

## **CERTIFICATE OF ANALYSIS**

**DATE ISSUED 04/08/2022** 

#### SAMPLE NAME: cbdMD 1000mg PM Softgel 60ct

Infused, Hemp Infused

**CULTIVATOR / MANUFACTURER** 

**Business Name:** License Number:

Address:

SAMPLE DETAIL

Batch Number: 20831C8 Sample ID: 220404N049

**DISTRIBUTOR / TESTED FOR** 

Business Name: cbdMD License Number:

Address:

Date Collected: 04/04/2022 Date Received: 04/04/2022

Batch Size:

Sample Size: 1.0 units

Unit Mass: 35.382 grams per Unit Serving Size: 0.5897 grams per Serving







Scan QR code to verify authenticity of results.

#### **CANNABINOID ANALYSIS - SUMMARY**

**Total THC: Not Detected** 

Total CBD: 1186.111 mg/unit

Total Cannabinoids: 1281.501 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 =  $\Delta^9$ -THC + (THCa (0.877)) Total CBD = CBD + (CBDa (0.877))

Sum of Cannabinoids =  $\Delta^9$ -THC + THCa + CBD + CBDa + CBG + CBGa + Sum of Cannabinoids: 1281.501 mg/unit THCV + THCVa + CBC + CBCa + CBDV + CBDVa +  $\Delta^8$ -THC + CBL + CBN Total Cannabinoids =  $(\Delta^9$ -THC+0.877\*THCa) + (CBD+0.877\*CBDa) + (CBG+0.877\*CBGa) + (THCV+0.877\*THCVa) + (CBC+0.877\*CBCa) +

 $(CBDV+0.877*CBDVa) + \Delta^{8}-THC + CBL + CBN$ 

## **TERPENOID ANALYSIS - SUMMARY**

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.1022%

Limonene 1.022 mg/g

#### **SAFETY ANALYSIS - SUMMARY**

Pesticides: PASS

Heavy Metals: PASS

Mycotoxins: PASS

Microbiology (PCR): PASS

Residual Solvents: PASS

Microbiology (Plating): PASS

Foreign Material: PASS

For quality assurance purposes. Not a Regulatory 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

Sample Certification: Action Limits used in this report are a compilation of guidance from state regulatory agencies in all states except Alaska. Action limits for required tests are the lower of any conflicting state regulations.

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 (LOO), not detected (ND), not tested (NT). too numerous to count >250 cfu/plate (TNTC), colony-forming unit (cfu)

LQC verified by: Michael Pham Date: 04/08/2022

Approved by: Josh Wurzer, President te: 04/08/2022



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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 ( $\Delta^9$ -THC+0.877\*THCa)

**TOTAL CBD: 1186.111 mg/unit** 

Total CBD (CBD+0.877\*CBDa)

TOTAL CANNABINOIDS: 1281.501 mg/unit

 $\begin{array}{l} Total\ Cannabinoids\ (Total\ THC)+(Total\ CBD)+(Total\ CBG)+(Total\ THCV)+(Total\ CBC)+(Total\ CBDV)+\Delta^8-THC+CBL+CBN \end{array}$ 

TOTAL CBG: 64.006 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: 1.451 mg/unit
Total CBDV (CBDV+0.877\*CBDVa)

#### **CANNABINOID TEST RESULTS - 04/07/2022**

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
CBD	0.004 / 0.011	±1.2504	33.523	3.3523
CBG	0.002 / 0.006	±0.0877	1.809	0.1809
CBN	0.001 / 0.007	±0.0243	0.846	0.0846
CBDV	0.002/0.012	±0.0017	0.041	0.0041
Δ <sup>9</sup> -THC	0.002/0.014	N/A	ND	ND
$\Delta^8$ -THC	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
THCVa	0.002/0.019	N/A	ND	ND
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 CANNAE	BINOIDS		36.219 mg/g	3.6219%

#### Unit Mass: 35.382 grams per Unit / Serving Size: 0.5897 grams per Serving

$\Delta^9$ -THC per Unit	TM	ND
Δ <sup>9</sup> -THC per Serving		ND
Total THC per Unit		ND
Total THC per Serving		ND
CBD per Unit		1186.111 mg/unit
CBD per Serving		19.769 mg/serving
Total CBD per Unit		1186.111 mg/unit
Total CBD per Serving		19.769 mg/serving
Sum of Cannabinoids per Unit		1281.501 mg/unit
Sum of Cannabinoids per Serving		21.358 mg/serving
Total Cannabinoids per Unit		1281.501 mg/unit
Total Cannabinoids per Serving		21.359 mg/serving



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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.

#### TERPENOID TEST RESULTS - 04/06/2022

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Limonene	0.005 / 0.016	±0.0113	1.022	0.1022
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
Myrcene	0.008 / 0.025	N/A	ND	ND
α-Phellandrene	0.006 / 0.020	N/A	ND	ND
$\Delta^3$ -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
β-Ocimene	0.006 / 0.020	N/A	ND	ND
γ-Terpinene	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	0.009 / 0.031	N/A	ND	ND
Nerol	0.003 / 0.011	N/A	ND	ND
Citronellol	0.003 / 0.010	N/A	ND	ND
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	0.0037 0.010	N/A	ND ND	ND
trans-β-Farnesene	0.008 / 0.025	N/A	ND	ND
α-Humulene	0.009 / 0.029	N/A	ND	ND
Valencene	0.007/0.027	N/A	ND ND	ND
Nerolidol	0.004 / 0.019	N/A	ND ND	ND ND
Caryophyllene Oxide	0.010 / 0.033	N/A	ND ND	ND ND
Guaiol Caryophyllene Oxide	0.009 / 0.030	N/A	ND ND	ND ND
Cedrol	0.009 / 0.030	N/A N/A	ND ND	ND ND
	0.008 / 0.027	N/A		ND ND
α-Bisabolol	0.006 / 0.026	IV/A	ND	
TOTAL TERPENOIDS			1.022 mg/g	0.1022%



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## **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

Exclusions<sup>1</sup> see last page

Exclusions<sup>2</sup> see last page

## PESTICIDE TEST RESULTS - 04/06/2022 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT UNCERTAINTY (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
Diazinon	0.02 / 0.05	0.2	N/A	ND	PASS
Dichlorvos (DDVP)	0.03 / 0.09	≥LOD	N/A	ND	PASS
Dimethoate	0.03 / 0.08	≥LOD	N/A	ND	PASS
Dimethomorph	0.03 / 0.09	20	N/A	ND	PASS
Ethoprophos	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

Continued on next page



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## Pesticide Analysis Continued

## PESTICIDE TEST RESULTS - 04/06/2022 continued **⊘** PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (μg/g)	RESULT
Methomyl	0.03 / 0.10	0.1	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
Parathion-methyl	0.03 / 0.10	≥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
Piperonyl Butoxide	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
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 LC-MS

Exclusions<sup>3</sup> see last page

#### MYCOTOXIN TEST RESULTS - 04/06/2022 **⊘** 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	
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**

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

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

Exclusions<sup>4</sup> see last page

### RESIDUAL SOLVENTS TEST RESULTS - 04/07/2022 **⊘** PASS

	COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (μg/g)	RESULT
Ī	Propane	10/20	5000	N/A	ND	PASS
	n-Butane	10/50	5000	N/A	ND	PASS
	n-Pentane	20/50	5000	N/A	ND	PASS
Ī	n-Hexane	2/5	290	N/A	ND	PASS
Ī	n-Heptane	20/60	5000	N/A	ND	PASS
	Benzene	0.03 / 0.09	1	N/A	ND	PASS
Ī	Toluene	7/21	890	N/A	ND	PASS
Ī	Total Xylenes	50 / 160	2170	N/A	ND	PASS
	Methanol	50/200	3000	N/A	ND	PASS
Ī	Ethanol	20/50	5000	N/A	ND	PASS
	2-Propanol (Isopropyl Alcohol)	10/40	5000	N/A	ND	PASS
Ī	Acetone	20/50	5000	N/A	ND	PASS
Ī	Ethyl Ether	20/50	5000	N/A	ND	PASS
	Ethylene Oxide	0.3 / 0.8	1	N/A	ND	PASS
Ī	Ethyl Acetate	20/60	5000	N/A	ND	PASS
Ī	Chloroform	0.1 / 0.2	1	N/A	ND	PASS
	Dichloromethane (Methylene Chloride)	0.3/0.9	1	N/A	ND	PASS
	Trichloroethylene	0.1 / 0.3	1	N/A	ND	PASS
4	1,2-Dichloroethane	0.05 / 0.1	1	N/A	ND	PASS
Ī	Acetonitrile	2/7	410	N/A	ND	PASS
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## **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 - 04/05/2022 **⊘** PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (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



## **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

#### MICROBIOLOGY TEST RESULTS (PCR) - 04/08/2022 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	Not Detected in 1g	ND	PASS	



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Microbiology Analysis Continued MICROBIOLOGY TEST RESULTS (PLATING) - 04/08/2022 PASS

Analysis conducted by 3M<sup>™</sup> Petrifilm<sup>™</sup> and plate counts of microbiological contaminants.

Method: QSP 6794 - Plating with 3M<sup>™</sup> Petrifilm<sup>™</sup>

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

# Foreign Material Analysis

Visual analysis includes, but is not limited to, sand, soil, cinders, dirt, mold, hair, insect fragments, and mammalian excreta.

Method: QSP 1226 - Analysis of Foreign Material in Cannabis and Cannabis Products

## FOREIGN MATERIAL TEST RESULTS - 04/05/2022 PASS

COMPOUND	ACTION LIMIT	RESULT
Total Sample Area Covered by Sand, Soil, Cinders, or Dirt	>25%	PASS
Total Sample Area Covered by Mold	>25%	PASS
Total Sample Area Covered by an Imbedded Foreign Material	>25%	PASS
Insect Fragment Count	> 1 per 3 grams	PASS
Hair Count	> 1 per 3 grams	PASS
Mammalian Excreta Count	> 1 per 3 grams	PASS

1. Exclusions: QSP 1213 - Sample Certification: California Code

of Regulation Title 4 Division 19

2. Exclusions: QSP 1212 - Sample Certification: California Code

of Regulation Title 4 Division 19

3. Exclusions: Sample Certification: California Code of

Regulation Title 4 Division 19

4. Exclusions: Sample Certification: California Code of

Regulation Title 4 Division 19