


STRAIGHT HEMP

CERTIFICATE OF ANALYSIS

PRODUCT: Full Spectrum Hemp Softgels PRODUCTION DATE: 08/2020
BATCH/LOT: ND200806 EXPIRATION DATE: 08/2022
INGREDIENTS: Organic Hemp Seed Oil, Full Spectrum Hemp Extract, Softgel Capsule (Gelatin, Distilled Water, Glycerin)
ADDITIVES: none
EXCIPIENTS: none

TEST	METHOD	SPECIFICATION	RESULTS
Strength & Composition			
Identity	Organoleptic	Conforming	PASS
Identity	UPLC/UV	Chemical Fingerprint	PASS
Total Cannabidiol (CBD) ⁱ	UPLC/UV	22.7 – 26.0 mg/g	25.0 mg/g ⁱⁱ
Total Tetrahydrocannabinol (THC) ⁱⁱⁱ	UPLC/UV	NMT 0.30%	0.07%
Terpene assay ^{iv}	HS-GC/MS	n/e	2,960 ppm
Microbiological ^v			
Total Plate Count	USP 42	NMT 1,000 cfu/ml	PASS
Total Yeast & Mold	USP 42	NMT 100 cfu/ml	PASS
Total Coliforms / EC	USP 42	NMT 100 cfu/ml	PASS
<i>E. coli</i>	USP 42	Absent	PASS
<i>Salmonella</i>	USP 42	Absent	PASS
Heavy Metals ^{vi}			
Arsenic (As)	ICP/MS	NMT 1.0 ppm	PASS
Cadmium (Cd)	ICP/MS	NMT 0.5 ppm	PASS
Lead (Pb)	ICP/MS	NMT 1.0 ppm	PASS
Mercury (Hg)	ICP/MS	NMT 0.1 ppm	PASS
Residual Solvents			
Multi-residue panel	GC-HS-MSD	Below MRL ^{vii}	PASS
Pesticides			
Multi-residue panel	UPLC-MS/MS	Below MRL	PASS


David Cole
Director of Quality

9/14/20
Date

ⁱ Total CBD = CBD + (0.877*CBDA) to account for loss of acid group during decarboxylation
ⁱⁱ Corresponds to **23.1mg/ml, 11.5mg/softgel**
ⁱⁱⁱ Total THC = THC + (0.877*THCa) to account for loss of acid group during decarboxylation
^{iv} Sum of terpene assay (n=22)

NMT = Not More Than

MRL = Method Reporting Limit
n/e = not established

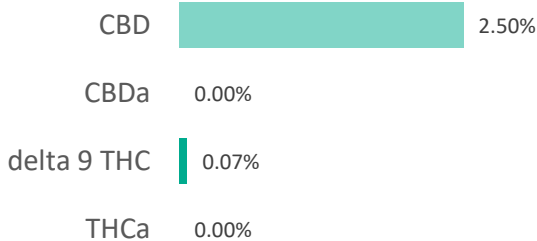
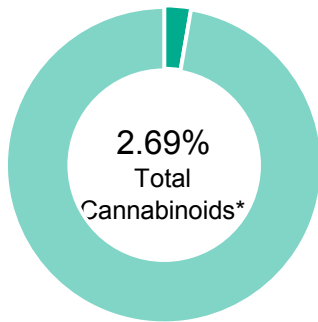
^v Microbiological limits based on USP, WHO, and/or NSF/ANSI

^{vi} 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

^{vii} 11 solvent panel: Propane, Butane, Pentane, Ethanol, Acetone, Isopropyl Alcohol, Hexane, Benzene, Heptanes, Toluene, Xylenes

Full Spectrum Softgels

Batch ID:	ND200806	Test ID:	T000089656
Reported:	10-Aug-2020	Method:	TM14
Type:	Concentrate		
Test:	Potency		

CANNABINOID PROFILE


Compound	LOQ (%)	Result (%)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.02	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.01	0.07	0.7
Cannabidiolic acid (CBDA)	0.06	ND	ND
Cannabidiol (CBD)	0.04	2.50	25.0
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.01	ND	ND
Cannabinolic Acid (CBNA)	0.03	ND	ND
Cannabinol (CBN)	0.01	ND	ND
Cannabigerolic acid (CBGA)	0.02	ND	ND
Cannabigerol (CBG)	0.01	0.03	0.3
Tetrahydrocannabivarinic Acid (THCVA)	0.02	ND	ND
Tetrahydrocannabivarin (THCV)	0.01	ND	ND
Cannabidivarinic Acid (CBDVA)	0.06	ND	ND
Cannabidivarin (CBDV)	0.03	ND	ND
Cannabichromenic Acid (CBCA)	0.02	ND	ND
Cannabichromene (CBC)	0.02	0.09	0.9
Total Cannabinoids		2.69	26.9
Total Potential THC**		0.07	0.7
Total Potential CBD**		2.50	25.0

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
10-Aug-2020
6:24 PM



Ben Minton
10-Aug-2020
7:13 PM

PREPARED BY / DATE

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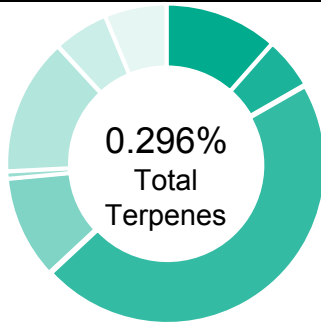
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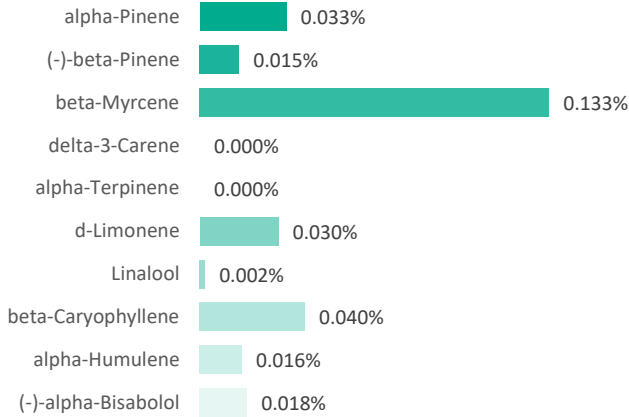
Certificate #4329.02

Full Spectrum Softgels


Batch ID:	ND200806	Test ID:	1586225.0021
Reported:	10-Aug-2020	Method:	TM10
Type:	Concentrate		
Test:	Terpenes		

TERPENE PROFILE


Compound	%(w/w)	mg/g
(-)-alpha-Bisabolol	0.018	0.18
Camphene	0.000	0
delta-3-Carene	0.000	0
beta-Caryophyllene	0.040	0.4
(-)-Caryophyllene Oxide	0.000	0
p-Cymene	0.000	0
Eucalyptol	0.004	0.04
Geraniol	0.000	0
alpha-Humulene	0.016	0.16
(-)-Isopulegol	0.000	0
d-Limonene	0.030	0.3
Linalool	0.002	0.02
beta-Myrcene	0.133	1.33
cis-Nerolidol	0.000	0
trans-Nerolidol	0.001	0.01
Ocimene	0.000	0
beta-Ocimene	0.000	0
alpha-Pinene	0.033	0.33
(-)-beta-Pinene	0.015	0.15
alpha-Terpinene	0.000	0
gamma-Terpinene	0.001	0.01
Terpinolene	0.003	0.03
	0.296%	2.96

PREDOMINANT TERPENES

 NOTES:
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FINAL APPROVAL

	Michelle Gagnon 10-Aug-2020 1:39 PM		Ben Minton 10-Aug-2020 2:26 PM
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Certificate #4329.02

Full Spectrum Softgels

Batch ID:	ND200806	Test ID:	T000089658
Reported:	10-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

Sarah Henning
10-Aug-2020
3:17 PMBen Minton
10-Aug-2020
7:43 PM

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Certificate #4329.03

Full Spectrum Softgels

Batch ID:	ND200806	Test ID:	T000089661
Reported:	10-Aug-2020	Method:	TM19
Type:	Other		
Test:	Metals		

HEAVY METALS


Analyte	Dynamic Range (ppm)	Result (ppm)
Arsenic	0.064 - 6.38	ND
Cadmium	0.067 - 6.68	ND
Mercury	0.062 - 6.21	ND
Lead	0.068 - 6.77	ND

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

FINAL APPROVAL

Ryan Weems
10-Aug-2020
4:48 PM

PREPARED BY / DATE



Ben Minton
10-Aug-2020
7:08 PM

APPROVED BY / DATE

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Full Spectrum Softgels

Batch ID:	ND200806	Test ID:	T000089657
Reported:	11-Aug-2020	Method:	TM04
Type:	Concentrate		
Test:	Residual Solvents		

RESIDUAL SOLVENTS


Solvent	Dynamic Range (ppm)	Result (ppm)
Propane	70 - 1398	*ND
Butanes (Isobutane, n-Butane)	145 - 2908	*ND
Methanol	58 - 1155	*ND
Pentane	82 - 1638	*ND
Ethanol	82 - 1643	*ND
Acetone	93 - 1861	*ND
Isopropyl Alcohol	96 - 1920	*ND
Hexane	6 - 112	*ND
Ethyl Acetate	94 - 1873	*ND
Benzene	0.2 - 3.8	*ND
Heptanes	88 - 1764	*ND
Toluene	17 - 342	*ND
Xylenes (m,p,o-Xylenes)	126 - 2514	*ND

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

NOTES:
N/A**FINAL APPROVAL**

Ryan Weems
11-Aug-2020
1:20 PM

PREPARED BY / DATE



Greg Zimpfer
11-Aug-2020
3:41 PM

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Certificate #4329.02

Full Spectrum Softgels

Batch ID:	ND200806	Test ID:	6565092.002
Reported:	13-Aug-2020	Method:	TM17
Type:	Concentrate		
Test:	Pesticides		

PESTICIDE RESIDUE

Compound	Dynamic Range (ppb)	Result (ppb)	Compound	Dynamic Range (ppb)	Result (ppb)
Acephate	39 - 2342	ND*	Malathion	273 - 2342	ND*
Acetamiprid	41 - 2342	ND*	Metalaxyl	41 - 2342	ND*
Abamectin	>313	ND*	Methiocarb	37 - 2342	ND*
Azoxystrobin	41 - 2342	ND*	Methomyl	40 - 2342	ND*
Bifenazate	31 - 2342	ND*	MGK 264 1	163 - 2342	ND*
Boscalid	43 - 2342	ND*	MGK 264 2	99 - 2342	ND*
Carbaryl	38 - 2342	ND*	Myclobutanil	38 - 2342	ND*
Carbofuran	40 - 2342	ND*	Naled	41 - 2342	ND*
Chlorantraniliprole	33 - 2342	ND*	Oxamyl	39 - 2342	ND*
Chlorpyrifos	47 - 2342	ND*	Paclobutrazol	45 - 2342	ND*
Clofentezine	272 - 2342	ND*	Permethrin	280 - 2342	ND*
Diazinon	282 - 2342	ND*	Phosmet	39 - 2342	ND*
Dichlorvos	>262	ND*	Prophos	276 - 2342	ND*
Dimethoate	40 - 2342	ND*	Propoxur	40 - 2342	ND*
E-Fenpyroximate	273 - 2342	ND*	Pyridaben	286 - 2342	ND*
Etofenprox	41 - 2342	ND*	Spinosad A	29 - 2342	ND*
Etoxazole	293 - 2342	ND*	Spinosad D	77 - 2342	ND*
Fenoxycarb	>37	ND*	Spiromesifen	>260	ND*
Fipronil	47 - 2342	ND*	Spirotetramat	>282	ND*
Flonicamid	47 - 2342	ND*	Spiroxamine 1	17 - 2342	ND*
Fludioxonil	>260	ND*	Spiroxamine 2	22 - 2342	ND*
Hexythiazox	37 - 2342	ND*	Tebuconazole	297 - 2342	ND*
Imazalil	265 - 2342	ND*	Thiacloprid	40 - 2342	ND*
Imidacloprid	40 - 2342	ND*	Thiamethoxam	39 - 2342	ND*
Kresoxim-methyl	39 - 2342	ND*	Trifloxystrobin	41 - 2342	ND*

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

N/A

FINAL APPROVAL



 Tyler Wiese
 13-Aug-2020
 3:03 PM

PREPARED BY / DATE



 Ben Minton
 13-Aug-2020
 4:26 PM

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