

Hemp Quality Assurance Testing

CERTIFICATE OF ANALYSIS

DATE ISSUED 05/08/2021

SAMPLE NAME: cbdMD Tincture 60 mL Natural 1000 mg

Infused, Non-Inhalable

CULTIVATOR / MANUFACTURER

Business Name: License Number:

Address:

SAMPLE DETAIL

Batch Number: 11171S3 Sample ID: 210430R021

DISTRIBUTOR / TESTED FOR

Business Name: cbdMD License Number: Address:

Date Collected: 04/30/2021 Date Received: 04/30/2021

Batch Size:

Sample Size: 1.0 units

Unit Mass: 60 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: 1138.800 mg/unit

Sum of Cannabinoids: 1151.100 mg/unit

Total Cannabinoids: 1151.100 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 + THCV + THCVa + CBC + CBCa + CBDV + CBDVa + Δ 8THC + CBL + CBN

Total Cannabinoids = (Δ9THC+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

Moisture: NT

Density: 0.9465 g/mL

Viscosity: NT

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.0701%

Limonene 0.674 mg/g

R-(+)-Pulegone 0.027 mg/g

Myrcene <LOQ</p>

SAFETY ANALYSIS - SUMMARY

∆9THC per Unit: **⊘PASS**

Pesticides: PASS

Heavy Metals: PASS

Foreign Material: NT

Mycotoxins: PASS

Microbiology (PCR): PASS

Water Activity: NT

Residual Solvents: PASS

Microbiology (Plating): ND

Vitamin E: NT

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)

LQC verified by: Josh Antunovich Date: 05/08/2021

oproved by: Josh Wurzer, President ate: 05/08/2021







CBDMD TINCTURE 60 ML NATURAL 1000 MG | DATE ISSUED 05/08/2021



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: 1138.800 mg/unit

Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 1151.100 mg/unit

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

TOTAL CBG: 6.960 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: 2.760 mg/unit
Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 05/02/2021

	COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
Ī	CBD	0.004/0.011	±0.9091	18.980	2.0053
Ī	CBG	0.002/0.006	±0.0072	0.116	0.0123
	CBDV	0.002/0.012	±0.0024	0.046	0.0049
Ī	CBN	0.001 / 0.007	±0.0016	0.043	0.0045
Ī	Δ9ΤΗC	0.002/0.014	N/A	ND	ND
	THCa	0.001 / 0.005	N/A	ND	ND
Ī	Δ8ΤΗC	0.01 / 0.02	N/A	ND	ND
Ī	THCV	0.002 / 0.012	N/A	ND	ND
	THCVa	0.002/0.019	N/A	ND	ND
Ī	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
Ī	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 CANNAE	BINOIDS		19.185 mg/mL	2.0269%

Unit Mass: 60 milliliters per Unit / Serving Size: 1 milliliters per Serving

Δ9THC per Unit	1120 per-package limit	ND	PASS
Δ9THC per Serving		ND	
Total THC per Unit		ND	
Total THC per Serving		ND	
CBD per Unit		1138.800 mg/unit	
CBD per Serving		18.980 mg/serving	
Total CBD per Unit		1138.800 mg/unit	
Total CBD per Serving		18.980 mg/serving	
Sum of Cannabinoids per Unit		1151.100 mg/unit	
Sum of Cannabinoids per Serving		19.185 mg/serving	
Total Cannabinoids per Unit		1151.100 mg/unit	
Total Cannabinoids per Serving		19.185 mg/serving	

MOISTURE TEST RESULT	DENSITY TEST RESULT	VISCOSITY TEST RESULT
Not Tested	0.9465 g/mL	Not Tested
	Tested 05/02/2021	
	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.



R-(+)-Pulegone

A monoterpenoid ketone with a fragrance that can be described as sweet, fresh, herbal and minty with hints of metal and sulfur. It is also a natural insecticide. In 2018, the FDA banned it for use as a synthetic flavoring for food. Found in pennyroyal, peppermint, catnip, black currant, palo santo, creeping charlie...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 UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Limonene	0.005 / 0.016	±0.0096	0.674	0.0674
R-(+)-Pulegone	0.003 / 0.011	±0.0011	0.027	0.0027
Myrcene	0.008 / 0.025	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
α Bisabolol	0.008 / 0.026	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
Linalool	0.009 / 0.032	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
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
TOTAL TERPENOIDS			0.701 mg/g	0.0701%









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Pesticide Analysis

CATEGORY 1 AND 2 PESTICIDES

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

CATEGORY 1 PESTICIDE TEST RESULTS - 05/05/2021 PASS

	COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Ī	Aldicarb	0.03 / 0.08	≥LOD	N/A	ND	PASS
	Carbofuran	0.02 / 0.05	≥LOD	N/A	ND	PASS
	Chlordane*	0.03 / 0.08	≥LOD	N/A	ND	PASS
Ī	Chlorfenapyr*	0.03 / 0.10	≥LOD	N/A	ND	PASS
Ī	Chlorpyrifos	0.02 / 0.06	≥LOD	N/A	ND	PASS
	Coumaphos	0.02 / 0.07	≥LOD	N/A	ND	PASS
	Daminozide	0.02 / 0.07	≥LOD	N/A	ND	PASS
Ī	DDVP (Dichlorvos)	0.03 / 0.09	≥LOD	N/A	ND	PASS
	Dimethoate	0.03 / 0.08	≥LOD	N/A	ND	PASS
Ī	Ethoprop(hos)	0.03 / 0.10	≥LOD	N/A	ND	PASS
	Etofenprox	0.02 / 0.06	≥LOD	N/A	ND	PASS
	Fenoxycarb	0.03 / 0.08	≥LOD	N/A	ND	PASS
Ī	Fipronil	0.03 / 0.08	≥LOD	N/A	ND	PASS
Ī	Imazalil	0.02 / 0.06	≥LOD	N/A	ND	PASS
	Methiocarb	0.02 / 0.07	≥LOD	N/A	ND	PASS
Ī	Methyl parathion	0.03 / 0.10	≥LOD	N/A	ND	PASS
Ī	Mevinphos	0.03 / 0.09	≥LOD	N/A	ND	PASS
	Paclobutrazol	0.02 / 0.05	≥LOD	N/A	ND	PASS
	Propoxur	0.03 / 0.09	≥LOD	N/A	ND	PASS
4	Spiroxamine	0.03 / 0.08	≥LOD	N/A	ND	PASS
	Thiacloprid	0.03 / 0.10	≥LOD	N/A	ND	PASS
-						

CATEGORY 2 PESTICIDE TEST RESULTS - 05/05/2021 PASS

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
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
Chlorantraniliprole	0.04 / 0.12	40	N/A	ND	PASS
Clofentezine	0.03/0.09	0.5	N/A	ND	PASS
Cyfluthrin	0.12 / 0.38	1	N/A	ND	PASS
Cypermethrin	0.11/0.32	1	N/A	ND	PASS
Diazinon	0.02 / 0.05	0.2	N/A	ND	PASS
Dimethomorph	0.03 / 0.09	20	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
Fenpyroximate	0.02 / 0.06	2	N/A	ND	PASS



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Pesticide Analysis Continued

CATEGORY 1 AND 2 PESTICIDES

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

CATEGORY 2 PESTICIDE TEST RESULTS - 05/05/2021 continued PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
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
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
Methomyl	0.03 / 0.10	0.1	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
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
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
Spirotetramat	0.02 / 0.06	13	N/A	ND	PASS
Tebuconazole	0.02 / 0.07	2	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).

 $\textbf{Method:} \ \mathsf{QSP} \ \mathsf{1212} \text{-} \ \mathsf{Analysis} \ \mathsf{of} \ \mathsf{Pesticides} \ \mathsf{and} \ \mathsf{Mycotoxins} \ \mathsf{by} \\ \mathsf{LC\text{-}MS}$

MYCOTOXIN TEST RESULTS - 05/05/2021 PASS

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





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Residual Solvents Analysis

CATEGORY 1 AND 2 RESIDUAL SOLVENTS

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

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

CATEGORY 1 RESIDUAL SOLVENTS TEST RESULTS - 05/05/2021 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (μg/g)	RESULT
1,2-Dichloroethane	0.05 / 0.1	1	N/A	ND	PASS
Benzene	0.03 / 0.09	1	N/A	ND	PASS
Chloroform	0.1 / 0.2	1	N/A	ND	PASS
Ethylene Oxide	0.3 / 0.8	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

CATEGORY 2 RESIDUAL SOLVENTS TEST RESULTS - 05/05/2021 PASS

	Acetone	20/50	5000	N/A	ND	PASS
	Acetonitrile	2/7	410	N/A	ND	PASS
	Butane	10/50	5000	N/A	ND	PASS
	Ethanol	20/50	5000	N/A	ND	PASS
	Ethyl acetate	20/60	5000	N/A	ND	PASS
	Ethyl ether	20/50	5000	N/A	ND	PASS
	Heptane	20/60	5000	N/A	ND	PASS
	Hexane	2/5	290	N/A	ND	PASS
	Isopropyl Alcohol	10 / 40	5000	N/A	ND	PASS
	Methanol	50/200	3000	N/A	ND	PASS
	Pentane	20/50	5000	N/A	ND	PASS
	Propane	10/20	5000	N/A	ND	PASS
Ī	Toluene	7/21	890	N/A	ND	PASS
	Total Xylenes	50 / 160	2170	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 - 05/03/2021 **⊘ PASS**

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Cadmium	0.02 / 0.05	0.5	N/A	ND	PASS
Lead	0.04 / 0.1	0.5	N/A	ND	PASS
Arsenic	0.02 / 0.1	1.5	N/A	ND	PASS
Mercury	0.002 / 0.01	3	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 $3M^{\text{TM}}$ Petrifilm and plate counts of microbiological contaminants.

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

MICROBIOLOGY TEST RESULTS (PCR) - 05/07/2021 PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing Escherichia coli	Detect	ND	PASS
Salmonella spp.	Detect	ND	PASS
Listeria monocytogenes		ND	

MICROBIOLOGY TEST RESULTS (PLATING) - 05/07/2021 ND

COMPOUND		RESULT (cfu/g)
Total Aerobic Bacteria		ND
Total Yeast and Mold		ND

