATE	0.010	N/D	0.001	0.001
DIMETHOMORPH	0.010	N/D	0.005	0.001
ETHOPROPHOS	0.010	N/D	0.001	0.001
ETOFENPROX	0.010	N/D	0.001	0.001
ETOXAZOLE	0.010	N/D	0.010	0.005
FENHEXAMID	0.080	N/D	0.005	0.001
FENOXYCARB	0.010	N/D	0.005	0.001
FENPYROXIMATE	0.100	N/D	0.001	0.001
FLONICAMID	0.100	N/D	0.025	0.010
HEXYTHIAZOX	0.100	N/D	0.005	0.001
IMAZALIL	0.010	N/D	0.005	0.001
IMIDACLOPRID	0.020	N/D	0.005	0.001
KRESOXIM-METHYL	0.020	N/D	0.010	0.005
MALATHION	0.010	N/D	0.005	0.001

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
METALAXYL	0.010	N/D	0.001	0.001
METHIOCARB	0.010	N/D	0.005	0.001
METHOMYL	0.010	N/D	0.001	0.001
MEVINPHOS	0.010	N/D	0.001	0.001
MYCLOBUTANIL	0.020	N/D	0.005	0.001
NALED	0.010	N/D	0.005	0.001
OXAMYL	0.026	N/D	0.001	0.001
PACLOBUTRAZOL	0.010	N/D	0.005	0.001
PERMETHRINS	0.020	N/D	0.005	0.001
PHOSMET	0.020	N/D	0.005	0.001
PIPERONYL BUTOXIDE	3.000	N/D	0.001	0.001
PRALLETHRIN	0.020	N/D	0.005	0.005
PROPICONAZOLE	0.020	N/D	0.010	0.005
PROPOXUR	0.020	N/D	0.001	0.001
PYRETHRINS (PYRETHRIN I)	0.500	N/D	0.005	0.005
PYRIDABEN	0.020	N/D	0.005	0.001
SPINETORAM	0.040	N/D	0.001	0.001
SPINOSAD (SPINOSYN A)	0.020	N/D	0.001	0.001
SPINOSAD (SPINOSYN D)	0.020	N/D	0.001	0.001
SPIROMESIFEN	0.030	N/D	0.005	0.001
SPIROTETRAMAT	0.020	N/D	0.001	0.001
SPIROXAMINE	0.010	N/D	0.001	0.001
TEBUCONAZOLE	0.010	N/D	0.005	0.001
THIACLOPRID	0.010	N/D	0.001	0.001
THIAMETHOXAM	0.010	N/D	0.001	0.001
TRIFLOXYSTROBIN	0.020	N/D	0.001	0.001

N/D = Not Detected, A/LOQ = Above LOQ Level, B/LOQ = Below LOQ Level, B/LOD = Below LOD Level


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Microbial Analysis:

Microbial Analysis GSL SOP 406

Uploaded: 12/26/2019 13:07:18

PCR - Agilent AriaMX

Test	Test Method Used	Device Used	LOD	Allowable Criteria	Actual Result	Pass/Fail
STEC E.COLI*	USP 61/62†	ARIAMX PCR	2 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS
SALMONELLA*	USP 61/62†	ARIAMX PCR	5 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS
ASPERGILLUS	USP 61/62†	ARIAMX PCR	ASP_LOD***	PRESENCE / ABSENT	BELOW LOD	PASS

† USP 61 (enumeration of bacteria TAC, TYM, and ENT/Coliform), USP 62 (identifying specific species E.coli Aspergillus etc)

* STEC and Salmonella run as Multiplex

*** Flavus = 2 Copies of DNA / Fumigatis = 2 Copies of DNA Niger = 20 Copies of DNA / Terrus = 10 copies of DNA

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Heavy Metals Analysis:

ICP-MS - Shimadzu ICPMS-2030
GSL SOP 403

Uploaded: 12/23/2019 20:16:47

Metal	Action Level (ppb)	Result (ppb)
ARSENIC (AS)	200	B/LOQ
CADMIUM (CD)	200	B/LOQ
MERCURY (HG)	100	B/LOQ
LEAD (PB)	500	B/LOQ

Lower Limit of Quantitation (LOQ) is 75 ppb

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total cannabinoids 88.5% CBD decarb total 84.61% Δ9-THC ND

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 sample date 12/4/19 2:46 PM order 6070 labID 9MD44 weight 5.4 g source

Table with 3 columns: Method, method, equipment. Lists various testing methods like weights, potency, terpenes, pesticides, etc.



concentrate

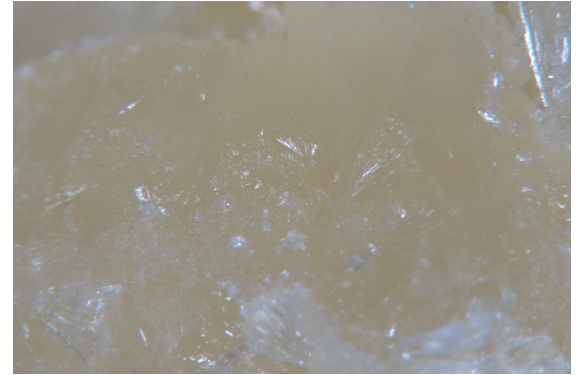


Table with 6 columns: Potency, %, estimated error, Terpenes, %, estimated error, %, estimated error. Lists various cannabinoids and terpenes with their respective percentages and error margins.

Table with 10 columns: Solvents, MT limit, 9MD44, LOQ, Pesticides (MT), MT limit, 9MD44, LOQ, Pesticides (other), 9MD44, LOQ. Lists various solvents and pesticides with their limits and test results.

Table with 4 columns: Toxic Metals, MT limit, 9MD44, LOQ. Lists arsenic, cadmium, lead, and mercury with their limits and test results.

Table with 4 columns: Microbial, MT limit, 9MD44, LOQ. Lists E. coli, Salmonella sp., molds, and aflatoxins with their limits and test results.

Table with 4 columns: Pesticides (other), 9MD44, LOQ. Lists a wide variety of pesticides like acephate, acetamiprid, etc. with their limits and test results.

All testing was completed onsite at 6073 US93N, Olney MT. Potency (cannabinoid concentration) is calculated from the equation: [cannabinoid] = [cannabinoid]HPLC x volume_dilution / m_dry. Terpene concentration is calculated from the equation: [terpene] = (terpene mass)GCMS / m_dry. Decarboxyted cannabinoid concentration is calculated from the equation XXX_total = 0.877 x XXXa + 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_g^2 = sum((delta/delta_i)^2 * s_i^2) where i is the contributor to error. The 95% confidence range is calculated from the equation: (concentration) +/- t_CL90 x S_g. Sampling error is not

Certified by:

Handwritten signature of Kyle Larson

Kyle Larson, MSc (Biology) Deputy Director 6073 US93N, Olney MT 59927 406-881-2019 rdb@stwlabs.com