

## **CERTIFICATE OF ANALYSIS**

**DATE ISSUED 09/18/2023** 

#### SAMPLE NAME: R&R 30mg Full Spectrum Softgels

Infused, Solid Edible

**CULTIVATOR / MANUFACTURER** 

Business Name: License Number:

Address:

SAMPLE DETAIL

Batch Number: Lot 0817 Sample ID: 230913N005 **DISTRIBUTOR / TESTED FOR** 

Business Name: R&R CBD License Number:

**Date Collected:** 09/13/2023 **Date Received:** 09/13/2023

Batch Size:

Address:

Sample Size: 1.0 units

Unit Mass: 0.7578 grams per Unit

Serving Size:





Scan QR code to verify authenticity of results.

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

Total THC: 1.035 mg/unit

Total CBD: 33.930 mg/unit

Sum of Cannabinoids: 37.125 mg/unit

Total Cannabinoids: 37.069 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 =  $\Delta^{0}$ -THC + (THCa (0.877))

Total CBD = CBD + (CBDa (0.877))

Sum of Cannabinoids =  $\Delta^9$ -THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa +  $\Delta^8$ -THC + CBL + CBN Total Cannabinoids = ( $\Delta^9$ -THC+0.877\*THCa) + (CBD+0.877\*CBDa) + (CBG+0.877\*CBGa) + (THCV+0.877\*THCVa) + (CBC+0.877\*CBCa) +

(CBDV+0.877\*CBDVa) +  $\Delta$ 8-THC + CBL + CBN

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

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.1098%

a-Bisabolol 0.546 mg/g

Guaiol 0.218 mg/g

**β-Caryophyllene 0.1**92 mg/g

#### **SAFETY ANALYSIS - SUMMARY**

 $\Delta^9$ -THC per Unit:  $\bigcirc$  PASS

Pesticides: PASS

Mycotoxins: PASS

Residual Solvents: PASS

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Heavy Metals: PASS

Microbiology (PCR): PASS

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.

LQC verified by: Josh Antunovich Job Title: Laboratory Director Date: 09/18/2023 Approved by: Josh Wurzer

Job Title: Chief Compliance Officer
Date: 09/18/2023

Amendment to Certificate of Analysis 230913N005-001



### **CERTIFICATE OF ANALYSIS**



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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: 1.035 mg/unit Total THC (Δ<sup>9</sup>-THC+0.877\*THCa)

TOTAL CBD: 33.930 mg/unit

Total CBD (CBD+0.877\*CBDa)

TOTAL CANNABINOIDS: 37.069 mg/unit

 $\begin{array}{l} Total \ Cannabinoids \ (Total \ THC) + (Total \ CBD) + \\ (Total \ CBG) + (Total \ THCV) + (Total \ CBC) + \\ (Total \ CBDV) + \Delta^8 - THC + CBL + CBN \end{array}$ 

TOTAL CBG: 0.705 mg/unit

Total CBG (CBG+0.877\*CBGa)

**TOTAL THCV: ND** 

Total THCV (THCV+0.877\*THCVa)

TOTAL CBC: 0.840 mg/unit

Total CBC (CBC+0.877\*CBCa)

TOTAL CBDV: 0.202 mg/unit

Total CBDV (CBDV+0.877\*CBDVa)

#### **CANNABINOID TEST RESULTS - 09/16/2023**

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
CBD	0.004 / 0.011	±1.6507	44.256	4.4256
$\Delta^9$ -THC	0.002/0.014	±0.0750	1.366	0.1366
СВС	0.003 / 0.010	±0.0357	1.108	0.1108
CBG	0.002 / 0.006	±0.0451	0.930	0.0930
CBDa	0.001 / 0.026	±0.0168	0.592	0.0592
CBN	0.001 / 0.007	±0.0115	0.402	0.0402
CBDV	0.002 / 0.012	±0.0109	0.266	0.0266
CBL	0.003 / 0.010	±0.0026	0.070	0.0070
CBCa	0.001 / 0.015	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
$\Delta^8$ -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
CBDVa	0.001 / 0.018	N/A	ND	ND
CBGa	0.002 / 0.007	N/A	ND	ND
SUM OF CANNA	BINOIDS		48.990 mg/g	4.899%

#### Unit Mass: 0.7578 grams per Unit

$\Delta^9$ -THC per Unit	110 per-package limit	1.035 mg/unit	PASS
Total THC per Unit		1.035 mg/unit	
CBD per Unit		33.537 mg/unit	
Total CBD per Unit		33.930 mg/unit	
Sum of Cannabinoids per Unit		37.125 mg/unit	
Total Cannabinoids per Unit		37.069 mg/unit	



# **Terpenoid Analysis**

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

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

#### TERPENOID TEST RESULTS - 09/16/2023

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
α-Bisabolol	0.008/0.026	±0.0227	0.546	0.0546
Guaiol	0.009/0.030	±0.0080	0.218	0.0218
β-Caryophyllene	0.004/0.012	±0.0053	0.192	0.0192
α-Humulene	0.009/0.029	±0.0025	0.100	0.0100
Nerolidol	0.006/0.019	±0.0021	0.042	0.0042
Terpinolene	0.008/0.026	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<>
Terpineol	0.009/0.031	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
α-Cedrene	0.005/0.016	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
trans-β-Farnesene	0.008/0.025	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
α-Pinene	0.005/0.017	N/A	ND	ND



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## Terpenoid Analysis Continued

## TERPENOID TEST RESULTS - 09/16/2023 continued

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#### 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.



#### Guaiol

A sesquiterpene alcohol with a fragrance that can be described as floral, piney, herbal and woody. Found in guaiacum, cypress pine, ginseng, melaleuca, goatweed, incense grass...etc.



## $\beta$ -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<sub>2</sub> receptor agonist. Found in black pepper, clove, hops, rosemary, black-jack, perilla, spicebush, Indian pennywort, celery, frankincense, vitex, parsley, marigold, tamaring, etc.

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
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
$\alpha\text{-Phellandrene}$	0.006/0.020	N/A	ND	ND
$\Delta^3$ -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
Limonene	0.005 / 0.016	N/A	ND	ND
Eucalyptol	0.006 / 0.018	N/A	ND	ND
β-Ocimene	0.006 / 0.020	N/A	ND	ND
γ-Terpinene	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
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
Nerol	0.003 / 0.011	N/A	ND	ND
Citronellol	0.003 / 0.010	N/A	ND	ND
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
Valencene	0.009/0.030	N/A	ND	ND
Caryophyllene Oxide	0.010/0.033	N/A	ND	ND
Cedrol	0.008 / 0.027	N/A	ND	ND
TOTAL TERPENOIDS			1.098 mg/g	0.1098%



## **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 - 09/16/2023 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
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



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# **Pesticide Analysis** Continued

## PESTICIDE TEST RESULTS - 09/16/2023 continued PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (μg/g)	RESULT
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
Diazinon	0.02 / 0.05	0.2	N/A	ND	PASS
Dichlorvos (DDVP)	0.03 / 0.09	≥LOD	N/A	ND	PASS
Dimethoate	0.03 / 0.08	≥LOD	N/A	ND	PASS
Dimethomorph	0.03 / 0.09	20	N/A	ND	PASS
Ethoprophos	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
Imazalil	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
Methomyl	0.03 / 0.10	0.1	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
Parathion-methyl	0.03 / 0.10	≥LOD	N/A	ND	PASS

### **CERTIFICATE OF ANALYSIS**



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# Pesticide Analysis Continued

#### PESTICIDE TEST RESULTS - 09/16/2023 continued PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (μg/g)	RESULT
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
Piperonyl Butoxide	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

## MYCOTOXIN TEST RESULTS - 09/16/2023 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



## **Residual Solvents Analysis**

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

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

#### RESIDUAL SOLVENTS TEST RESULTS - 09/16/2023 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
n-Butane	10/50	5000	N/A	ND	PASS
n-Pentane	20/50	5000	N/A	ND	PASS
n-Hexane	2/5	290	N/A	ND	PASS
n-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



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Residual Solvents Analysis

Continued

### RESIDUAL SOLVENTS TEST RESULTS - 09/16/2023 continued PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
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
2-Propanol (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
Dichloromethane (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



## **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 - 09/16/2023 PASS

	COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Ī	Arsenic	0.02 / 0.1	1.5	N/A	ND	PASS
	Cadmium	0.02 / 0.05	0.5	N/A	ND	PASS
Ī	Lead	0.04 / 0.1	0.5	N/A	ND	PASS
Ī	Mercury	0.002 / 0.01	3	N/A	ND	PASS



## **Microbiology Analysis**

PCF

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

Method: QSP 1221 - Analysis of Microbiological Contaminants

#### MICROBIOLOGY TEST RESULTS (PCR) - 09/16/2023 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

#### **NOTES**

Reason for Amendment: Unit/Serving Mass Change