

SAMPLE NAME: cbdMD Tincture 30 mL Mint 300 mg

Infused, Non-Inhalable

CULTIVATOR / MANUFACTURER

Business Name:

License Number:

Address:

DISTRIBUTOR

Business Name: cbdMD

License Number:

Address:

SAMPLE DETAIL

Batch Number: 02161R1

Sample ID: 200805N023

Date Collected: 08/05/2020

Date Received: 08/05/2020

Batch Size:

Sample Size: 1.0 Unit(s)

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: 305.340 mg/unit

Sum of Cannabinoids: 312.720 mg/unit

Total Cannabinoids: 312.720 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 = $(\Delta 9\text{THC} + 0.877 \cdot \text{THCa}) + (\text{CBD} + 0.877 \cdot \text{CBDA}) +$

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

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

Moisture: NT

Density: 0.9473 g/mL

Viscosity: NT

SAFETY ANALYSIS - SUMMARY

$\Delta 9\text{THC}$ per Unit: ✔ PASS

Foreign Material: NT

Water Activity: NT

Vitamin E Acetate: NT

Pesticides: ✔ PASS

Mycotoxins: ✔ PASS

Residual Solvents: ✔ PASS

Heavy Metals: ✔ PASS

Microbial Impurities (PCR): ✔ PASS

Microbial Impurities (Plating): ND

TERPENOID ANALYSIS - SUMMARY

35 TESTED, TOP 3 HIGHLIGHTED

● **Menthol 0.69 mg/g**

● **Limonene 0.53 mg/g**

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)

Randi Vuong
LOC verified by: Randi Vuong
Date: 08/09/2020

Josh Wurzer
Approved by: Josh Wurzer, President
Date: 08/09/2020



Cannabinoïd 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 ($\Delta 9\text{THC} + 0.877 * \text{THCa}$)

TOTAL CBD: 305.340 mg/unit

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

TOTAL CANNABINOIDS: 312.720 mg/unit

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

TOTAL CBG: 5.130 mg/unit

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

TOTAL THCV: ND

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

TOTAL CBC: ND

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

TOTAL CBDV: 0.300 mg/unit

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

CANNABINOID TEST RESULTS - 08/07/2020

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	0.004 / 0.011	± 0.4875	10.178	1.0744
CBG	0.002 / 0.005	± 0.0106	0.171	0.0181
CBN	0.001 / 0.004	± 0.0024	0.065	0.0069
CBDV	0.002 / 0.007	± 0.0005	0.010	0.0011
$\Delta 9\text{THC}$	0.002 / 0.005	N/A	ND	ND
$\Delta 8\text{THC}$	0.01 / 0.02	N/A	ND	ND
THCa	0.001 / 0.002	N/A	ND	ND
THCV	0.002 / 0.008	N/A	ND	ND
THCVa	0.002 / 0.005	N/A	ND	ND
CBDa	0.001 / 0.003	N/A	ND	ND
CBDVa	0.001 / 0.003	N/A	ND	ND
CBGa	0.002 / 0.006	N/A	ND	ND
CBL	0.003 / 0.008	N/A	ND	ND
CBC	0.003 / 0.010	N/A	ND	ND
CBCa	0.001 / 0.004	N/A	ND	ND
SUM OF CANNABINOIDS			10.424 mg/mL	1.1004%

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

$\Delta 9\text{THC}$ per Unit	1000.0 per-package limit	ND	PASS
$\Delta 9\text{THC}$ per Serving		ND	
Total THC per Unit		ND	
Total THC per Serving		ND	
CBD per Unit		305.340 mg/unit	
CBD per Serving		10.178 mg/serving	
Total CBD per Unit		305.340 mg/unit	
Total CBD per Serving		10.178 mg/serving	
Sum of Cannabinoids per Unit		312.720 mg/unit	
Sum of Cannabinoids per Serving		10.424 mg/serving	
Total Cannabinoids per Unit		312.720 mg/unit	
Total Cannabinoids per Serving		10.424 mg/serving	

MOISTURE TEST RESULT

Not Tested

DENSITY TEST RESULT

0.9473 g/mL

Tested 08/07/2020

Method: QSP - (1152) Sample Preparation

VISCOSITY TEST RESULT

Not Tested



Terpenoid Analysis

TERPENOID TEST RESULTS - 08/08/2020

Terpene analysis utilizing gas chromatography-flame ionization detection (GC-FID). Terpenes are the aromatic compounds that endow cannabis with their unique scent and effect. Following are the primary terpenes detected.

Method: OSP - (1192) Analysis of Terpenoids by GC-FID

1 Menthol

A monoterpene 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.

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Menthol	0.03 / 0.09	±0.042	0.69	0.069
Limonene	0.02 / 0.05	±0.019	0.53	0.053
α Pinene	0.03 / 0.09	N/A	ND	ND
Camphene	0.04 / 0.11	N/A	ND	ND
Sabinene	0.04 / 0.11	N/A	ND	ND
β Pinene	0.04 / 0.11	N/A	ND	ND
Myrcene	0.04 / 0.11	N/A	ND	ND
α Phellandrene	0.05 / 0.1	N/A	ND	ND
3 Carene	0.04 / 0.1	N/A	ND	ND
α Terpinene	0.04 / 0.1	N/A	ND	ND
Eucalyptol	0.03 / 0.08	N/A	ND	ND
Ocimene	0.03 / 0.09	N/A	ND	ND
γ Terpinene	0.04 / 0.1	N/A	ND	ND
Sabinene Hydrate	0.02 / 0.07	N/A	ND	ND
Fenchone	0.04 / 0.12	N/A	ND	ND
Terpinolene	0.03 / 0.09	N/A	ND	ND
Linalool	0.03 / 0.08	N/A	ND	ND
Fenchol	0.03 / 0.09	N/A	ND	ND
(-)-Isopulegol	0.02 / 0.05	N/A	ND	ND
Camphor	0.1 / 0.2	N/A	ND	ND
Isoborneol	0.04 / 0.1	N/A	ND	ND
Borneol	0.1 / 0.2	N/A	ND	ND
Terpineol	0.02 / 0.07	N/A	ND	ND
Nerol	0.03 / 0.09	N/A	ND	ND
R-(+)-Pulegone	0.03 / 0.09	N/A	ND	ND
Geraniol	0.02 / 0.07	N/A	ND	ND
Geranyl Acetate	0.02 / 0.06	N/A	ND	ND
α Cedrene	0.02 / 0.07	N/A	ND	ND
β Caryophyllene	0.02 / 0.07	N/A	ND	ND
α Humulene	0.02 / 0.05	N/A	ND	ND
Valencene	0.01 / 0.03	N/A	ND	ND
Nerolidol	0.3 / 0.8	N/A	ND	ND
Caryophyllene Oxide	0.04 / 0.11	N/A	ND	ND
Guaiol	0.03 / 0.09	N/A	ND	ND
Cedrol	0.04 / 0.11	N/A	ND	ND
α Bisabolol	0.02 / 0.07	N/A	ND	ND
TOTAL TERPENOIDS			1.22 mg/g	0.122%



 **Pesticide Analysis**

CATEGORY 1 PESTICIDE TEST RESULTS - 08/07/2020  **PASS**

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

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Aldicarb	0.03 / 0.09	≥ LOD	N/A	ND	PASS
Carbofuran	0.01 / 0.04	≥ LOD	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
Coumaphos	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Daminozide	0.03 / 0.10	≥ LOD	N/A	ND	PASS
DDVP (Dichlorvos)	0.02 / 0.07	≥ LOD	N/A	ND	PASS
Dimethoate	0.02 / 0.07	≥ LOD	N/A	ND	PASS
Ethoprop(hos)	0.03 / 0.08	≥ LOD	N/A	ND	PASS
Etofenprox	0.02 / 0.05	≥ LOD	N/A	ND	PASS
Fenoxycarb	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Fipronil	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Imazalil	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Methiocarb	0.02 / 0.06	≥ LOD	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
Paclobutrazol	0.02 / 0.05	≥ LOD	N/A	ND	PASS
Propoxur	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Spiroxamine	0.02 / 0.05	≥ LOD	N/A	ND	PASS
Thiacloprid	0.03 / 0.07	≥ LOD	N/A	ND	PASS

CATEGORY 2 PESTICIDE TEST RESULTS - 08/07/2020  **PASS**

Abamectin	0.03 / 0.10	0.3	N/A	ND	PASS
Acephate	0.01 / 0.04	5	N/A	ND	PASS
Acequinocyl	0.02 / 0.05	4	N/A	ND	PASS
Acetamiprid	0.02 / 0.05	5	N/A	ND	PASS
Azoxystrobin	0.01 / 0.04	40	N/A	ND	PASS
Bifenazate	0.01 / 0.02	5	N/A	ND	PASS
Bifenthrin	0.01 / 0.02	0.5	N/A	ND	PASS
Boscalid	0.02 / 0.06	10	N/A	ND	PASS
Captan	0.2 / 0.5	5	N/A	ND	PASS
Carbaryl	0.01 / 0.02	0.5	N/A	ND	PASS
Chlorantraniliprole	0.01 / 0.03	40	N/A	ND	PASS

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Pesticide Analysis *Continued*

CATEGORY 2 PESTICIDE TEST RESULTS - 08/07/2020 *continued* ✔ PASS

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

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Clofentezine	0.02 / 0.06	0.5	N/A	ND	PASS
Cyfluthrin	0.1 / 0.4	1	N/A	ND	PASS
Cypermethrin	0.1 / 0.3	1	N/A	ND	PASS
Diazinon	0.01 / 0.04	0.2	N/A	ND	PASS
Dimethomorph	0.01 / 0.03	20	N/A	ND	PASS
Etoazole	0.010 / 0.028	1.5	N/A	ND	PASS
Fenhexamid	0.02 / 0.1	10	N/A	ND	PASS
Fenpyroximate	0.03 / 0.08	2	N/A	ND	PASS
Flonicamid	0.01 / 0.04	2	N/A	ND	PASS
Fludioxonil	0.03 / 0.08	30	N/A	ND	PASS
Hexythiazox	0.01 / 0.04	2	N/A	ND	PASS
Imidacloprid	0.01 / 0.04	3	N/A	ND	PASS
Kresoxim-methyl	0.02 / 0.07	1	N/A	ND	PASS
Malathion	0.02 / 0.05	5	N/A	ND	PASS
Metalaxyl	0.02 / 0.06	15	N/A	ND	PASS
Methomyl	0.03 / 0.1	0.1	N/A	ND	PASS
Myclobutanil	0.03 / 0.1	9	N/A	ND	PASS
Naled	0.03 / 0.1	0.5	N/A	ND	PASS
Oxamyl	0.02 / 0.06	0.2	N/A	ND	PASS
Pentachloronitrobenzene*	0.03 / 0.09	0.2	N/A	ND	PASS
Permethrin	0.03 / 0.09	20	N/A	ND	PASS
Phosmet	0.03 / 0.10	0.2	N/A	ND	PASS
Piperonylbutoxide	0.003 / 0.009	8	N/A	ND	PASS
Prallethrin	0.03 / 0.08	0.4	N/A	ND	PASS
Propiconazole	0.01 / 0.03	20	N/A	ND	PASS
Pyrethrins	0.03 / 0.08	1	N/A	ND	PASS
Pyridaben	0.006 / 0.019	3	N/A	ND	PASS
Spinetoram	0.02 / 0.07	3	N/A	ND	PASS
Spinosad	0.02 / 0.06	3	N/A	ND	PASS
Spiromesifen	0.02 / 0.05	12	N/A	ND	PASS
Spirotetramat	0.01 / 0.02	13	N/A	ND	PASS
Tebuconazole	0.02 / 0.07	2	N/A	ND	PASS
Thiamethoxam	0.03 / 0.08	4.5	N/A	ND	PASS
Trifloxystrobin	0.01 / 0.03	30	N/A	ND	PASS





Mycotoxin Analysis

MYCOTOXIN TEST RESULTS - 08/07/2020 ✔ PASS

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

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

COMPOUND	LOD/LOQ (µg/kg)	ACTION LIMIT (µg/kg)	MEASUREMENT UNCERTAINTY (µg/kg)	RESULT (µg/kg)	RESULT
Aflatoxin B1	2.0 / 6.0	20	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	20	N/A	ND	PASS



Residual Solvents Analysis

CATEGORY 1 RESIDUAL SOLVENTS TEST RESULTS - 08/07/2020 ✔ PASS

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

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	0.1 / 0.4	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 - 08/07/2020 ✔ 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	<LOQ	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
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 - 08/07/2020 ✔ 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

Microbial Impurities Analysis

PCR AND PLATING

Analysis conducted by polymerase chain reaction (PCR) and fluorescence detection of microbial impurities.

Method: QSP - (1221) Analysis of Microbial Impurities

MICROBIAL IMPURITIES TEST RESULTS (PCR) - 08/09/2020 ✔ PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing <i>Escherichia coli</i>	Detect	ND	PASS
<i>Salmonella</i> spp.	Detect	ND	PASS
<i>Aspergillus fumigatus</i>		NT	
<i>Aspergillus flavus</i>		NT	
<i>Aspergillus niger</i>		NT	
<i>Aspergillus terreus</i>		NT	

Analysis conducted by 3M™ Petrifilm™ and plate counts of microbial impurities.

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

MICROBIAL IMPURITIES TEST RESULTS (PLATING) - 08/09/2020 ND

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

