

# **Hemp Quality Assurance Testing**

# **CERTIFICATE OF ANALYSIS**

**DATE ISSUED 01/07/2022** 

#### SAMPLE NAME: cbdMD 60 count 750 mg Calming Gummies

Infused, Hemp Infused

**CULTIVATOR / MANUFACTURER** 

**Business Name:** License Number:

Address:

SAMPLE DETAIL

Batch Number: MD25C02 Sample ID: 220104S003

**DISTRIBUTOR / TESTED FOR** 

Business Name: cbdMD License Number:

Address:

Date Collected: 01/04/2022 Date Received: 01/04/2022

Batch Size:

Sample Size: 1.0 units

Unit Mass: 248.5978 grams per Unit Serving Size: 4.0753 grams per Serving







Scan QR code to verify authenticity of results.

#### **CANNABINOID ANALYSIS - SUMMARY**

**Total THC: Not Detected** 

Total CBD: 927.767 mg/unit

Sum of Cannabinoids: 967.791 mg/unit

Total Cannabinoids: 967.791 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 =  $\Delta$ 9THC + (THCa (0.877)) Total CBD = CBD + (CBDa (0.877))

Sum of Cannabinoids =  $\Delta$ 9THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa +  $\Delta$ 8THC + 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

#### **TERPENOID ANALYSIS - SUMMARY**

39 TESTED, TOP 3 HIGHLIGHTED

**Total Terpenoids: ND** 

#### SAFETY ANALYSIS - SUMMARY

Pesticides: PASS

Heavy Metals: PASS

Foreign Material: PASS

Mycotoxins: PASS

Microbiology (PCR): PASS

Water Activity: PASS

Residual Solvents: 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

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: Josh Antunovich Date: 01/07/2022

oproved by: Josh Wurzer, President ate: 01/07/2022





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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: 927.767 mg/unit

Total CBD (CBD+0.877\*CBDa)

TOTAL CANNABINOIDS: 967.791 mg/unit

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

TOTAL CBG: 21.628 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: 3.729 mg/unit
Total CBDV (CBDV+0.877\*CBDVa)

#### **CANNABINOID TEST RESULTS - 01/05/2022**

СОМ	POUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
CBD		0.004/0.011	±0.1788	3.732	0.3732
CBG		0.002/0.006	±0.0054	0.087	0.0087
CBN		0.001/0.007	±0.0022	0.059	0.0059
CBDV	'	0.002 / 0.012	±0.0008	0.015	0.0015
Δ9ΤΗ	С	0.002/0.014	N/A	ND	ND
Δ8ΤΗ	С	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
THCV	'a	0.002/0.019	N/A	ND	ND
CBDa		0.001/0.026	N/A	ND	ND
CBDV	'a	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
СВС		0.003 / 0.010	N/A	ND	ND
CBCa		0.001/0.015	N/A	ND	ND
SUN	OF CANNABI	NOIDS	3.893 mg/g	0.3893%	

#### Unit Mass: 248.5978 grams per Unit / Serving Size: 4.0753 grams per Serving

Δ9THC per Unit	TIM	ND
Δ9THC per Serving		ND
Total THC per Unit		ND
Total THC per Serving		ND
CBD per Unit		927.767 mg/unit
CBD per Serving		15.209 mg/serving
Total CBD per Unit		927.767 mg/unit
Total CBD per Serving		15.209 mg/serving
Sum of Cannabinoids per Unit		967.791 mg/unit
Sum of Cannabinoids per Serving		15.865 mg/serving
Total Cannabinoids per Unit		967.791 mg/unit
Total Cannabinoids per Serving		15.865 mg/serving









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# **Terpenoid Analysis**

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

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

#### TERPENOID TEST RESULTS - 01/06/2022

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
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
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
αTerpinene	0.005 / 0.017	N/A	ND	ND
p-Cymene	0.005 / 0.016	N/A	ND	ND
Limonene	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
γTerpinene	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
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
$\alpha$ Cedrene	0.005 / 0.016	N/A	ND	ND
β Caryophyllene	0.004 / 0.012	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
α Bisabolol	0.008 / 0.026	N/A	ND	ND
TOTAL TERPENOIDS			ND	ND







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# **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

Exclusions<sup>1</sup> see last page

Exclusions<sup>2</sup> see last page



COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
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
Aldicarb	0.03 / 0.08	≥LOD	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
Carbofuran	0.02 / 0.05	≥LOD	N/A	ND	PASS
Chlorantraniliprole	0.04 / 0.12	40	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
Clofentezine	0.03 / 0.09	0.5	N/A	ND	PASS
Coumaphos	0.02 / 0.07	≥LOD	N/A	ND	PASS
Cyfluthrin	0.12 / 0.38	1	N/A	ND	PASS
Cypermethrin	0.11/0.32	1	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
Diazinon	0.02 / 0.05	0.2	N/A	ND	PASS
Dimethoate	0.03 / 0.08	≥LOD	N/A	ND	PASS
Dimethomorph	0.03 / 0.09	20	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
Etoxazole	0.02 / 0.06	1.5	N/A	ND	PASS
Fenhexamid	0.03 / 0.09	10	N/A	ND	PASS
Fenoxycarb	0.03 / 0.08	≥LOD	N/A	ND	PASS
Fenpyroximate	0.02 / 0.06	2	N/A	ND	PASS
Fipronil	0.03 / 0.08	≥LOD	N/A	ND	PASS
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
lmazalil	0.02 / 0.06	≥LOD	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
Methiocarb	0.02 / 0.07	≥LOD	N/A	ND	PASS



Continued on next page





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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 - 01/06/2022 continued **⊘** PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Methomyl	0.03 / 0.10	0.1	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
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
Paclobutrazol	0.02 / 0.05	≥LOD	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
Propoxur	0.03/0.09	≥LOD	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
Spiroxamine	0.03 / 0.08	≥LOD	N/A	ND	PASS
Tebuconazole	0.02 / 0.07	2	N/A	ND	PASS
Thiacloprid	0.03 / 0.10	≥LOD	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).

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

Exclusions<sup>3</sup> see last page

#### MYCOTOXIN TEST RESULTS - 01/06/2022 **⊘ PASS**

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











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# **Residual Solvents Analysis**

Residual Solvent analysis utilizing gas chromatography-mass spectrometry (GC-MS).

Method: QSP 1204 - Analysis of Residual Solvents by GC-MS

Exclusions<sup>4</sup> see last page

### RESIDUAL SOLVENTS TEST RESULTS - 01/06/2022 **⊘** PASS

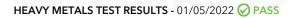
 COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (μg/g)	RESULT
Propane	10/20	5000	N/A	ND	PASS
Butane	10/50	5000	N/A	ND	PASS
Pentane	20 / 50	5000	N/A	ND	PASS
Hexane	2/5	290	N/A	ND	PASS
Heptane	20 / 60	5000	N/A	ND	PASS
Benzene	0.03 / 0.09	1	N/A	ND	PASS
Toluene	7/21	890	N/A	ND	PASS
Total Xylenes	50 / 160	2170	N/A	ND	PASS
Methanol	50 / 200	3000	N/A	ND	PASS
Ethanol	20/50	5000	N/A	ND	PASS
Isopropyl Alcohol	10 / 40	5000	N/A	ND	PASS
Acetone	20 / 50	5000	N/A	ND	PASS
Ethyl ether	20 / 50	5000	N/A	ND	PASS
Ethylene Oxide	0.3 / 0.8	1	N/A	ND	PASS
Ethyl acetate	20 / 60	5000	N/A	ND	PASS
Chloroform	0.1 / 0.2	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
1,2-Dichloroethane	0.05 / 0.1	1	N/A	ND	PASS
Acetonitrile	2/7	410	N/A	ND	PASS
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# **Heavy Metals Analysis**

Heavy metal analysis utilizing inductively coupled plasma-mass spectrometry (ICP-MS).

Method: QSP 1160 - Analysis of Heavy Metals by ICP-MS



COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Arsenic	0.02 / 0.1	0.42	N/A	ND	PASS
Cadmium	0.02 / 0.05	0.27	N/A	ND	PASS
Lead	0.04 / 0.1	0.5	N/A	ND	PASS
Mercury	0.002 / 0.01	0.4	N/A	ND	PASS



# **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) - 01/07/2022 PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing Escherichia coli	Not Detected in 1g	ND	PASS
Salmonella spp.	Not Detected in 1g	ND	PASS
Listeria monocytogenes	Not Detected in 1g	ND	PASS





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# Microbiology Analysis Continued MICROBIOLOGY TEST RESULTS (PLATING) - 01/07/2022 PASS

PCR AND PLATING

Analysis conducted by 3M<sup>™</sup> Petrifilm<sup>™</sup> and plate counts of microbiological contaminants.

Method: QSP 6794 - Plating with 3M<sup>™</sup> Petrifilm<sup>™</sup>

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

# Foreign Material Analysis

Visual analysis includes, but is not limited to, sand, soil, cinders, dirt, mold, hair, insect fragments, and mammalian excreta.

Method: QSP 1226 - Analysis of Foreign Material in Cannabis and Cannabis Products

### FOREIGN MATERIAL TEST RESULTS - 01/06/2022 PASS

	COMPOUND	ACTION LIMIT	RESULT
Ī	Total Sample Area Covered by Sand, Soil, Cinders, or Dirt	>25%	PASS
	Total Sample Area Covered by Mold	>25%	PASS
	Total Sample Area Covered by an Imbedded Foreign Material	>25%	PASS
	Insect Fragment Count	> 1 per 3 grams	PASS
	Hair Count	> 1 per 3 grams	PASS
	Mammalian Excreta Count	> 1 per 3 grams	PASS



# **Water Activity Analysis**

Method: QSP 1227 - Analysis of Water Activity in Cannabis and Cannabis Products

#### WATER ACTIVITY TEST RESULTS - 01/05/2022 PASS

COMPOUND	ACTION LIMIT (Aw)	MEASUREMENT UNCERTAINTY (Aw)	RESULT (Aw)	RESULT
Water Activity	0.86	±0.03305	0.6786	PASS

1. Exclusions: QSP 1213 - Sample Certification: California Code

of Regulation Title 4 Division 19

2. Exclusions: QSP 1212 - Sample Certification: California Code

of Regulation Title 4 Division 19

3. Exclusions: Sample Certification: California Code of

Regulation Title 4 Division 19

4. Exclusions: Sample Certification: California Code of

Regulation Title 4 Division 19

