

Hemp Quality Assurance Testing

CERTIFICATE OF ANALYSIS

DATE ISSUED 10/04/2021

SAMPLE NAME: cbdPM PM Tincture Berry 1500 mg

Infused, Hemp Infused

CULTIVATOR / MANUFACTURER

Business Name: License Number:

Address:

SAMPLE DETAIL

Batch Number: 12651W4

DISTRIBUTOR / TESTED FOR

Business Name: cbdMD License Number:

Address:





Date Collected: 09/27/2021 Sample ID: 210927N010 Date Received: 09/27/2021

Batch Size:

Sample Size: 1.0 units

Unit Mass: 30 milliliters per Unit Serving Size: 1 milliliters per Serving



Scan QR code to verify authenticity of results.

CANNABINOID ANALYSIS - SUMMARY

Total THC: Not Detected

Total CBD: 1293.360 mg/unit

Total Cannabinoids: 1669.890 mg/unit

Total THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during the decarboxylation step:

Total THC = Δ 9THC + (THCa (0.877)) Total CBD = CBD + (CBDa (0.877))

Sum of Cannabinoids = Δ 9THC + THCa + CBD + CBDa + CBG + CBGa + Sum of Cannabinoids: 1669.890 mg/unit THCV + THCVa + CBC + CBCa + CBDV + CBDVa + \Delta 8THC + CBL + CBN Total Cannabinoids = $(\Delta 9THC+0.877*THCa) + (CBD+0.877*CBDa) +$ (CBG+0.877*CBGa) + (THCV+0.877*THCVa) + (CBC+0.877*CBCa) +

(CBDV+0.877*CBDVa) + Δ8THC + CBL + CBN

Density: 0.9493 g/mL

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.0666%

Limonene 0.596 mg/g



Linalool 0.070 mg/g



Myrcene <LOQ

SAFETY ANALYSIS - SUMMARY

Pesticides: PASS

Heavy Metals: OPASS

Mycotoxins: PASS

Microbiology (PCR): PASS

Residual Solvents: PASS

Microbiology (Plating): PASS

For quality assurance purposes. Not a Pre-Harvest Hemp Lab Test Report. These results relate only to the sample included on this report. This report shall not be reproduced, except in full, without written approval of the laboratory.

Sample Certification: California Code of Regulations Title 16 Effect Date January 16, 2019. Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

Decision Rule: Statements of conformity (e.g. Pass/Fail) to specifications are made in this report without taking measurement uncertainty into account. Where statements of conformity are made in this report, the following decision rules are applied: PASS - Results within limits/specifications, FAIL - Results exceed limits/specifications.

References: limit of detection (LOD), limit of quantification (LOQ), not detected (ND), not tested (NT), too numerous to count >250 cfu/plate (TNTC), colony-forming unit (cfu)





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Tested by high-performance liquid chromatography with diode-array detection (HPLC-DAD).

Method: QSP 1157 - Analysis of Cannabinoids by HPLC-DAD

TOTAL THC: Not Detected
Total THC (Δ9THC+0.877*THCa)

TOTAL CBD: 1293.360 mg/unit

Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 1669.890 mg/unit

Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) + Δ 8THC + CBL + CBN

TOTAL CBG: 46.320 mg/unit

Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND

Total THCV (THCV+0.877*THCVa)

TOTAL CBC: ND

Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 2.340 mg/unit

Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 09/29/2021

	COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT mg/mL	RESULT (mg/mL)	RESULT (%)
Ī	CBD	0.004 / 0.011	±2.0651	43.112	4.5415
	CBN	0.001 / 0.007	±0.4033	10.929	1.1513
	CBG	0.002 / 0.006	±0.0960	1.544	0.1626
	CBDV	0.002 / 0.012	±0.0041	0.078	0.0082
	Δ9ΤΗС	0.002 / 0.014	N/A	ND	ND
	Δ8ΤΗС	0.01 / 0.02	N/A	ND	ND
	THCa	0.001 / 0.005	N/A	ND	ND
	THCV	0.002 / 0.012	N/A	ND	ND
it -	THCVa	0.002 / 0.019	N/A	ND	ND
Ιι -	CBDa	0.001 / 0.026	N/A	ND	ND
	CBDVa	0.001 / 0.018	N/A	ND	ND
	CBGa	0.002 / 0.007	N/A	ND	ND
	CBL	0.003 / 0.010	N/A	ND	ND
	СВС	0.003 / 0.010	N/A	ND	ND
	CBCa	0.001 / 0.015	N/A	ND	ND
	SUM OF CANNA	BINOIDS		55.663 mg/mL	5.8636%

Unit Mass: 30 milliliters per Unit / Serving Size: 1 milliliters per Serving

Δ9THC per Unit	ND
Δ9THC per Serving	ND
Total THC per Unit	ND
Total THC per Serving	ND
CBD per Unit	1293.360 mg/unit
CBD per Serving	43.112 mg/serving
Total CBD per Unit	1293.360 mg/unit
Total CBD per Serving	43.112 mg/serving
Sum of Cannabinoids per Unit	1669.890 mg/unit
Sum of Cannabinoids per Serving	55.663 mg/serving
Total Cannabinoids per Unit	1669.890 mg/unit
Total Cannabinoids per Serving	55.663 mg/serving

DENSITY TEST RESULT

0.9493 g/mL

Tested 09/29/2021

Method: QSP 7870 - Sample Preparation







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Terpenoid Analysis

Terpene analysis utilizing gas chromatographyflame ionization detection (GC-FID).

Method: QSP 1192 - Analysis of Terpenoids by GC-FID



Limonene

A monoterpene with a fragrance that can be described as orangey, citrusy, sweet and tart. It is most commonly found in nature as D-Limonene and is a primary contributor to the distinct scent of orange peels, from which it is commonly derived. Found in numerous pines, red maple, silver maple, aspens, cottonwoods, hemlocks, sumac, cedar, junipers...etc.



Linalool

A monoterpenoid alcohol with a fragrance that can be described as spicy, waxy, citrus and floral. It is commonly used as an insecticide against cockroaches, flies, fleas and other insects. Found in bail, lavender, cinnamon, hops, mugwort, goldenrods...etc.



Myrcene

A monoterpene with a fragrance that can be described as peppery, spicy, herbal, floral and woody. Although it has a pleasant odor, it is typically used by the perfume industry as precursor for developing other fragrances. Found in hops, houttuynia, bay, thyme, lemon grass, mango, verbena, cardamom, citrus...etc.



COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT mg/g	RESULT (mg/g)	RESULT (%)
Limonene	0.005 / 0.016	±0.0085	0.596	0.0596
Linalool	0.009 / 0.032	±0.0027	0.070	0.0070
Myrcene	0.008 / 0.025	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
α Pinene	0.005 / 0.017	N/A	ND	ND
Camphene	0.005 / 0.015	N/A	ND	ND
Sabinene	0.004 / 0.014	N/A	ND	ND
β Pinene	0.004 / 0.014	N/A	ND	ND
α Phellandrene	0.006 / 0.020	N/A	ND	ND
3 Carene	0.005 / 0.018	N/A	ND	ND
α Terpinene	0.005 / 0.017	N/A	ND	ND
p-Cymene	0.005 / 0.016	N/A	ND	ND
Eucalyptol	0.006 / 0.018	N/A	ND	ND
Ocimene	0.011/0.038	N/A	ND	ND
γTerpinene	0.006 / 0.018	N/A	ND	ND
Sabinene Hydrate	0.006 / 0.022	N/A	ND	ND
Fenchone	0.009 / 0.028	N/A	ND	ND
Terpinolene	0.008 / 0.026	N/A	ND	ND
Fenchol	0.010 / 0.034	N/A	ND	ND
(-)-Isopulegol	0.005 / 0.016	N/A	ND	ND
Camphor	0.006/0.019	N/A	ND	ND
Isoborneol	0.004 / 0.012	N/A	ND	ND
Borneol	0.005 / 0.016	N/A	ND	ND
Menthol	0.008 / 0.025	N/A	ND	ND
Terpineol	0.016 / 0.055	N/A	ND	ND
Nerol	0.003 / 0.011	N/A	ND	ND
Citronellol	0.003 / 0.010	N/A	ND	ND
R-(+)-Pulegone	0.003 / 0.011	N/A	ND	ND
Geraniol	0.002 / 0.007	N/A	ND	ND
Geranyl Acetate	0.004 / 0.014	N/A	ND	ND
α Cedrene	0.005 / 0.016	N/A	ND	ND
β Caryophyllene	0.004 / 0.012	N/A	ND	ND
trans-β-Farnesene	0.008 / 0.025	N/A	ND	ND
α Humulene	0.009/0.029	N/A	ND	ND
Valencene	0.009/0.030	N/A	ND	ND
Nerolidol	0.009 / 0.028	N/A	ND	ND
Caryophyllene Oxide	0.010 / 0.033	N/A	ND	ND
Guaiol	0.009/0.030	N/A	ND	ND
Cedrol	0.008 / 0.027	N/A	ND	ND
α Bisabolol	0.008 / 0.026	N/A	ND	ND
TOTAL TERPENOIDS			0.666 mg/g	0.0666%













Pesticide Analysis

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS).

*GC-MS utilized where indicated.

Method: QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS or QSP 1213 - Analysis of Pesticides by GC-MS

PESTICIDE TEST RESULTS - 09/29/2021 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT µg/g	RESULT (µg/g)	RESULT
Abamectin	0.03 / 0.10	0.3	N/A	ND	PASS
Acephate	0.02 / 0.07	5	N/A	ND	PASS
Acequinocyl	0.02 / 0.07	4	N/A	ND	PASS
Acetamiprid	0.02 / 0.05	5	N/A	ND	PASS
Aldicarb	0.03 / 0.08	≥ LOD	N/A	ND	PASS
Azoxystrobin	0.02 / 0.07	40	N/A	ND	PASS
Bifenazate	0.01 / 0.04	5	N/A	ND	PASS
Bifenthrin	0.02 / 0.05	0.5	N/A	ND	PASS
Boscalid	0.03 / 0.09	10	N/A	ND	PASS
Captan	0.19 / 0.57	5	N/A	ND	PASS
Carbaryl	0.02 / 0.06	0.5	N/A	ND	PASS
Carbofuran	0.02 / 0.05	≥ LOD	N/A	ND	PASS
Chlorantraniliprole	0.04 / 0.12	40	N/A	ND	PASS
Chlordane*	0.03 / 0.08	≥ LOD	N/A	ND	PASS
Chlorfenapyr*	0.03 / 0.10	≥ LOD	N/A	ND	PASS
Chlorpyrifos	0.02 / 0.06	≥LOD	N/A	ND	PASS
Clofentezine	0.03 / 0.09	0.5	N/A	ND	PASS
Coumaphos	0.02 / 0.07	≥ LOD	N/A	ND	PASS
Cyfluthrin	0.12 / 0.38	1	N/A	ND	PASS
Cypermethrin	0.11/0.32	1	N/A	ND	PASS
Daminozide	0.02 / 0.07	≥LOD	N/A	ND	PASS
DDVP (Dichlorvos)	0.03 / 0.09	≥LOD	N/A	ND	PASS
Diazinon	0.02 / 0.05	0.2	N/A	ND	PASS
Dimethoate	0.03 / 0.08	≥ LOD	N/A	ND	PASS
Dimethomorph	0.03 / 0.09	20	N/A	ND	PASS
Ethoprop(hos)	0.03 / 0.10	≥ LOD	N/A	ND	PASS
Etofenprox	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Etoxazole	0.02 / 0.06	1.5	N/A	ND	PASS
Fenhexamid	0.03 / 0.09	10	N/A	ND	PASS
Fenoxycarb	0.03 / 0.08	≥ LOD	N/A	ND	PASS
Fenpyroximate	0.02 / 0.06	2	N/A	ND	PASS
Fipronil	0.03 / 0.08	≥ LOD	N/A	ND	PASS
Flonicamid	0.03 / 0.10	2	N/A	ND	PASS
Fludioxonil	0.03 / 0.10	30	N/A	ND	PASS
Hexythiazox	0.02 / 0.07	2	N/A	ND	PASS
Imazalil	0.02 / 0.06	≥LOD	N/A	ND	PASS
Imidacloprid	0.04 / 0.11	3	N/A	ND	PASS
Kresoxim-methyl	0.02 / 0.07	1	N/A	ND	PASS
Malathion	0.03 / 0.09	5	N/A	ND	PASS
Metalaxyl	0.02 / 0.07	15	N/A	ND	PASS
Methiocarb	0.02 / 0.07	≥LOD	N/A	ND	PASS



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Pesticide Analysis Continued

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS).

*GC-MS utilized where indicated.

Method: QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS or QSP 1213 - Analysis of Pesticides by GC-MS

PESTICIDE TEST RESULTS - 09/29/2021 continued **⊘ PASS**

	COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT μg/g	RESULT (μg/g)	RESULT
	Methomyl	0.03 / 0.10	0.1	N/A	ND	PASS
	Methyl parathion	0.03 / 0.10	≥LOD	N/A	ND	PASS
	Mevinphos	0.03/0.09	≥ LOD	N/A	ND	PASS
	Myclobutanil	0.03/0.09	9	N/A	ND	PASS
	Naled	0.02 / 0.07	0.5	N/A	ND	PASS
	Oxamyl	0.04 / 0.11	0.2	N/A	ND	PASS
	Paclobutrazol	0.02 / 0.05	≥ LOD	N/A	ND	PASS
	Pentachloronitrobenzene*	0.03/0.09	0.2	N/A	ND	PASS
	Permethrin	0.04 / 0.12	20	N/A	ND	PASS
	Phosmet	0.03 / 0.10	0.2	N/A	ND	PASS
	Piperonylbutoxide	0.02 / 0.07	8	N/A	ND	PASS
	Prallethrin	0.03 / 0.08	0.4	N/A	ND	PASS
	Propiconazole	0.02 / 0.07	20	N/A	ND	PASS
	Propoxur	0.03/0.09	≥ LOD	N/A	ND	PASS
	Pyrethrins	0.04 / 0.12	1	N/A	ND	PASS
	Pyridaben	0.02 / 0.07	3	N/A	ND	PASS
	Spinetoram	0.02 / 0.07	3	N/A	ND	PASS
	Spinosad	0.02 / 0.07	3	N/A	ND	PASS
	Spiromesifen	0.02 / 0.05	12	N/A	ND	PASS
4	Spirotetramat	0.02/0.06	13	N/A	ND	PASS
	Spiroxamine	0.03 / 0.08	≥LOD	N/A	ND	PASS
	Tebuconazole	0.02 / 0.07	2	N/A	ND	PASS
	Thiacloprid	0.03 / 0.10	≥LOD	N/A	ND	PASS
	Thiamethoxam	0.03 / 0.10	4.5	N/A	ND	PASS
	Trifloxystrobin	0.03 / 0.08	30	N/A	ND	PASS



Mycotoxin Analysis

Mycotoxin analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS).

Method: QSP 1212 - Analysis of Pesticides and Mycotoxins by I.C.MS

MYCOTOXIN TEST RESULTS - 09/29/2021 **⊘ PASS**

COMPOUND	LOD/LOQ (µg/kg)	ACTION LIMIT (μg/kg)	MEASUREMENT μg/kg	RESULT (µg/kg)	RESULT
Aflatoxin B1	2.0 / 6.0	5	N/A	ND	PASS
Aflatoxin B2	1.8 / 5.6	20	N/A	ND	PASS
Aflatoxin G1	1.0 / 3.1	20	N/A	ND	PASS
Aflatoxin G2	1.2 / 3.5	20	N/A	ND	PASS
Total Aflatoxin		20		ND	PASS
Ochratoxin A	6.3 / 19.2	5	N/A	ND	PASS













Residual Solvents Analysis

Residual Solvent analysis utilizing gas chromatography-mass spectrometry (GC-MS).

Method: QSP 1204 - Analysis of Residual Solvents by GC-MS

RESIDUAL SOLVENTS TEST RESULTS - 09/29/2021 **⊘** PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT μg/g	RESULT (µg/g)	RESULT
Propane	10/20	5000	N/A	ND	PASS
Butane	10/50	5000	N/A	ND	PASS
Pentane	20/50	5000	N/A	ND	PASS
Hexane	2/5	290	N/A	ND	PASS
Heptane	20/60	5000	N/A	ND	PASS
Benzene	0.03 / 0.09	1	N/A	ND	PASS
Toluene	7/21	890	N/A	ND	PASS
Total Xylenes	50 / 160	2170	N/A	ND	PASS
Methanol	50/200	3000	N/A	ND	PASS
Ethanol	20/50	5000	±4.5	119	PASS
Isopropyl Alcohol	10/40	5000	N/A	ND	PASS
Acetone	20/50	5000	N/A	ND	PASS
Ethyl ether	20/50	5000	N/A	ND	PASS
Ethylene Oxide	0.3 / 0.8	1	N/A	ND	PASS
Ethyl acetate	20/60	5000	N/A	ND	PASS
Chloroform	0.1/0.2	1	N/A	ND	PASS
Methylene chloride	0.3 / 0.9	1	N/A	ND	PASS
Trichloroethylene	0.1 / 0.3	1	N/A	ND	PASS
1,2-Dichloroethane	0.05 / 0.1	1	N/A	ND	PASS
Acetonitrile	2/7	410	N/A	ND	PASS



Heavy Metals Analysis

Heavy metal analysis utilizing inductively coupled plasma-mass spectrometry (ICP-MS).

Method: QSP 1160 - Analysis of Heavy Metals by ICP-MS

HEAVY METALS TEST RESULTS - 09/28/2021 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT μg/g	RESULT (µg/g)	RESULT
Arsenic	0.02 / 0.1	0.42	N/A	ND	PASS
Cadmium	0.02 / 0.05	0.27	N/A	ND	PASS
Lead	0.04 / 0.1	0.5	N/A	ND	PASS
Mercury	0.002 / 0.01	0.4	N/A	ND	PASS





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Microbiology Analysis

PCR AND PLATING

Analysis conducted by polymerase chain reaction (PCR) and fluorescence detection of microbiological contaminants.

Method: QSP 1221 - Analysis of Microbiological Contaminants

Analysis conducted by $3M^{TM}$ Petrifilm and plate counts of microbiological contaminants.

Method: QSP 6794 - Plating with 3M™ Petrifilm™

MICROBIOLOGY TEST RESULTS (PCR) - 10/01/2021 PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing Escherichia coli	Not Detected in 1g	ND	PASS
Salmonella spp.	Not Detected in 1g	ND	PASS
Listeria monocytogenes	Detect	ND	PASS

MICROBIOLOGY TEST RESULTS (PLATING) - 10/01/2021 PASS

COMPOUND	ACTION LIMIT (cfu/g)	RESULT (cfu/g)	RESULT
Total Aerobic Bacteria	100	ND	PASS
Total Yeast and Mold	10	ND	PASS

NOTES

Sample Certification: Updated to meet California Code of Regulations Title 16

