

Certificate of Analysis

Order #: BAL191209-100004 Order Date: 2019-12-09 Collection Date: 2019-12-09 Report Date: 2019-12-24

Batch #: 0219328B0
 Sample #: AAAA321
 Specimen Type: CBD/HEMP Derivative Products (Ingestion)
 Extracted From: Industrial Hemp
 Description: 8mg/mL Broad Spectrum CBD Oil Tincture

Initial Gross Weight: 76284mg
 Density: .940574g/ml
 Method: SOP-3



Potency Tested	Residual Solvents Passed	Heavy Metals Passed
Mycotoxins Passed	Water Activity Passed	Microbiology Passed
Terpenes Tested	Pesticides Passed	

CBD Total 0.930%	THC Total Not Detected	CBG Total Not Detected
CBN Total Not Detected	Other Cannabinoids Total Not Detected	Total Detected Cannabinoids 0.930%

Potency - 11 (Tested)

(HPLC)

Analyte	Result (mg/ml)	(%)	LOQ (%)	Analyte	Result (mg/ml)	(%)	LOQ (%)	Analyte	Result (mg/ml)	(%)	LOQ (%)
CBC	<LOQ	0.001		CBD	8.750	0.930	0.001	CBDA	<LOQ	0.001	
CBDV	<LOQ	0.001		CBG	<LOQ	0.001		CBGA	<LOQ	0.001	
CBN	<LOQ	0.001		Delta-8-THC	<LOQ	0.001		Delta-9-THC	<LOQ	0.001	
THCA-A	<LOQ	0.001		THCV	<LOQ	0.001		Total CBD	8.750	0.930	0.001
Total THC	<LOQ	0.001									

*Total CBD = CBD + (CBD-A * 0.877), *Total THC = THCA-A * 0.877 + Delta 9 THC, *CBG Total = (CBGA * 0.877) + CBG, *CBN Total = (CBNA * 0.877) + CBN, *Other Cannabinoids Total = CBC + CBDV + THCV + THCV-A, *Total Detected Cannabinoids = CBD Total + CBG Total + CBN Total + THC Total + CBC + CBDV + THCV + THCV-A (mg/ml) = Milligrams per Milliliter, , LOQ = Limit of Quantitation

Xueli Gao
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Lab Toxicologist

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Residual Solvents - FL (Passed) **(GC/GCMS)**

Analyte	Action Level (ppm)	Result (ppm)	LOQ (ppm)	Analyte	Action Level (ppm)	Result (ppm)	LOQ (ppm)	Analyte	Action Level (ppm)	Result (ppm)	LOQ (ppm)
1,1-Dichloroethen-e	8	<LOQ	0.132	1,2-dichloroethan-e	2	<LOQ	0.032	Acetone	750	<LOQ	12
Benzene	1	<LOQ	0.016	Butanes	2000	<LOQ	13.32	Acetonitrile	60	<LOQ	0.96
Ethanol	5000	<LOQ	16	Ethyl Acetate	400	<LOQ	6.4	Chloroform	2	<LOQ	0.032
Ethylene Oxide	5	<LOQ	0.32	Heptane	500	<LOQ	8	Ethyl Ether	500	<LOQ	8
Isopropyl alcohol	500	<LOQ	8	Methanol	250	<LOQ	4	Hexane	250	<LOQ	0.8
Pentane	750	<LOQ	12	Propane	2100	<LOQ	26.668	Methylene chloride	125	<LOQ	2
Total Xylenes	150	<LOQ	7.2	Trichloroethene	25	<LOQ	0.4	Toluene	150	<LOQ	2.4

(ppm) = Parts per Million, (ppm) = (µg/g), , LOQ = Limit of Quantitation

Heavy Metals (Passed) **(ICP-MS)**


Analyte	Action Level (ppb)	Result (ppb)	LOQ (ppb)	Analyte	Action Level (ppb)	Result (ppb)	LOQ (ppb)	Analyte	Action Level (ppb)	Result (ppb)	LOQ (ppb)
Arsenic (As)	200	<LOQ	100	Cadmium (Cd)	200	<LOQ	100	Lead (Pb)	500	<LOQ	100
Mercury (Hg)	100	<LOQ	100								


(ppb) = Parts per Billion, (ppb) = (µg/kg), , LOQ = Limit of Quantitation

Mycotoxins (Passed) **(LCMS/MS)**

Analyte	Action Level (ppb)	Result (ppb)	LOQ (ppb)	Analyte	Action Level (ppb)	Result (ppb)	LOQ (ppb)	Analyte	Action Level (ppb)	Result (ppb)	LOQ (ppb)
Aflatoxin B1		<LOQ	6	Aflatoxin B2		<LOQ	6	Aflatoxin G1		<LOQ	6
Aflatoxin G2		<LOQ	6	Aflatoxin Total	20	<LOQ	6	Ochratoxin A	20	<LOQ	12

(ppb) = Parts per Billion, (ppb) = (µg/kg), , LOQ = Limit of Quantitation


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Water Activity (Passed)

(AquaLab
4TE)

Analyte	Action Level (aw)	Result (aw)
Water Activity	0.65	0.284

(aw) = aw

Microbiology #5 (Petrifilm/Plating) (Passed)

(Petrifilm)

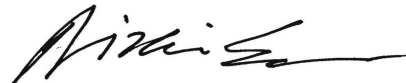
Analyte	Result (cfu/g)	LOQ (cfu/g)	Analyte	Result (cfu/g)	LOQ (cfu/g)	Analyte	Result (cfu/g)	LOQ (cfu/g)
Aerobic Bacteria	<10	10	E. Coli / Coliform	<10	10	Yeast/Mold	<10	10

(cfu/g) = Colony Forming Unit per Gram, , LOQ = Limit of Quantitation



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Terpenes - FL (Tested)

(GC/GCMS)

Analyte	Result (mg/g)	(%)	LOQ (%)	Analyte	Result (mg/g)	(%)	LOQ (%)	Analyte	Result (mg/g)	(%)	LOQ (%)
(+)-Cedrol		<LOQ	0.001	(R)-(+)-Limonene		<LOQ	0.001	3-Carene		<LOQ	0.001
Alpha-Bisabolol	0.224	0.022	0.001	alpha-Cedrene		<LOQ	0.001	alpha-Humulene	0.086	0.009	0.001
alpha-Phellandren-e		<LOQ	0.001	alpha-Pinene		<LOQ	0.001	alpha-Terpinene		<LOQ	0.001
Borneol		<LOQ	0.001	beta-Myrcene	0.071	0.007	0.001	beta-Pinene		<LOQ	0.001
Caryophyllene oxide	0.061	0.006	0.001	Camphene		<LOQ	0.001	Camphors		<LOQ	0.001
Fenchyl Alcohol		<LOQ	0.001	cis-Nerolidol		<LOQ	0.001	Eucalyptol		<LOQ	0.001
Guaiol		<LOQ	0.001	Farnesene		<LOQ	0.001	Fenchone		<LOQ	0.001
Isopulegol		<LOQ	0.001	gamma-Terpinene		<LOQ	0.001	Geraniol		<LOQ	0.001
Ocimene		<LOQ	0.001	Hexahydrothymol		<LOQ	0.001	Geranyl acetate		<LOQ	0.001
Sabinene Hydrate		<LOQ	0.001	Linalool		<LOQ	0.001	Isoborneol		<LOQ	0.001
trans-Caryophyllene	0.088	0.009	0.001	Pulegone		<LOQ	0.001	Nerol		<LOQ	0.001
				Terpineol		<LOQ	0.001	Sabinene		<LOQ	0.001
				trans-Nerolidol		<LOQ	0.001	Terpinolene		<LOQ	0.001
								Valencene		<LOQ	0.001

(mg/g) = Milligram per Gram, , LOQ = Limit of Quantitation

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Pesticides (Passed)

(LCMS/MS)

Analyte	Action Level (ppb)	Result (ppb)	LOQ (ppb)	Analyte	Action Level (ppb)	Result (ppb)	LOQ (ppb)	Analyte	Action Level (ppb)	Result (ppb)	LOQ (ppb)
Abamectin	100	<LOQ	28.23	Acephate	100	<LOQ	30	Acequinocyl	100	<LOQ	48
Acetamiprid	100	<LOQ	30	Aldicarb	100	<LOQ	30	Azoxystrobin	10	<LOQ	10
Bifenazate	100	<LOQ	30	Bifenthrin	100	<LOQ	30	Chlorfenapyr	100	<LOQ	48
Chlorpyrifos	100	<LOQ	30	Clofentezine	200	<LOQ	30	Coumaphos	100	<LOQ	30
Cyfluthrin	100	<LOQ	30	Cypermethrin	500	<LOQ	30	Daminozide	100	<LOQ	30
DDVP(Dichlorvos)	100	<LOQ	30	Diazinon	100	<LOQ	30	Dimethoate	100	<LOQ	30
Dimethomorph	200	<LOQ	30	Ethoprop(hos)	100	<LOQ	30	Etofenprox	100	<LOQ	30
Etoazole	100	<LOQ	30	Fenhexamid	100	<LOQ	30	Fenoxycarb	100	<LOQ	30
Fipronil	100	<LOQ	30	Fonicamid	100	<LOQ	30	Fludioxonil	100	<LOQ	30
Hexythiazox	100	<LOQ	30	Imazalil	100	<LOQ	30	Imidacloprid	400	<LOQ	30
Kresoxim Methyl	100	<LOQ	30	Malathion A	200	<LOQ	30	Metalaxyl	20	<LOQ	10
Methiocarb	50	<LOQ	30	Methomyl	100	<LOQ	30	Mevinphos	100	<LOQ	30
Myclobutanil	100	<LOQ	30	Naled	250	<LOQ	30	Oxamyl	500	<LOQ	30
Paclobutrazol	100	<LOQ	30	Parathion-methyl	100	<LOQ	48	Pentachloronitrobenzene	150	<LOQ	30
Permethrin	100	<LOQ	30	Phosmet	100	<LOQ	30	Piperonylbutoxide	3000	<LOQ	30
Prallethrin	100	<LOQ	30	Propiconazole	100	<LOQ	30	Propoxur	100	<LOQ	30
Pyrethrins	1000	<LOQ	30	Pyrethrins	500	<LOQ	30	Pyridaben	200	<LOQ	30
Spinetoram	200	<LOQ	30	Spinosyn A	100	<LOQ	30	Spinosyn D	100	<LOQ	30
Spiromesifen	100	<LOQ	30	Spirotetramat	100	<LOQ	30	Spiroxamine	100	<LOQ	30
Tebuconazole	100	<LOQ	30	Thiacloprid	100	<LOQ	30	Thiamethoxam	500	<LOQ	30
Trifloxystrobin	100	<LOQ	30								

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