



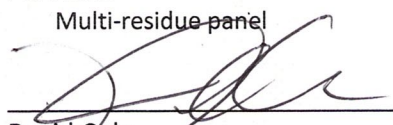
STRAIGHT HEMP

CERTIFICATE OF ANALYSIS

PRODUCT: Straight Hemp Vape Oil PRODUCTION DATE: 08/2020
BATCH/LOT: VA013 BEST BY/EXP DATE: 08/2022

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%	51.27%
Total minor cannabinoids	UPLC/UV	n/e	5.98%
Total Tetrahydrocannabinol (THC) ⁱⁱ	UPLC/UV	NMT 0.3%	<0.25%
Total Cannabinoids	UPLC/UV	n/e	57.25%
Terpene assay ⁱⁱⁱ	HS-GC/MS	n/e	19.23%
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

8/25/20
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

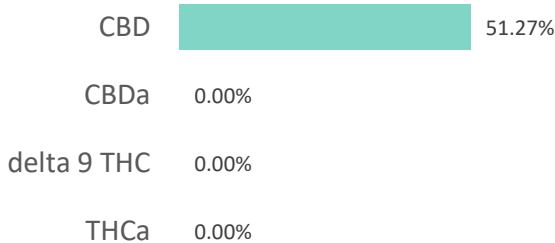
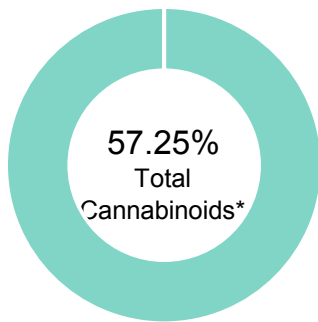
^{vi} 11 solvent panel: Propane, Butanes, Methanol, Pentane, Ethanol, Acetone, Isopropyl Alcohol, Hexane, Benzene, Heptanes, Toluene, Xylenes. Individual limits: 1 CCR 212-3

^{vii} 50 residue panel

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

Vape Oil

Batch ID:	VA013	Test ID:	T000090909
Reported:	18-Aug-2020	Method:	TM14
Type:	Concentrate		
Test:	Potency		

CANNABINOID PROFILE


Compound	LOQ (%)	Result (%)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.18	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.09	ND	ND
Cannabidiolic acid (CBDA)	0.19	ND	ND
Cannabidiol (CBD)	0.11	51.27	512.7
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.10	ND	ND
Cannabinolic Acid (CBNA)	0.24	ND	ND
Cannabinol (CBN)	0.11	0.31	3.1
Cannabigerolic acid (CBGA)	0.15	ND	ND
Cannabigerol (CBG)	0.09	5.67	56.7
Tetrahydrocannabivarinic Acid (THCVA)	0.15	ND	ND
Tetrahydrocannabivarin (THCV)	0.08	ND	ND
Cannabidivarinic Acid (CBDVA)	0.18	ND	ND
Cannabidivarin (CBDV)	0.10	ND	ND
Cannabichromenic Acid (CBCA)	0.13	ND	ND
Cannabichromene (CBC)	0.16	ND	ND
Total Cannabinoids		57.25	572.5
Total Potential THC**		ND	ND
Total Potential CBD**		51.27	512.7

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
18-Aug-2020
1:54 PM



Ben Minton
18-Aug-2020
2:48 PM

PREPARED BY / DATE

APPROVED BY / DATE

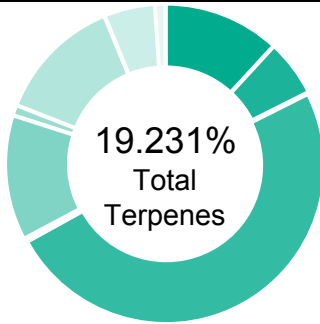
Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods.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



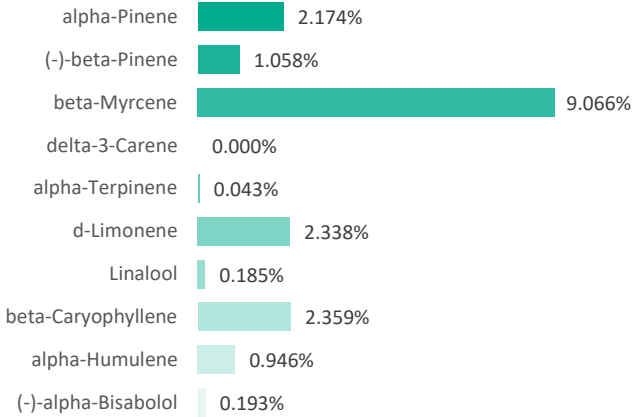
Certificate #4329.02

Vape Oil



Batch ID:	VA013	Test ID:	6179197.0022
Reported:	18-Aug-2020	Method:	TM10
Type:	Concentrate		
Test:	Terpenes		

TERPENE PROFILE


Compound	%(w/w)	mg/g
(-)-alpha-Bisabolol	0.193	1.93
Camphene	0.064	0.64
delta-3-Carene	0.000	0
beta-Caryophyllene	2.359	23.59
(-)-Caryophyllene Oxide	0.000	0
p-Cymene	0.000	0
Eucalyptol	0.361	3.61
Geraniol	0.000	0
alpha-Humulene	0.946	9.46
(-)-Isopulegol	0.000	0
d-Limonene	2.338	23.38
Linalool	0.185	1.85
beta-Myrcene	9.066	90.66
cis-Nerolidol	0.000	0
trans-Nerolidol	0.000	0
Ocimene	0.013	0.13
beta-Ocimene	0.000	0
alpha-Pinene	2.174	21.74
(-)-beta-Pinene	1.058	10.58
alpha-Terpinene	0.043	0.43
gamma-Terpinene	0.053	0.53
Terpinolene	0.378	3.78
	19.231%	192.31

PREDOMINANT TERPENES

 NOTES:
 0

FINAL APPROVAL

 Michelle Gagnon 18-Aug-2020 1:42 PM	 Ben Minton 18-Aug-2020 2:37 PM
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Certificate #4329.02

Vape Oil

Batch ID:	VA013	Test ID:	T000090911
Reported:	21-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
21-Aug-2020
3:53 PM
Greg Zimpfer
21-Aug-2020
3:56 PM

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Certificate #4329.03

Vape Oil


Batch ID:	VA013	Test ID:	T000090914
Reported:	18-Aug-2020	Method:	TM19
Type:	Concentrate		
Test:	Metals		

HEAVY METALS

Analyte	Dynamic Range (ppm)	Result (ppm)
Arsenic	0.077 - 7.73	ND
Cadmium	0.078 - 7.81	ND
Mercury	0.105 - 10.40	ND
Lead	0.078 - 7.82	ND


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

FINAL APPROVAL



Ryan Weems
18-Aug-2020
10:32 AM

PREPARED BY / DATE



Greg Zimpfer
18-Aug-2020
11:50 AM

APPROVED BY / DATE

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Vape Oil

Batch ID:	VA013	Test ID:	T000090910
Reported:	18-Aug-2020	Method:	TM04
Type:	Concentrate		
Test:	Residual Solvents		

RESIDUAL SOLVENTS

Solvent	Dynamic Range (ppm)	Result (ppm)
Propane	61 - 1226	*ND
Butanes (Isobutane, n-Butane)	129 - 2583	*ND
Methanol	51 - 1029	*ND
Pentane	74 - 1484	*ND
Ethanol	70 - 1395	*ND
Acetone	84 - 1677	*ND
Isopropyl Alcohol	88 - 1757	*ND
Hexane	5 - 103	*ND
Ethyl Acetate	84 - 1681	*ND
Benzene	0.2 - 3.4	*ND
Heptanes	80 - 1600	*ND
Toluene	15 - 307	*ND
Xylenes (m,p,o-Xylenes)	111 - 2229	*ND

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


NOTES:
N/A

FINAL APPROVAL



Michelle Gagnon
18-Aug-2020
2:56 PM

PREPARED BY / DATE



Ben Minton
18-Aug-2020
3:48 PM

APPROVED BY / DATE

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Certificate #4329.02

Vape Oil

Batch ID:	VA013	Test ID:	6488737.0042
Reported:	18-Aug-2020	Method:	TM17
Type:	Concentrate		
Test:	Pesticides		


PESTICIDE RESIDUE

Compound	Dynamic Range (ppb)	Result (ppb)	Compound	Dynamic Range (ppb)	Result (ppb)
Acephate	37 - 2299	ND*	Malathion	268 - 2299	ND*
Acetamiprid	37 - 2299	ND*	Metalaxyl	42 - 2299	ND*
Abamectin	>274	ND*	Methiocarb	38 - 2299	ND*
Azoxystrobin	39 - 2299	ND*	Methomyl	39 - 2299	ND*
Bifenazate	29 - 2299	ND*	MGK 264 1	160 - 2299	ND*
Boscalid	35 - 2299	ND*	MGK 264 2	99 - 2299	ND*
Carbaryl	36 - 2299	ND*	Myclobutanil	41 - 2299	ND*
Carbofuran	40 - 2299	ND*	Naled	43 - 2299	ND*
Chlorantraniliprole	33 - 2299	ND*	Oxamyl	38 - 2299	ND*
Chlorpyrifos	40 - 2299	ND*	Paclobutrazol	42 - 2299	ND*
Clofentezine	278 - 2299	ND*	Permethrin	267 - 2299	ND*
Diazinon	264 - 2299	ND*	Phosmet	41 - 2299	ND*
Dichlorvos	>265	ND*	Prophos	270 - 2299	ND*
Dimethoate	37 - 2299	ND*	Propoxur	41 - 2299	ND*
E-Fenpyroximate	267 - 2299	ND*	Pyridaben	272 - 2299	ND*
Etofenprox	39 - 2299	ND*	Spinosad A	27 - 2299	ND*
Etoxazole	274 - 2299	ND*	Spinosad D	71 - 2299	ND*
Fenoxycarb	>44	ND*	Spiromesifen	>253	ND*
Fipronil	34 - 2299	ND*	Spirotetramat	>278	ND*
Flonicamid	43 - 2299	ND*	Spiroxamine 1	18 - 2299	ND*
Fludioxonil	>282	ND*	Spiroxamine 2	22 - 2299	ND*
Hexythiazox	42 - 2299	ND*	Tebuconazole	271 - 2299	ND*
Imazalil	251 - 2299	ND*	Thiacloprid	38 - 2299	ND*
Imidacloprid	40 - 2299	ND*	Thiamethoxam	35 - 2299	ND*
Kresoxim-methyl	43 - 2299	ND*	Trifloxystrobin	40 - 2299	ND*

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

N/A

FINAL APPROVAL


 Tyler Wiese
 18-Aug-2020
 6:09 PM

PREPARED BY / DATE


 Ben Minton
 18-Aug-2020
 6:28 PM

APPROVED BY / DATE

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