Hemp Quality Assurance Testing

CERTIFICATE OF ANALYSIS

DATE ISSUED 09/22/2021

SAMPLE NAME: cbdMD Full Spectrum Tincture 30 mL Chocolate 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: 12601D5
Sample ID: 210918R005

Date Collected: 09/18/2021
Date Received: 09/18/2021
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: 39.810 mg/unit

Total CBD: 1616.310 mg/unit

Sum of Cannabinoids: 1744.980 mg/unit

Total Cannabinoids: 1744.980 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 = Δ9THC + (THCa (0.877))
Total CBD = CBD + (CBDa (0.877))
Sum of Cannabinoids = Δ9THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa + Δ8THC + 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

Density: 0.9518 g/mL

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.212%

Menthol 0.962 mg/g | α Bisabolol 0.293 mg/g | β Caryophyllene 0.168 mg/g

SAFETY ANALYSIS - SUMMARY

Pesticides: PASS
Mycotoxins: PASS
Residual Solvents: PASS
Heavy Metals: PASS
Microbiology (PCR): PASS
Microbiology (Plating): PASS

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: Michael Pham
Date: 09/22/2021

Approved by: Josh Wurzer, President
Date: 09/22/2021

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: 39.810 mg/unit
Total THC (Δ9THC+0.877*THCa)

TOTAL CBD: 1616.310 mg/unit
Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 1744.980 mg/unit
Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) + Δ8THC + CBL + CBN

TOTAL CBG: 21.300 mg/unit
Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND
Total THCV (THCV+0.877*THCVa)

TOTAL CBC: 51.000 mg/unit
Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 7.440 mg/unit
Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 09/19/2021

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	*0.004 / 0.011*	*±2.5807*	53.877	5.6605
CBC	*0.003 / 0.010*	*±0.0704*	1.700	0.1786
Δ9THC	*0.002 / 0.014*	*±0.0936*	1.327	0.1394
CBG	*0.002 / 0.006*	*±0.0442*	0.710	0.0746
CBDV	*0.002 / 0.012*	*±0.0130*	0.248	0.0261
CBN	*0.001 / 0.007*	*±0.0080*	0.216	0.0227
CBL	*0.003 / 0.010*	*±0.0042*	0.088	0.0092
THCa	*0.001 / 0.005*	*N/A*	ND	ND
Δ8THC	*0.01 / 0.02*	*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
CBCa	*0.001 / 0.015*	*N/A*	ND	ND
SUM OF CANNABINOIDS			58.166 mg/mL	6.1112%

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

Δ9THC per Unit	39.810 mg/unit
Δ9THC per Serving	1.327 mg/serving
Total THC per Unit	39.810 mg/unit
Total THC per Serving	1.327 mg/serving
CBD per Unit	1616.310 mg/unit
CBD per Serving	53.877 mg/serving
Total CBD per Unit	1616.310 mg/unit
Total CBD per Serving	53.877 mg/serving
Sum of Cannabinoids per Unit	1744.980 mg/unit
Sum of Cannabinoids per Serving	58.166 mg/serving
Total Cannabinoids per Unit	1744.980 mg/unit
Total Cannabinoids per Serving	58.166 mg/serving

DENSITY TEST RESULT

0.9518 g/mL

Tested 09/19/2021

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 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.

3 β Caryophyllene
A sesquiterpene with a fragrance that can be described as spicy, woody, dry, dusty and mildly sweet. It was one of the first organic compounds to fully synthesized in a laboratory and plays a role in the endocannabinoid system as it is a functional CB_2 receptor agonist. Found in black pepper, clove, hops, rosemary, black-jack, perilla, spicebush, Indian pennywort, celery, frankincense, vitex, parsley, marigold, tamarind...etc.

TERPENOID TEST RESULTS - 09/19/2021

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Menthol	*0.008 / 0.025*	*±0.0385*	0.962	0.0962
α Bisabolol	*0.008 / 0.026*	*±0.0156*	0.293	0.0293
β Caryophyllene	*0.004 / 0.012*	*±0.0060*	0.168	0.0168
Eucalyptol	*0.006 / 0.018*	*±0.0037*	0.145	0.0145
Guaiol	*0.009 / 0.030*	*±0.0067*	0.141	0.0141
Borneol	*0.005 / 0.016*	*±0.0038*	0.090	0.0090
Caryophyllene Oxide	*0.010 / 0.033*	*±0.0037*	0.080	0.0080
Limonene	*0.005 / 0.016*	*±0.0008*	0.059	0.0059
α Humulene	*0.009 / 0.029*	*±0.0017*	0.054	0.0054
R-(+)-Pulegone	*0.003 / 0.011*	*±0.0020*	0.049	0.0049
β Pinene	*0.004 / 0.014*	*±0.0003*	0.030	0.0030
Nerolidol	*0.009 / 0.028*	*±0.0018*	0.028	0.0028
α Pinene	*0.005 / 0.017*	*±0.0002*	0.021	0.0021
Sabinene	*0.004 / 0.014*	*N/A*	<LOQ	<LOQ
γ Terpinene	*0.006 / 0.018*	*N/A*	<LOQ	<LOQ
Sabinene Hydrate	*0.006 / 0.022*	*N/A*	<LOQ	<LOQ
Terpineol	*0.016 / 0.055*	*N/A*	<LOQ	<LOQ
trans-β-Farnesene	*0.008 / 0.025*	*N/A*	<LOQ	<LOQ
Camphene	*0.005 / 0.015*	*N/A*	ND	ND
Myrcene	*0.008 / 0.025*	*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
Ocimene	*0.011 / 0.038*	*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
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
Valencene	*0.009 / 0.030*	*N/A*	ND	ND
Cedrol	*0.008 / 0.027*	*N/A*	ND	ND
TOTAL TERPENOIDS			2.120 mg/g	0.212%