Hemp Quality Assurance Testing

CERTIFICATE OF ANALYSIS

DATE ISSUED 11/11/2020

SAMPLE NAME: cbdMD Soothing Lotion 4 oz 500 mg

Infused, Non-Inhalable

CULTIVATOR / MANUFACTURER

Business Name:
License Number:
Address:

DISTRIBUTOR

Business Name: cbdMD
License Number:
Address:

SAMPLE DETAIL

Batch Number: 10242020
Sample ID: 201108M004

Date Collected: 11/08/2020
Date Received: 11/08/2020
Batch Size:
Sample Size: 1.0 units
Unit Mass: 120 grams per Unit
Serving Size:

Scan QR code to verify authenticity of results.

CANNABINOID ANALYSIS - SUMMARY

Total THC: Not Detected

Total CBD: 599.040 mg/unit

Sum of Cannabinoids: 627.600 mg/unit

Total Cannabinoids: 627.600 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

Moisture: NT

Density: NT

Viscosity: NT

SAFETY ANALYSIS - SUMMARY

Δ9THC per Unit: PASS

Foreign Material: NT

Water Activity: NT

Vitamin E Acetate: NT

Pesticides: PASS

Mycotoxins: PASS

Residual Solvents: NT

Heavy Metals: PASS

Microbial Impurities (PCR): PASS

Microbial Impurities (Plating): DETECTED

TERPENOID ANALYSIS - SUMMARY

36 TESTED, TOP 3 HIGHLIGHTED

- Menthol 0.73 mg/g
- Linalool 0.59 mg/g
- γ Terpinene 0.3 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)

LQC Verified by: Marina DeFerrari
Date: 11/11/2020

Approved by: Josh Wurzer, President
Date: 11/11/2020

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 (Δ9THC+0.877*THCa)

TOTAL CBD: 599.040 mg/unit
Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 627.600 mg/unit
Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) + Δ8THC + CBL + CBN

TOTAL CBG: 19.200 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: 1.800 mg/unit
Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 11/09/2020

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
CBD	*0.004 / 0.011*	*±0.2391*	4.992	0.4992
CBG	*0.002 / 0.005*	*±0.0100*	0.160	0.0160
CBN	*0.001 / 0.004*	*±0.0023*	0.063	0.0063
CBDV	*0.002 / 0.007*	*±0.0008*	0.015	0.0015
Δ9THC	*0.002 / 0.005*	*N/A*	ND	ND
Δ8THC	*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			5.230 mg/g	0.523%

Unit Mass: 120 grams per Unit

Δ9THC per Unit	*1100 per-package limit*	ND	PASS
Total THC per Unit		ND	
CBD per Unit		599.040 mg/unit	
Total CBD per Unit		599.040 mg/unit	
Sum of Cannabinoids per Unit		627.600 mg/unit	
Total Cannabinoids per Unit		627.600 mg/unit	

MOISTURE TEST RESULT	DENSITY TEST RESULT	VISCOSITY TEST RESULT
Not Tested	Not Tested	Not Tested

Terpenoid Analysis

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: 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 Linalool
A monoterpenoid alcohol with a fragrance that can be described as spicy, waxy, citrus and floral. It is commonly used as an insecticide against cockroaches, flies, fleas and other insects. Found in bail, lavender, cinnamon, hops, mugwort, goldenrods...etc.

3 γ Terpinene
One of four isomers of the monoterpene Terpinene. It has a fragrance that can be described as sweet, spicy, tropical, woody and oily with a hint of citrus. Found in marjoram, cardamom, tea tree, bible hyssop...etc.

TERPENOID TEST RESULTS - 11/10/2020

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Menthol	*0.03 / 0.09*	*±0.045*	**0.73**	**0.073**
Linalool	*0.03 / 0.08*	*±0.031*	**0.59**	**0.059**
γ Terpinene	*0.04 / 0.1*	*±0.02*	**0.3**	**0.03**
Eucalyptol	*0.03 / 0.08*	*±0.006*	**0.11**	**0.011**
α Terpinene	*0.04 / 0.1*	*±0.01*	**0.1**	**0.01**
Ocimene	*0.03 / 0.09*	*±0.012*	**0.10**	**0.010**
Terpineol	*0.02 / 0.07*	*±0.009*	**0.08**	**0.008**
α Pinene	*0.03 / 0.09*	*N/A*	**<LOQ**	**<LOQ**
Limonene	*0.02 / 0.05*	*N/A*	**<LOQ**	**<LOQ**
Terpinolene	*0.03 / 0.09*	*N/A*	**<LOQ**	**<LOQ**
(-)-Isopulegol	*0.02 / 0.05*	*N/A*	**<LOQ**	**<LOQ**
Borneol	*0.1 / 0.2*	*N/A*	**<LOQ**	**<LOQ**
β Caryophyllene	*0.02 / 0.07*	*N/A*	**<LOQ**	**<LOQ**
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**
Sabinene Hydrate	*0.02 / 0.07*	*N/A*	**ND**	**ND**
Fenchone	*0.04 / 0.12*	*N/A*	**ND**	**ND**
Fenchol	*0.03 / 0.09*	*N/A*	**ND**	**ND**
Camphor	*0.1 / 0.2*	*N/A*	**ND**	**ND**
Isoborneol	*0.04 / 0.1*	*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**
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			**2.01 mg/g**	**0.201%**

Pesticide Analysis

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

CATEGORY 1 PESTICIDE TEST RESULTS - 11/09/2020 PASS

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 - 11/09/2020 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

Continued on next page

Pesticide Analysis *Continued*

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

CATEGORY 2 PESTICIDE TEST RESULTS - 11/09/2020 *continued* PASS

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

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

MYCOTOXIN TEST RESULTS - 11/09/2020 PASS

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

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 - 11/10/2020 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) - 11/11/2020 PASS

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

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

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

MICROBIAL IMPURITIES TEST RESULTS (PLATING) - 11/11/2020 **DETECTED**

COMPOUND	RESULT (cfu/g)
Aerobic Plate Count	100
Total Yeast and Mold	ND