

SAMPLE NAME: Nuleaf Naturals 5mg D9 + CBD Black Cherry Squares

Infused, Solid Edible

CULTIVATOR / MANUFACTURER
Business Name:
License Number:
Address:
DISTRIBUTOR / TESTED FOR
Business Name: Nuleaf Naturals

License Number:
Address:
SAMPLE DETAIL
Batch Number:
Sample ID: 230214N009

Date Collected: 02/14/2023

Date Received: 02/14/2023

Batch Size:
Sample Size: 1.0 units

Unit Mass: 4.74 grams per Unit

Serving Size: 4.74 grams per Serving


Scan QR code to verify authenticity of results.

CANNABINOID ANALYSIS - SUMMARY
Total THC: 4.503 mg/unit

Total CBD: 3.403 mg/unit

Sum of Cannabinoids: 12.599 mg/unit

Total Cannabinoids: 12.599 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:

$$\text{Total THC} = \Delta^9\text{-THC} + (\text{THCa} \cdot 0.877)$$

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

$$\text{Sum of Cannabinoids} = \Delta^9\text{-THC} + \text{THCa} + \text{CBD} + \text{CBDa} + \text{CBG} + \text{CBGa} +$$

$$\text{THCV} + \text{THCVa} + \text{CBC} + \text{CBCa} + \text{CBDV} + \text{CBDVa} + \Delta^8\text{-THC} + \text{CBL} + \text{CBN}$$

$$\text{Total Cannabinoids} = (\Delta^9\text{-THC} + 0.877 \cdot \text{THCa}) + (\text{CBD} + 0.877 \cdot \text{CBDa}) +$$

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

$$(\text{CBDV} + 0.877 \cdot \text{CBDVa}) + \Delta^8\text{-THC} + \text{CBL} + \text{CBN}$$
SAFETY ANALYSIS - SUMMARY
 Δ^9 -THC per Unit: **PASS**
 Δ^9 -THC per Serving: **PASS**

 Pesticides: **PASS**

 Residual Solvents: **PASS**

 Microbiology (PCR): **PASS**


 Microbiology (Plating): **ND**

For quality assurance purposes. Not a Regulatory 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 4 Division 19. Department of Cannabis Control 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)



Approved by: Josh Wurzer
 Job Title: President
 Date: 03/06/2023



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: 4.503 mg/unit

Total THC (Δ^9 -THC+0.877*THCa)

TOTAL CBD: 3.403 mg/unit

Total CBD (CBD+0.877*CBDA)

TOTAL CANNABINOIDS: 12.599 mg/unit

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

TOTAL CBG: 1.408 mg/unit

Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND

Total THCV (THCV+0.877*THCVa)

TOTAL CBC: 1.891 mg/unit

Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: <LOQ

Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 02/15/2023

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Δ^9 -THC	0.002 / 0.014	±0.0522	0.950	0.0950
CBD	0.004 / 0.011	±0.0268	0.718	0.0718
CBC	0.003 / 0.010	±0.0128	0.399	0.0399
CBG	0.002 / 0.006	±0.0144	0.297	0.0297
CBN	0.001 / 0.007	±0.0084	0.294	0.0294
CBDV	0.002 / 0.012	N/A	<LOQ	<LOQ
Δ^8 -THC	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
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
CBL	0.003 / 0.010	N/A	ND	ND
CBCa	0.001 / 0.015	N/A	ND	ND
SUM OF CANNABINOIDS			2.658 mg/g	0.2658%

Unit Mass: 4.74 grams per Unit / Serving Size: 4.74 grams per Serving

Δ^9 -THC per Unit	110 per-package limit	4.503 mg/unit	PASS
Δ^9 -THC per Serving		4.503 mg/serving	PASS
Total THC per Unit		4.503 mg/unit	
Total THC per Serving		4.503 mg/serving	
CBD per Unit		3.403 mg/unit	
CBD per Serving		3.403 mg/serving	
Total CBD per Unit		3.403 mg/unit	
Total CBD per Serving		3.403 mg/serving	
Sum of Cannabinoids per Unit		12.599 mg/unit	
Sum of Cannabinoids per Serving		12.599 mg/serving	
Total Cannabinoids per Unit		12.599 mg/unit	
Total Cannabinoids per Serving		12.599 mg/serving	



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

PESTICIDE TEST RESULTS - 02/25/2023 ✔ PASS

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
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
Chlorpyrifos	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Cypermethrin	0.11 / 0.32	1	N/A	ND	PASS
Etoxazole	0.02 / 0.06	1.5	N/A	ND	PASS
Hexythiazox	0.02 / 0.07	2	N/A	ND	PASS
Imidacloprid	0.04 / 0.11	3	N/A	ND	PASS
Malathion	0.03 / 0.09	5	N/A	ND	PASS
Myclobutanil	0.03 / 0.09	9	N/A	ND	PASS
Permethrin	0.04 / 0.12	20	N/A	ND	PASS
Piperonyl Butoxide	0.02 / 0.07	8	N/A	ND	PASS
Propiconazole	0.02 / 0.07	20	N/A	ND	PASS
Spiromesifen	0.02 / 0.05	12	N/A	ND	PASS
Tebuconazole	0.02 / 0.07	2	N/A	ND	PASS
Trifloxystrobin	0.03 / 0.08	30	N/A	ND	PASS



Residual Solvents Analysis

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

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

Total Butanes = n-Butane + 2-Methylpropane (Isobutane)
Total Heptanes = 2,2-Dimethylpentane (Neoheptane) + 2,3-Dimethylpentane + 2,4-Dimethylpentane + 3,3-Dimethylpentane + 2,2,3-Trimethylbutane (Triptane) + 2-Methylhexane (Isoheptane) + 3-Methylhexane + 3-Ethylpentane + n-Heptane
Total Xylenes = 1,2-Dimethylbenzene (o-Xylene) + 1,3-Dimethylbenzene (m-Xylene) / 1,4-Dimethylbenzene (p-Xylene)

RESIDUAL SOLVENTS TEST RESULTS - 02/25/2023 ✔ PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Propane	0.234 / 0.781	5000	N/A	ND	PASS
2-Methylpropane (Isobutane)	0.052 / 0.173		N/A	ND	
n-Butane	0.019 / 0.063	5000	N/A	ND	PASS
Total Butanes				ND	
n-Pentane	0.310 / 1.033	5000	N/A	ND	PASS
n-Hexane	0.110 / 0.366	290	N/A	ND	PASS
2,2-Dimethylpentane (Neoheptane)	0.493 / 1.642		N/A	ND	
2,3-Dimethylpentane	1.009 / 3.365		N/A	ND	
2,4-Dimethylpentane	0.737 / 2.458		N/A	ND	
3,3-Dimethylpentane	0.198 / 0.660		N/A	ND	
2,2,3-Trimethylbutane (Triptane)	0.521 / 1.738		N/A	ND	
2-Methylhexane (Isoheptane)	0.610 / 2.034		N/A	ND	
3-Methylhexane	0.235 / 0.785		N/A	ND	
3-Ethylpentane	0.304 / 1.012		N/A	ND	
n-Heptane	13.12 / 43.72	5000	N/A	ND	PASS
Total Heptanes				ND	

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Residual Solvents Analysis

Continued

RESIDUAL SOLVENTS TEST RESULTS - 02/25/2023 *continued* ✔ PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Benzene	0.089 / 0.295	1	N/A	ND	PASS
Toluene	0.115 / 0.382	890	N/A	ND	PASS
1,3-Dimethylbenzene / 1,4-Dimethylbenzene	0.451 / 1.502		N/A	ND	
1,2-Dimethylbenzene (o-Xylene)	0.387 / 1.289		N/A	ND	
Total Xylenes		2170		ND	PASS
Methanol	5.534 / 16.77	3000	±0.889	68.42	PASS
Ethanol	8.984 / 27.23	5000	N/A	ND	PASS
2-Propanol (Isopropyl Alcohol)	8.421 / 25.52	5000	N/A	ND	PASS
Acetone	9.510 / 28.82	5000	N/A	ND	PASS
Ethyl Acetate	1.123 / 3.745	5000	N/A	ND	PASS



Microbiology Analysis

PCR AND PLATING

MICROBIOLOGY TEST RESULTS (PCR) - 02/27/2023 ✔ PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing <i>Escherichia coli</i>	Not Detected in 1g	ND	PASS
<i>Salmonella</i> spp.	Not Detected in 1g	ND	PASS

Analysis conducted by polymerase chain reaction (PCR) and fluorescence detection of microbiological contaminants.

Method: QSP 1221 - Analysis of Microbiological Contaminants

Analysis conducted by 3M™ Petrifilm™ and plate counts of microbiological contaminants.

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

MICROBIOLOGY TEST RESULTS (PLATING) - 02/27/2023 **ND**

COMPOUND	RESULT (cfu/g)
Total Yeast and Mold	ND
Coliforms	ND

NOTES

CoA Amended Update: Name/Unit Mass Sample photograph provided by client. COA amended to reflect requested assays.