

Hemp Quality Assurance Testing

CERTIFICATE OF ANALYSIS

DATE ISSUED 04/16/2021

SAMPLE NAME: cbdMD 30 count 1000 mg Capsules

Infused, Non-Inhalable

CULTIVATOR / MANUFACTURER

Business Name: License Number:

Address:

SAMPLE DETAIL

Batch Number: 10971A2 Sample ID: 210409R024 **DISTRIBUTOR / TESTED FOR**

Business Name: cbdMD License Number:

Address:

Date Collected: 04/09/2021 **Date Received:** 04/09/2021

Batch Size: Sample Size:

Unit Mass: 0.7171 grams per Unit

Serving Size:





Scan QR code to verify authenticity of results.

CANNABINOID ANALYSIS - SUMMARY

Total THC: Not Detected

Total CBD: 33.689 mg/unit

Sum of Cannabinoids: 34.063 mg/unit

Total Cannabinoids: 34.064 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 = Δ 9THC + (THCa (0.877))

Total THC = Δ 9THC + (THCa (0.877)) Total CBD = CBD + (CBDa (0.877))

Sum of Cannabinoids = Δ 9THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa + Δ 8THC + CBL + CBN

Total Cannabinoids = $(\Delta 9THC+0.877*THCa) + (CBD+0.877*CBDa) + (CBG+0.877*CBGa) + (THCV+0.877*THCVa) + (CBC+0.877*CBCa) + (CBC$

(CBDV+0.877*CBDVa) + Δ8THC + CBL + CBN

Moisture: NT

Density: NT

Viscosity: NT

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.0639%

Limonene 0.478 mg/g

lacktriangle trans-eta-Farnesene 0.093 mg/g

α Cedrene 0.068 mg/g

SAFETY ANALYSIS - SUMMARY

∆9THC per Unit: **⊘PASS**

Pesticides: PASS

Heavy Metals: PASS

Foreign Material: NT

Mycotoxins: PASS

Microbial Impurities (PCR): PASS

Water Activity: NT

Residual Solvents: PASS

Microbial Impurities (Plating): NT

Vitamin E: NT

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)

LQC verified by: Josh Antunovich Date: 04/16/2021

Approved by: Josh Wurzer, President
Date: 04/16/2021



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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: 33.689 mg/unit

Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 34.064 mg/unit

Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) + Δ 8THC + CBL + CBN

TOTAL CBG: 0.232 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: 0.052 mg/unit

Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 04/12/2021

	COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Ī	CBD	0.004 / 0.011	±2.2503	46.979	4.6979
	CBG	0.002 / 0.006	±0.0201	0.323	0.0323
	CBN	0.001 / 0.007	±0.0047	0.127	0.0127
	CBDV	0.002/0.012	±0.0038	0.072	0.0072
	Δ9ΤΗC	0.002/0.014	N/A	ND	ND
	THCa	0.001 / 0.005	N/A	ND	ND
	Δ8ΤΗC	0.01 / 0.02	N/A	ND	ND
Ī	THCV	0.002/0.012	N/A	ND	ND
	THCVa	0.002/0.019	N/A	ND	ND
Ī	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
Ī	CBL	0.003 / 0.010	N/A	ND	ND
	СВС	0.003 / 0.010	N/A	ND	ND
	CBCa	0.001 / 0.015	N/A	ND	ND
	SUM OF CANNAB	INOIDS	47.501 mg/g	4.7501%	

Unit Mass: 0.7171 grams per Unit

Δ9THC per Unit	1120 per-package limit	ND	PASS
Total THC per Unit		ND	
CBD per Unit		33.689 mg/unit	
Total CBD per Unit		33.689 mg/unit	
Sum of Cannabinoids per Unit		34.063 mg/unit	
Total Cannabinoids per Unit		34.064 mg/unit	

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





CERTIFICATE OF ANALYSIS







Terpenoid Analysis

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

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



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.



trans-β-Farnesene



α Cedrene

One of two isomers of the sesquiterpene Cedrene. It has a fragrance that can be described as woody, sweet and fresh. Found in cedar, safflower, germander...etc.

TERPENOID TEST RESULTS - 04/14/2021

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Limonene	0.005 / 0.016	±0.0068	0.478	0.0478
trans-β-Farnesene	0.008 / 0.025	±0.0033	0.093	0.0093
α Cedrene	0.005/0.016	±0.0020	0.068	0.0068
α Pinene	0.005/0.017	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
Sabinene	0.004/0.014	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
Myrcene	0.008 / 0.025	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
γTerpinene	0.006/0.018	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
Borneol	0.005/0.016	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
Valencene	0.009/0.030	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
Caryophyllene Oxide	0.010/0.033	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
Camphene	0.005/0.015	N/A	ND	ND
βPinene	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
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
Menthol	0.008 / 0.025	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
β Caryophyllene	0.004 / 0.012	N/A	ND	ND
α Humulene	0.009/0.029	N/A	ND	ND
Nerolidol	0.009 / 0.028	N/A	ND	ND
Guaiol	0.009/0.030	N/A	ND	ND
Cedrol	0.008 / 0.027	N/A	ND	ND
α Bisabolol	0.008 / 0.026	N/A	ND	ND
TOTAL TERPENOIDS			0.639 mg/g	0.0639%









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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 - 04/14/2021 PASS

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

CATEGORY 2 PESTICIDE TEST RESULTS - 04/14/2021 PASS

Abamectin	0.03 / 0.10	0.3	N/A	ND	PASS
Acephate	0.02 / 0.07	5	N/A	ND	PASS
Acequinocyl	0.02 / 0.07	4	N/A	ND	PASS
Acetamiprid	0.02 / 0.05	5	N/A	ND	PASS
Azoxystrobin	0.02 / 0.07	40	N/A	ND	PASS
Bifenazate	0.01/0.04	5	N/A	ND	PASS
Bifenthrin	0.02 / 0.05	0.5	N/A	ND	PASS
Boscalid	0.03 / 0.09	10	N/A	ND	PASS
Captan	0.19/0.57	5	N/A	ND	PASS
Carbaryl	0.02 / 0.06	0.5	N/A	ND	PASS
Chlorantraniliprole	0.04 / 0.12	40	N/A	ND	PASS
Clofentezine	0.03/0.09	0.5	N/A	ND	PASS
Cyfluthrin	0.12 / 0.38	1	N/A	ND	PASS
Cypermethrin	0.11/0.32	1	N/A	ND	PASS
Diazinon	0.02 / 0.05	0.2	N/A	ND	PASS
Dimethomorph	0.03/0.09	20	N/A	ND	PASS
Etoxazole	0.02 / 0.06	1.5	N/A	ND	PASS
Fenhexamid	0.03 / 0.09	10	N/A	ND	PASS
Fenpyroximate	0.02 / 0.06	2	N/A	ND	PASS



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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 - 04/14/2021 continued PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Flonicamid	0.03 / 0.10	2	N/A	ND	PASS
Fludioxonil	0.03 / 0.10	30	N/A	ND	PASS
Hexythiazox	0.02 / 0.07	2	N/A	ND	PASS
Imidacloprid	0.04/0.11	3	N/A	ND	PASS
Kresoxim-methyl	0.02 / 0.07	1	N/A	ND	PASS
Malathion	0.03 / 0.09	5	N/A	ND	PASS
Metalaxyl	0.02 / 0.07	15	N/A	ND	PASS
Methomyl	0.03 / 0.10	0.1	N/A	ND	PASS
Myclobutanil	0.03 / 0.09	9	N/A	ND	PASS
Naled	0.02 / 0.07	0.5	N/A	ND	PASS
Oxamyl	0.04 / 0.11	0.2	N/A	ND	PASS
Pentachloronitrobenzene*	0.03 / 0.09	0.2	N/A	ND	PASS
Permethrin	0.04 / 0.12	20	N/A	ND	PASS
Phosmet	0.03 / 0.10	0.2	N/A	ND	PASS
Piperonylbutoxide	0.02 / 0.07	8	N/A	ND	PASS
Prallethrin	0.03 / 0.08	0.4	N/A	ND	PASS
Propiconazole	0.02 / 0.07	20	N/A	ND	PASS
Pyrethrins	0.04 / 0.12	1	N/A	ND	PASS
Pyridaben	0.02 / 0.07	3	N/A	ND	PASS
Spinetoram	0.02 / 0.07	3	N/A	ND	PASS
Spinosad	0.02 / 0.07	3	N/A	ND	PASS
Spiromesifen	0.02 / 0.05	12	N/A	ND	PASS
Spirotetramat	0.02 / 0.06	13	N/A	ND	PASS
Tebuconazole	0.02 / 0.07	2	N/A	ND	PASS
Thiamethoxam	0.03 / 0.10	4.5	N/A	ND	PASS
Trifloxystrobin	0.03 / 0.08	30	N/A	ND	PASS



Mycotoxin Analysis

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

 $\textbf{Method:} \ \mathsf{QSP} \ \mathsf{1212} \text{-} \ \mathsf{Analysis} \ \mathsf{of} \ \mathsf{Pesticides} \ \mathsf{and} \ \mathsf{Mycotoxins} \ \mathsf{by} \\ \mathsf{LC\text{-}MS}$

MYCOTOXIN TEST RESULTS - 04/13/2021 PASS

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





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Residual Solvents Analysis

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

CATEGORY 1 RESIDUAL SOLVENTS TEST RESULTS - 04/15/2021 PASS

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	0.3 / 0.8	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 - 04/15/2021 PASS

Acetone	20/50	5000	N/A	ND	PASS
Acetonitrile	2/7	410	N/A	<loq< th=""><th>PASS</th></loq<>	PASS
Butane	10/50	5000	N/A	ND	PASS
Ethanol	20/50	5000	N/A	ND	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 - 04/13/2021 **⊘** 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

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) - 04/14/2021 PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing Escherichia coli	Detect	ND	PASS
Salmonella spp.	Detect	ND	PASS
Listeria monocytogenes		ND	