



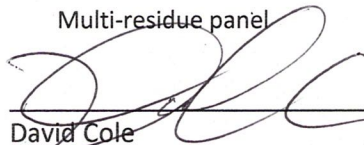
STRAIGHT HEMP

CERTIFICATE OF ANALYSIS

PRODUCT: Straight Hemp Vape Oil PRODUCTION DATE: 07/2020
BATCH/LOT: VA012 BEST BY/EXP DATE: 07/2022

INGREDIENTS: Full Spectrum Hemp Extract, Terpene Blend (Hemp-derived)
ADDITIVES: none
EXCIPIENTS: none

TEST	METHOD	SPECIFICATION	RESULTS
Strength & Composition			
Total Cannabidiol (CBD) ⁱ	UPLC/UV	48 – 58%	49.69%
Total minor cannabinoids	UPLC/UV	n/e	7.62%
Total Tetrahydrocannabinol (THC) ⁱⁱ	UPLC/UV	NMT 0.3%	<0.22%
Total Cannabinoids	UPLC/UV	n/e	57.31%
Terpene assay ⁱⁱⁱ	HS-GC/MS	n/e	19.55%
Microbiological^{iv}			
Total Plate Count	USP 42	NMT 1,000 cfu/g	PASS
Total Coliforms	USP 42	NMT 100 cfu/g	PASS
Total Yeast & Mold	USP 42	NMT 100 cfu/g	PASS
<i>E. coli</i>	USP 42	Absent	PASS
<i>Salmonella</i>	USP 42	Absent	PASS
Heavy Metals^v			
Arsenic (As)	ICP/MS	NMT 0.2 ppm	PASS
Cadmium (Cd)	ICP/MS	NMT 0.2 ppm	PASS
Lead (Pb)	ICP/MS	NMT 0.5 ppm	PASS
Mercury (Hg)	ICP/MS	NMT 0.1 ppm	PASS
Residual Solvents			
Multi-residue panel	GC-HS-MSD	Below CCR Limits ^{vi}	PASS
Pesticides			
Multi-residue panel	UPLC-MS/MS	Below MRL ^{vii}	PASS


David Cole
Director of Quality

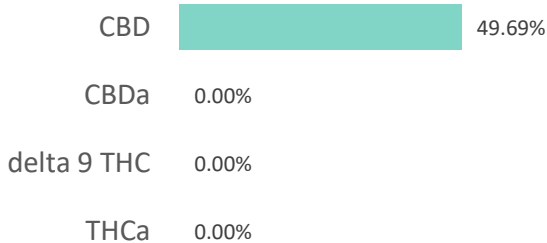
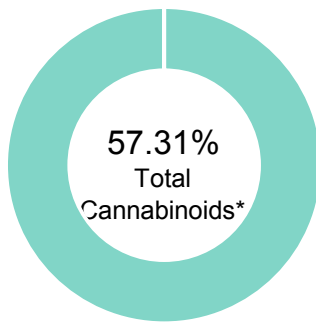
8/14/20
Date

ⁱ Total CBD = CBD + (0.877*CBDA) to account for loss of acid group during decarboxylation
ⁱⁱ Total THC = THC + (0.877*THCA) to account for loss of acid group during decarboxylation
ⁱⁱⁱ Sum of terpene assay (n=22)
^{iv} Microbiological limits based on USP, WHO, and/or NSF/ANSI.
^v Limits for As and Pb set below CA Prop 65 *no significant risk level*; Cd and Hg set below USP permitted daily exposure for 110lb body weight. Complies with 1 CCR 212-3
^{vi} 11 solvent panel: Propane, Butanes, Methanol, Pentane, Ethanol, Acetone, Isopropyl Alcohol, Hexane, Benzene, Heptanes, Toluene, Xylenes. Individual limits: 1 CCR 212-3
^{vii} 50 residue panel

NMT = Not More Than
MRL = Method Reporting Limit
n/e = not established

Vape Oil

Batch ID:	VA012	Test ID:	4319486.002
Reported:	27-Jul-2020	Method:	TM14
Type:	Concentrate		
Test:	Potency		

CANNABINOID PROFILE


Compound	LOQ (%)	Result (%)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.16	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.08	ND	ND
Cannabidiolic acid (CBDA)	0.25	ND	ND
Cannabidiol (CBD)	0.14	49.69	496.9
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.09	ND	ND
Cannabinolic Acid (CBNA)	0.22	ND	ND
Cannabinol (CBN)	0.10	0.34	3.4
Cannabigerolic acid (CBGA)	0.14	ND	ND
Cannabigerol (CBG)	0.08	5.47	54.7
Tetrahydrocannabivarinic Acid (THCVA)	0.14	ND	ND
Tetrahydrocannabivarin (THCV)	0.07	ND	ND
Cannabidivarinic Acid (CBDVA)	0.23	ND	ND
Cannabidivarin (CBDV)	0.13	1.81	18.1
Cannabichromenic Acid (CBCA)	0.12	ND	ND
Cannabichromene (CBC)	0.15	ND	ND
Total Cannabinoids		57.31	573.10
Total Potential THC**		ND	ND
Total Potential CBD**		49.69	496.90

NOTES:

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


Ryan Weems
27-Jul-2020
5:34 PM



Greg Zimpfer
27-Jul-2020
6:20 PM

PREPARED BY / DATE

APPROVED BY / DATE

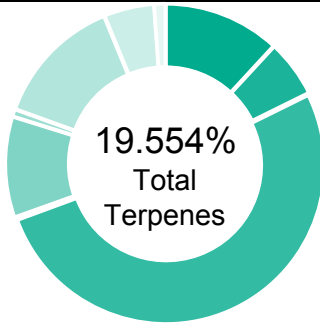
Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. 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

Vape Oil

Batch ID:	VA012	Test ID:	3877973.0017
Reported:	31-Jul-2020	Method:	TM10
Type:	Concentrate		
Test:	Terpenes		

TERPENE PROFILE




Compound	%(w/w)	mg/g
(-)-alpha-Bisabolol	0.216	2.16
Camphene	0.000	0
delta-3-Carene	0.000	0
beta-Caryophyllene	2.525	25.25
(-)-Caryophyllene Oxide	0.000	0
p-Cymene	0.000	0
Eucalyptol	0.308	3.08
Geraniol	0.000	0
alpha-Humulene	0.970	9.7
(-)-Isopulegol	0.000	0
d-Limonene	1.956	19.56
Linalool	0.136	1.36
beta-Myrcene	9.848	98.48
cis-Nerolidol	0.000	0
trans-Nerolidol	0.000	0
Ocimene	0.000	0
beta-Ocimene	0.000	0
alpha-Pinene	2.260	22.6
(-)-beta-Pinene	1.112	11.12
alpha-Terpinene	0.029	0.29
gamma-Terpinene	0.038	0.38
Terpinolene	0.156	1.56
	19.554%	195.54

PREDOMINANT TERPENES

alpha-Pinene	2.260%
(-)-beta-Pinene	1.112%
beta-Myrcene	9.848%
delta-3-Carene	0.000%
alpha-Terpinene	0.029%
d-Limonene	1.956%
Linalool	0.136%
beta-Caryophyllene	2.525%
alpha-Humulene	0.970%
(-)-alpha-Bisabolol	0.216%

 NOTES:
 0

FINAL APPROVAL

 Ryan Weems 31-Jul-2020 12:33 PM	 Greg Zimpfer 31-Jul-2020 1:04 PM
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APPROVED BY / DATE

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Certificate #4329.02

Vape Oil

Batch ID:	VA012	Test ID:	T000088803
Reported:	7-Aug-2020	Method:	Concentrate - Test Methods: TM05, TM06
Type:	Concentrate		
Test:	Microbial Contaminants		

MICROBIAL CONTAMINANTS

Contaminant	Result (CFU/g)*
Total Aerobic Count**	None Detected
Total Coliforms**	None Detected
Total Yeast and Molds**	None Detected
E. coli	None Detected
Salmonella	None Detected

* CFU/g = Colony Forming Unit 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: $10^2 = 100$ CFU
 $10^3 = 1,000$ CFU
 $10^4 = 10,000$ CFU
 $10^5 = 100,000$ CFU

NOTES:

Free from visual mold, mildew, and foreign matter
TYM: None Detected
Total Aerobic: None Detected
Coliforms: None Detected

FINAL APPROVAL


Mara Miller
7-Aug-2020
3:38 PM
Scott Hanson
7-Aug-2020
6:55 PM

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APPROVED BY / DATE

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Certificate #4329.03

Vape Oil


Batch ID:	VA012	Test ID:	T000087873
Reported:	27-Jul-2020	Method:	TM19
Type:	Other		
Test:	Metals		

HEAVY METALS

Analyte	Dynamic Range (ppm)	Result (ppm)
Arsenic	0.060 - 6.03	ND
Cadmium	0.061 - 6.10	ND
Mercury	0.060 - 6.01	ND
Lead	0.060 - 6.02	ND


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

FINAL APPROVAL



Ryan Weems
27-Jul-2020
6:23 PM

PREPARED BY / DATE



Greg Zimpfer
27-Jul-2020
7:43 PM

APPROVED BY / DATE

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Vape Oil

Batch ID:	VA012	Test ID:	T000087870
Reported:	27-Jul-2020	Method:	TM04
Type:	Concentrate		
Test:	Residual Solvents		

RESIDUAL SOLVENTS

Solvent	Dynamic Range (ppm)	Result (ppm)
Propane	69 - 1382	*ND
Butanes (Isobutane, n-Butane)	141 - 2821	*ND
Methanol	58 - 1161	*ND
Pentane	84 - 1670	*ND
Ethanol	79 - 1579	*ND
Acetone	96 - 1930	*ND
Isopropyl Alcohol	100 - 2009	*ND
Hexane	6 - 120	*ND
Ethyl Acetate	98 - 1952	*ND
Benzene	0.2 - 4	*ND
Heptanes	93 - 1855	*ND
Toluene	18 - 355	*ND
Xylenes (m,p,o-Xylenes)	127 - 2548	*ND

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

NOTES:
N/A

FINAL APPROVAL

 PREPARED BY / DATE	Daniel Weidensaul 27-Jul-2020 2:55 PM	 APPROVED BY / DATE	Greg Zimpfer 27-Jul-2020 3:06 PM
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Certificate #4329.02

Vape Oil

Batch ID:	VA012	Test ID:	5107069.006
Reported:	30-Jul-2020	Method:	TM17
Type:	Concentrate		
Test:	Pesticides		


PESTICIDE RESIDUE

Compound	Dynamic Range (ppb)	Result (ppb)	Compound	Dynamic Range (ppb)	Result (ppb)
Acephate	42 - 2404	ND*	Malathion	276 - 2404	ND*
Acetamiprid	43 - 2404	ND*	Metalaxyl	39 - 2404	ND*
Abamectin	>275	ND*	Methiocarb	41 - 2404	ND*
Azoxystrobin	41 - 2404	ND*	Methomyl	42 - 2404	ND*
Bifenazate	38 - 2404	ND*	MGK 264 1	184 - 2404	ND*
Boscalid	26 - 2404	ND*	MGK 264 2	98 - 2404	ND*
Carbaryl	40 - 2404	ND*	Myclobutanil	41 - 2404	ND*
Carbofuran	43 - 2404	ND*	Naled	40 - 2404	ND*
Chlorantraniliprole	30 - 2404	ND*	Oxamyl	40 - 2404	ND*
Chlorpyrifos	62 - 2404	ND*	Paclobutrazol	42 - 2404	ND*
Clofentezine	270 - 2404	ND*	Permethrin	288 - 2404	ND*
Diazinon	271 - 2404	ND*	Phosmet	40 - 2404	ND*
Dichlorvos	>272	ND*	Prophos	275 - 2404	ND*
Dimethoate	43 - 2404	ND*	Propoxur	40 - 2404	ND*
E-Fenpyroximate	277 - 2404	ND*	Pyridaben	288 - 2404	ND*
Etofenprox	40 - 2404	ND*	Spinosad A	29 - 2404	ND*
Etoxazole	291 - 2404	ND*	Spinosad D	75 - 2404	ND*
Fenoxycarb	>45	ND*	Spiromesifen	>256	ND*
Fipronil	72 - 2404	ND*	Spirotetramat	>258	ND*
Flonicamid	41 - 2404	ND*	Spiroxamine 1	15 - 2404	ND*
Fludioxonil	>282	ND*	Spiroxamine 2	21 - 2404	ND*
Hexythiazox	38 - 2404	ND*	Tebuconazole	281 - 2404	ND*
Imazalil	249 - 2404	ND*	Thiacloprid	42 - 2404	ND*
Imidacloprid	41 - 2404	ND*	Thiamethoxam	41 - 2404	ND*
Kresoxim-methyl	43 - 2404	ND*	Trifloxystrobin	41 - 2404	ND*

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

N/A

FINAL APPROVAL


 Tyler Wiese
 30-Jul-2020
 12:15 PM
 PREPARED BY / DATE


 Ben Minton
 30-Jul-2020
 3:41 PM
 APPROVED BY / DATE

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