

**SAMPLE NAME: cbdMD Tincture 60 mL Mint 1000mg**

Infused, Hemp Infused

**CULTIVATOR / MANUFACTURER**

**Business Name:**

**License Number:**

**Address:**

**DISTRIBUTOR / TESTED FOR**

**Business Name: cbdMD**

**License Number:**

**Address:**



**SAMPLE DETAIL**

**Batch Number:** 12171R3

**Sample ID:** 210809U006

**Date Collected:** 08/09/2021

**Date Received:** 08/09/2021

**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: 1105.560 mg/unit**

**Sum of Cannabinoids: 1120.380 mg/unit**

**Total Cannabinoids: 1120.380 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 =  $\Delta^9\text{THC} + (\text{THCa} \cdot 0.877)$

Total CBD =  $\text{CBD} + (\text{CBDa} \cdot 0.877)$

Sum of Cannabinoids =  $\Delta^9\text{THC} + \text{THCa} + \text{CBD} + \text{CBDa} + \text{CBG} + \text{CBGa} +$

$\text{THCV} + \text{THCVa} + \text{CBC} + \text{CBCa} + \text{CBDV} + \text{CBDVa} + \Delta^8\text{THC} + \text{CBL} + \text{CBN}$

Total Cannabinoids =  $(\Delta^9\text{THC} + 0.877 \cdot \text{THCa}) + (\text{CBD} + 0.877 \cdot \text{CBDa}) +$

$(\text{CBG} + 0.877 \cdot \text{CBGa}) + (\text{THCV} + 0.877 \cdot \text{THCVa}) + (\text{CBC} + 0.877 \cdot \text{CBCa}) +$

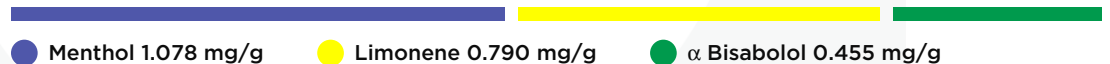
$(\text{CBDV} + 0.877 \cdot \text{CBDVa}) + \Delta^8\text{THC} + \text{CBL} + \text{CBN}$

**Density: 0.948 g/mL**

**TERPENOID ANALYSIS - SUMMARY**

39 TESTED, TOP 3 HIGHLIGHTED

**Total Terpenoids: 0.2323%**



**SAFETY ANALYSIS - SUMMARY**

**Pesticides: ND**

**Mycotoxins: ND**

**Residual Solvents: ND**

**Heavy Metals: ND**

**Microbiology (PCR): ND**

**Microbiology (Plating): ND**

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:** Action Limits used in this report are a compilation of guidance from state regulatory agencies in all states. Action limits for required tests are either state-specific, or the lower of any conflicting state regulations based upon the panel requested.

**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: Kelsey Cochran  
 Date: 08/14/2021  
 Approved by: Josh Wurzer, President  
 Date: 08/14/2021



## Cannabinoid Analysis

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: 1105.560 mg/unit**

Total CBD (CBD+0.877\*CBDA)

**TOTAL CANNABINOIDS: 1120.380 mg/unit**

Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) +  $\Delta 8$ THC + CBL + CBN

**TOTAL CBG: 8.580 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: 1.740 mg/unit**

Total CBDV (CBDV+0.877\*CBDVa)

### CANNABINOID TEST RESULTS - 08/10/2021

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	0.080 / 0.220	$\pm 0.8826$	18.426	1.9437
CBG	0.040 / 0.120	$\pm 0.0089$	0.143	0.0151
CBN	0.020 / 0.140	$\pm 0.0028$	0.075	0.0079
CBDV	0.040 / 0.240	$\pm 0.0015$	0.029	0.0031
$\Delta 9$ THC	0.040 / 0.280	N/A	ND	ND
$\Delta 8$ THC	0.20 / 0.40	N/A	ND	ND
THCa	0.020 / 0.100	N/A	ND	ND
THCV	0.040 / 0.240	N/A	ND	ND
THCVa	0.040 / 0.380	N/A	ND	ND
CBDA	0.020 / 0.520	N/A	ND	ND
CBDVa	0.020 / 0.360	N/A	ND	ND
CBGa	0.040 / 0.140	N/A	ND	ND
CBL	0.060 / 0.200	N/A	ND	ND
CBC	0.060 / 0.200	N/A	ND	ND
CBCa	0.020 / 0.300	N/A	ND	ND
<b>SUM OF CANNABINOIDS</b>			<b>18.673 mg/mL</b>	<b>1.9697%</b>

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

$\Delta 9$ THC per Unit	ND
$\Delta 9$ THC per Serving	ND
Total THC per Unit	ND
Total THC per Serving	ND
CBD per Unit	1105.560 mg/unit
CBD per Serving	18.426 mg/serving
Total CBD per Unit	1105.560 mg/unit
Total CBD per Serving	18.426 mg/serving
Sum of Cannabinoids per Unit	1120.380 mg/unit
Sum of Cannabinoids per Serving	18.673 mg/serving
Total Cannabinoids per Unit	1120.380 mg/unit
Total Cannabinoids per Serving	18.673 mg/serving

### DENSITY TEST RESULT

0.948 g/mL

Tested 08/10/2021

Method: QSP 7870 - Sample Preparation





## Terpenoid Analysis

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

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

### 1 Menthol

A monoterpenoid alcohol with a fragrance that can be described as fresh, cool and herbal. It is responsible for the distinct odor of mint. It is frequently added to cigarettes and mouthwash as a flavorant. Found in mint, sunflower, micromeria, mountain mint, rose geranium, pennyroyal, tarragon, savory, basil, juniper, couch grass, rhubarb, acinos (basil thyme), ironwort, muña...etc.

### 2 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.

### 3 $\alpha$ Bisabolol

A sesquiterpene alcohol with a fragrance that can be described as floral, peppery, sweet and clean. Found in chamomile, figwort, yarrow, skullcaps, lavender, ironwort, germander...etc.

## TERPENOID TEST RESULTS - 08/12/2021

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Menthol	0.008 / 0.025	±0.0431	1.078	0.1078
Limonene	0.005 / 0.016	±0.0113	0.790	0.0790
$\alpha$ Bisabolol	0.008 / 0.026	±0.0243	0.455	0.0455
Myrcene	0.008 / 0.025	N/A	<LOQ	<LOQ
Eucalyptol	0.006 / 0.018	N/A	<LOQ	<LOQ
$\beta$ Caryophyllene	0.004 / 0.012	N/A	<LOQ	<LOQ
$\alpha$ 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
$\beta$ Pinene	0.004 / 0.014	N/A	ND	ND
$\alpha$ Phellandrene	0.006 / 0.020	N/A	ND	ND
3 Carene	0.005 / 0.018	N/A	ND	ND
$\alpha$ Terpinene	0.005 / 0.017	N/A	ND	ND
p-Cymene	0.005 / 0.016	N/A	ND	ND
Ocimene	0.011 / 0.038	N/A	ND	ND
$\gamma$ 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
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
$\alpha$ Cedrene	0.005 / 0.016	N/A	ND	ND
trans- $\beta$ -Farnesene	0.008 / 0.025	N/A	ND	ND
$\alpha$ 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
<b>TOTAL TERPENOIDS</b>			<b>2.323 mg/g</b>	<b>0.2323%</b>



 **Pesticide Analysis**

PESTICIDE TEST RESULTS - 08/11/2021 ND

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

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

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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 - 08/11/2021** *continued ND*

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

 **Mycotoxin Analysis**

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

**Method:** QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS

**MYCOTOXIN TEST RESULTS - 08/11/2021** ND

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





## 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 - 08/12/2021 ND

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



## 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 - 08/11/2021 ND

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



 **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™ Petrifilm™ and plate counts of microbiological contaminants.

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

**MICROBIOLOGY TEST RESULTS (PCR) - 08/14/2021 ND**

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

**MICROBIOLOGY TEST RESULTS (PLATING) - 08/14/2021 ND**

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

