

SAMPLE NAME: cbdMD Tincture 30 mL Mint 1500 mg

Infused, Hemp Infused

CULTIVATOR / MANUFACTURER

Business Name:

License Number:

Address:

DISTRIBUTOR / TESTED FOR

Business Name: cbdMD

License Number:

Address:

SAMPLE DETAIL

Batch Number: 11881R4

Sample ID: 210713R008

Date Collected: 07/13/2021

Date Received: 07/13/2021

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: 1553.270 mg/unit

Sum of Cannabinoids: 1551.900 mg/unit

Total Cannabinoids: 1551.900 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: 0.9502 g/mL

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.1617%



Menthol 0.794 mg/g



Limonene 0.629 mg/g



α Bisabolol 0.194 mg/g

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)

Lucy Murray
LOC verified by: Randi Vuong
Date: 07/16/2021

Josh Wurzer
Approved by: Josh Wurzer, President
Date: 07/16/2021

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 + $0.877 \times \text{THCa}$)

TOTAL CBD: **1533.270 mg/unit**

Total CBD (CBD + $0.877 \times \text{CBDA}$)

TOTAL CANNABINOIDS: **1551.900 mg/unit**

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

TOTAL CBG: **8.910 mg/unit**

Total CBG (CBG + $0.877 \times \text{CBGa}$)

TOTAL THCV: **ND**

Total THCV (THCV + $0.877 \times \text{THCVa}$)

TOTAL CBC: **ND**

Total CBC (CBC + $0.877 \times \text{CBCa}$)

TOTAL CBDV: **6.780 mg/unit**

Total CBDV (CBDV + $0.877 \times \text{CBDVa}$)

CANNABINOID TEST RESULTS - 07/14/2021

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	0.004 / 0.011	± 2.4481	51.109	5.3788
CBG	0.002 / 0.006	± 0.0185	0.297	0.0313
CBDV	0.002 / 0.012	± 0.0118	0.226	0.0238
CBN	0.001 / 0.007	± 0.0036	0.098	0.0103
$\Delta 9$ 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
CBC	0.003 / 0.010	N/A	ND	ND
CBCa	0.001 / 0.015	N/A	ND	ND
SUM OF CANNABINOIDS			51.730 mg/mL	5.4441%

Unit Mass: 30 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	1533.270 mg/unit
CBD per Serving	51.109 mg/serving
Total CBD per Unit	1533.270 mg/unit
Total CBD per Serving	51.109 mg/serving
Sum of Cannabinoids per Unit	1551.900 mg/unit
Sum of Cannabinoids per Serving	51.730 mg/serving
Total Cannabinoids per Unit	1551.900 mg/unit
Total Cannabinoids per Serving	51.730 mg/serving

DENSITY TEST RESULT

0.9502 g/mL

Tested 07/14/2021

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

TERPENOID TEST RESULTS - 07/14/2021

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Menthol	0.008 / 0.025	±0.0318	0.794	0.0794
Limonene	0.005 / 0.016	±0.0090	0.629	0.0629
α Bisabolol	0.008 / 0.026	±0.0104	0.194	0.0194
Myrcene	0.008 / 0.025	N/A	<LOQ	<LOQ
R-(+)-Pulegone	0.003 / 0.011	N/A	<LOQ	<LOQ
β Caryophyllene	0.004 / 0.012	N/A	<LOQ	<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
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
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
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			1.617 mg/g	0.1617%

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 α 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.





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 - 07/16/2021 ND

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 - 07/16/2021 *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 - 07/15/2021 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 - 07/15/2021 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 - 07/14/2021 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

MICROBIOLOGY TEST RESULTS (PCR) - 07/16/2021 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

Analysis conducted by 3M™ Petrifilm™ and plate counts of microbiological contaminants.

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

MICROBIOLOGY TEST RESULTS (PLATING) - 07/16/2021 ND

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

