




STRAIGHT HEMP

CERTIFICATE OF ANALYSIS

PRODUCT: Straight Hemp Vape Oil PRODUCTION DATE: 05/12/2020
BATCH/LOT: VA010 BEST BY/EXP DATE: 05/2022

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%	52.67%
Total Tetrahydrocannabinol (THC) ⁱⁱ	UPLC/UV	NMT 0.3%	None Detected
Terpene assay ⁱⁱⁱ	HS-GC/MS	n/e	37.38%
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

5/22/20
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

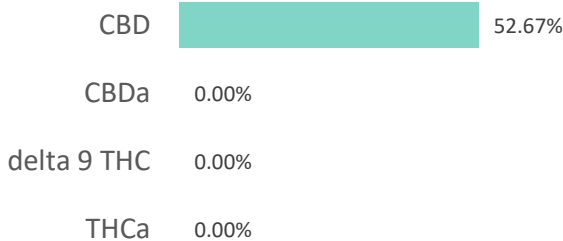
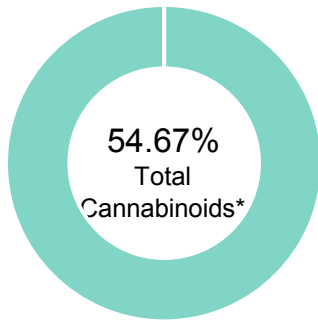
NMT = Not More Than

MRL = Method Reporting Limit

n/e = not established

Straight Hemp Vape Oil

Batch ID:	VA010	Test ID:	9418379.0019
Reported:	15-May-2020	Method:	TM14
Type:	Concentrate		
Test:	Potency		

CANNABINOID PROFILE


Compound	LOQ (%)	Result (%)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.24	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.12	ND	ND
Cannabidiolic acid (CBDA)	0.34	ND	ND
Cannabidiol (CBD)	0.19	52.67	526.7
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.13	ND	ND
Cannabinolic Acid (CBNA)	0.33	ND	ND
Cannabinol (CBN)	0.15	ND	ND
Cannabigerolic acid (CBGA)	0.21	ND	ND
Cannabigerol (CBG)	0.12	2.00	20.0
Tetrahydrocannabivarinic Acid (THCVA)	0.21	ND	ND
Tetrahydrocannabivarin (THCV)	0.11	ND	ND
Cannabidivarinic Acid (CBDVA)	0.31	ND	ND
Cannabidivarin (CBDV)	0.17	ND	ND
Cannabichromenic Acid (CBCA)	0.18	ND	ND
Cannabichromene (CBC)	0.22	ND	ND
Total Cannabinoids		54.67	546.70
Total Potential THC**		ND	ND
Total Potential CBD**		52.67	526.70

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


 Tyler Wiese
 15-May-2020
 4:38 PM



 Greg Zimpfer
 15-May-2020
 5:14 PM

PREPARED BY / DATE

APPROVED BY / DATE

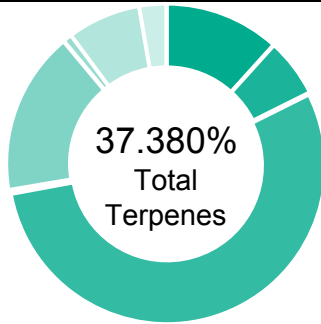
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Certificate #4329.02

Straight Hemp Vape Oil

Batch ID:	VA010	Test ID:	1677412.0043
Reported:	15-May-2020	Method:	TM10
Type:	Concentrate		
Test:	Terpenes		

TERPENE PROFILE


Compound	%(w/w)	mg/g
(-)-alpha-Bisabolol	0.000	0
Camphene	0.148	1.48
delta-3-Carene	0.000	0
beta-Caryophyllene	2.669	26.69
(-)-Caryophyllene Oxide	0.000	0
p-Cymene	0.000	0
Eucalyptol	0.372	3.72
Geraniol	0.000	0
alpha-Humulene	0.983	9.83
(-)-Isopulegol	0.000	0
d-Limonene	5.957	59.57
Linalool	0.314	3.14
beta-Myrcene	19.525	195.25
cis-Nerolidol	0.000	0
trans-Nerolidol	0.000	0
Ocimene	0.000	0
beta-Ocimene	0.288	2.88
alpha-Pinene	4.195	41.95
(-)-beta-Pinene	2.131	21.31
alpha-Terpinene	0.082	0.82
gamma-Terpinene	0.073	0.73
Terpinolene	0.643	6.43
	37.380%	373.80



PREDOMINANT TERPENES

alpha-Pinene	4.195%
(-)-beta-Pinene	2.131%
beta-Myrcene	19.525%
delta-3-Carene	0.000%
alpha-Terpinene	0.082%
d-Limonene	5.957%
Linalool	0.314%
beta-Caryophyllene	2.669%
alpha-Humulene	0.983%
(-)-alpha-Bisabolol	0.000%

NOTES:

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FINAL APPROVAL

 Michelle Gagnon 15-May-2020 3:41 PM	 Greg Zimpfer 15-May-2020 5:03 PM
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Certificate #4329.02

Straight Hemp Vape Oil

Batch ID:	VA010	Test ID:	T000075633
Reported:	21-May-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
<i>E. coli</i>	None Detected
<i>Salmonella</i>	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


Nick Tumminaro
21-May-2020
5:10 PM
Ben Minton
21-May-2020
7:29 PM

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Certificate #4329.03

Straight Hemp Vape Oil


Batch ID:	VA010	Test ID:	T000075636
Reported:	13-May-2020	Method:	TM19
Type:	Other		
Test:	Metals		

HEAVY METALS

Analyte	Dynmic Range (ppm)	Result (ppm)
Arsenic	0.070 - 7.03	ND
Cadmium	0.073 - 7.30	ND
Mercury	0.073 - 7.31	ND
Lead	0.029 - 2.91	ND


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

FINAL APPROVAL



Ryan Weems
13-May-2020
5:31 PM

PREPARED BY / DATE



Greg Zimpfer
13-May-2020
7:09 PM

APPROVED BY / DATE

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Straight Hemp Vape Oil

Batch ID:	VA010	Test ID:	T000075632
Reported:	15-May-2020	Method:	TM04
Type:	Concentrate		
Test:	Residual Solvents		

RESIDUAL SOLVENTS

Solvent	Dynamic Range (ppm)	Result (ppm)
Propane	96 - 1922	*ND
Butanes (Isobutane, n-Butane)	187 - 3742	*ND
Methanol	64 - 1277	*ND
Pentane	104 - 2083	*ND
Ethanol	93 - 1869	*ND
Acetone	106 - 2117	*ND
Isopropyl Alcohol	108 - 2153	*ND
Hexane	7 - 134	11
Ethyl Acetate	105 - 2103	*ND
Benzene	0.2 - 4.2	*ND
Heptanes	102 - 2038	*ND
Toluene	19 - 379	*ND
Xylenes (m,p,o-Xylenes)	137 - 2744	*ND

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

NOTES:
N/A**FINAL APPROVAL**Daniel Weidensaul
15-May-2020
4:03 PMGreg Zimpfer
15-May-2020
5:10 PM

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Certificate #4329.02

Straight Hemp Vape Oil

Batch ID:	VA010	Test ID:	1683454.0019
Reported:	15-May-2020	Method:	TM17
Type:	Concentrate		
Test:	Pesticides		


PESTICIDE RESIDUE


Compound	Dynamic Range (ppb)	Result (ppb)	Compound	Dynamic Range (ppb)	Result (ppb)
Acephate	57 - 2624	ND*	Malathion	340 - 2624	ND*
Acetamiprid	57 - 2624	ND*	Metalaxyl	57 - 2624	ND*
Abamectin	NA	NA	Methiocarb	57 - 2624	ND*
Azoxystrobin	57 - 2624	ND*	Methomyl	57 - 2624	ND*
Bifenazate	57 - 2624	ND*	MGK 264 1	340 - 2624	ND*
Boscalid	57 - 2624	ND*	MGK 264 2	340 - 2624	ND*
Carbaryl	57 - 2624	ND*	Myclobutanil	57 - 2624	ND*
Carbofuran	57 - 2624	ND*	Naled	57 - 2624	ND*
Chlorantraniliprole	57 - 2624	ND*	Oxamyl	57 - 2624	ND*
Chlorpyrifos	57 - 2624	ND*	Paclobutrazol	57 - 2624	ND*
Clofentezine	340 - 2624	ND*	Permethrin	340 - 2624	ND*
Diazinon	340 - 2624	ND*	Phosmet	57 - 2624	ND*
Dichlorvos	>340	ND*	Prophos	340 - 2624	ND*
Dimethoate	57 - 2624	ND*	Propoxur	57 - 2624	ND*
E-Fenproximate	57 - 2624	ND*	Pyridaben	57 - 2624	ND*
Etofenprox	57 - 2624	ND*	Spinosad A	57 - 2624	ND*
Etoxazole	340 - 2624	ND*	Spinosad D	340 - 2624	ND*
Fenoxycarb	>57	ND*	Spiromesifen	>340	ND*
Fipronil	57 - 2624	ND*	Spirotetramat	>340	ND*
Flonicamid	57 - 2624	ND*	Spiroxamine 1	57 - 2624	ND*
Fludioxonil	>340	ND*	Spiroxamine 2	57 - 2624	ND*
Hexythiazox	57 - 2624	ND*	Tebuconazole	340 - 2624	ND*
Imazalil	340 - 2624	ND*	Thiacloprid	57 - 2624	ND*
Imidacloprid	57 - 2624	ND*	Thiamethoxam	57 - 2624	ND*
Kresoxim-methyl	57 - 2624	ND*	Trifloxystrobin	57 - 2624	ND*

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

N/A

FINAL APPROVAL


 Tyler Wiese
 15-May-2020
 4:14 PM
 PREPARED BY / DATE


 Greg Zimpfer
 15-May-2020
 5:23 PM
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