

SAMPLE NAME: R&R Organic Full Spectrum 1000mg Tincture - Fresh Mint - Organic
Infused, Colorado Infused

CULTIVATOR / MANUFACTURER

Business Name:
License Number:
Address:

DISTRIBUTOR / TESTED FOR

Business Name: R&R CBD
License Number:
Address:


SAMPLE DETAIL

Batch Number: Lot: 0568
Sample ID: 240516M009
Date of Sampling: 05/16/2024
Time of Sampling: 11:22 a.m.
Sampler Name:
Sampler Company:

Date Collected: 05/16/2024
Date Received: 05/16/2024
Batch Size:
Sample Size: 1.0 units
Unit Mass: 30 milliliters per Unit
Serving Size: 1 milliliters per Serving



Scan QR code to verify authenticity of results.

CANNABINOID ANALYSIS - SUMMARY

Total THC: 39.690 mg/unit

Total CBD: 1082.910 mg/unit

Sum of Cannabinoids: 1205.100 mg/unit

Total Cannabinoids: 1203.720 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^9 -THC + (THCa (0.877))
 Total CBD = CBD + (CBDa (0.877))
 Sum of Cannabinoids = Δ^9 -THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa + Δ^8 -THC + CBL + CBN
 Total Cannabinoids = (Δ^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) + Δ^8 -THC + CBL + CBN

Density: 0.9497 g/mL

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.0978%

● **Menthol 0.381 mg/g**
● **Guaiol 0.135 mg/g**
● **α -Bisabolol 0.133 mg/g**

SAFETY ANALYSIS - SUMMARY

Pesticides: ND

Mycotoxins: ✔PASS

Residual Solvents: ND

Heavy Metals: ✔PASS

Microbiology (PCR): ✔PASS

Microbiology (Plating): ✔PASS

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: 6 CCR 1010-21 Colorado Wholesale Food, Industrial Hemp, and Shellfish Regulations; where applicable

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: Chief Compliance Officer
 Date: 05/28/2024

Amendment to Certificate of Analysis 240516M009-002



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: 39.690 mg/unit

Total THC (Δ^9 -THC+0.877*THCa)

TOTAL CBD: 1082.910 mg/unit

Total CBD (CBD+0.877*CBDA)

TOTAL CANNABINOIDS: 1203.720 mg/unit

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

TOTAL CBG: 11.850 mg/unit

Total CBG (CBG+0.877*CBGa)

TOTAL THCV: 1.410 mg/unit

Total THCV (THCV+0.877*THCVa)

TOTAL CBC: 49.500 mg/unit

Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 11.430 mg/unit

Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 05/21/2024

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	0.004 / 0.011	±1.3343	35.773	3.7668
CBC	0.003 / 0.010	±0.0531	1.650	0.1737
Δ^9 -THC	0.002 / 0.014	±0.0726	1.323	0.1393
CBG	0.002 / 0.006	±0.0192	0.395	0.0416
CBDV	0.002 / 0.012	±0.0155	0.381	0.0401
CBDA	0.001 / 0.026	±0.0105	0.370	0.0390
CBN	0.001 / 0.007	±0.0046	0.159	0.0167
CBL	0.003 / 0.010	±0.0027	0.072	0.0076
THCV	0.002 / 0.012	±0.0023	0.047	0.0049
Δ^8 -THC	0.01 / 0.02	N/A	ND	ND
THCa	0.001 / 0.005	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
CBCa	0.001 / 0.015	N/A	ND	ND
Total THC		±0.0726	1.323	0.1393
SUM OF CANNABINOIDS			40.170 mg/mL	4.2298%

Unit Mass: 30 milliliters per Unit / Serving Size: 1 milliliters per Serving

Δ^9 -THC per Unit	39.690 mg/unit
Δ^9 -THC per Serving	1.323 mg/serving
Total THC per Unit	39.690 mg/unit
Total THC per Serving	1.323 mg/serving
CBD per Unit	1073.190 mg/unit
CBD per Serving	35.773 mg/serving
Total CBD per Unit	1082.910 mg/unit
Total CBD per Serving	36.097 mg/serving
Sum of Cannabinoids per Unit	1205.100 mg/unit
Sum of Cannabinoids per Serving	40.170 mg/serving
Total Cannabinoids per Unit	1203.720 mg/unit
Total Cannabinoids per Serving	40.124 mg/serving

DENSITY TEST RESULT

0.9497 g/mL

Tested 05/21/2024

Method: QSP 7870 - Sample Preparation



Terpenoid Analysis

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

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 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.

3 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.

TERPENOID TEST RESULTS - 05/18/2024

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Menthol	0.008 / 0.025	±0.0119	0.381	0.0381
Guaiol	0.009 / 0.030	±0.0050	0.135	0.0135
α -Bisabolol	0.008 / 0.026	±0.0055	0.133	0.0133
β -Caryophyllene	0.004 / 0.012	±0.0033	0.119	0.0119
Eucalyptol	0.006 / 0.018	±0.0017	0.085	0.0085
Borneol	0.005 / 0.016	±0.0014	0.042	0.0042
α -Humulene	0.009 / 0.029	±0.0010	0.041	0.0041
Limonene	0.005 / 0.016	±0.0003	0.031	0.0031
Pulegone	0.003 / 0.011	±0.0003	0.011	0.0011
α -Pinene	0.005 / 0.017	N/A	<LOQ	<LOQ
Sabinene	0.004 / 0.014	N/A	<LOQ	<LOQ
β -Pinene	0.004 / 0.014	N/A	<LOQ	<LOQ
p-Cymene	0.005 / 0.016	N/A	<LOQ	<LOQ
Geranyl Acetate	0.004 / 0.014	N/A	<LOQ	<LOQ
Nerolidol	0.006 / 0.019	N/A	<LOQ	<LOQ
Camphene	0.005 / 0.015	N/A	ND	ND
Myrcene	0.008 / 0.025	N/A	ND	ND
α -Phellandrene	0.006 / 0.020	N/A	ND	ND
Δ^3 -Carene	0.005 / 0.018	N/A	ND	ND
α -Terpinene	0.005 / 0.017	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
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
Terpineol	0.009 / 0.031	N/A	ND	ND
Nerol	0.003 / 0.011	N/A	ND	ND
Citronellol	0.003 / 0.010	N/A	ND	ND
Geraniol	0.002 / 0.007	N/A	ND	ND
α -Cedrene	0.005 / 0.016	N/A	ND	ND
trans- β -Farnesene	0.008 / 0.025	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			0.978 mg/g	0.0978%



Pesticide Analysis

PESTICIDE TEST RESULTS - 05/20/2024 ND

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

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Abamectin	0.032 / 0.097	N/A	ND
Acephate	0.006 / 0.018	N/A	ND
Acequinocyl	0.009 / 0.027	N/A	ND
Acetamiprid	0.016 / 0.049	N/A	ND
Aldicarb	0.030 / 0.090	N/A	ND
Allethrin	0.030 / 0.092	N/A	ND
Atrazine	0.006 / 0.019	N/A	ND
Azadirachtin	0.082 / 0.248	N/A	ND
Azoxystrobin	0.003 / 0.009	N/A	ND
Benzovindiflupyr	0.003 / 0.009	N/A	ND
Bifenazate	0.003 / 0.009	N/A	ND
Bifenthrin	0.021 / 0.064	N/A	ND
Boscalid	0.003 / 0.009	N/A	ND
Buprofezin	0.006 / 0.019	N/A	ND
Carbaryl	0.007 / 0.020	N/A	ND
Carbofuran	0.003 / 0.008	N/A	ND
Chlorantraniliprole	0.006 / 0.018	N/A	ND
Chlorfenapyr*	0.005 / 0.015	N/A	ND
Chlorpyrifos	0.013 / 0.039	N/A	ND
Clofentezine	0.003 / 0.009	N/A	ND
Clothianidin	0.008 / 0.025	N/A	ND
Coumaphos	0.003 / 0.010	N/A	ND
Cyantraniliprole	0.003 / 0.010	N/A	ND
Cyfluthrin	0.052 / 0.159	N/A	ND
Cypermethrin	0.051 / 0.153	N/A	ND
Cyprodinil	0.003 / 0.008	N/A	ND
Daminozide	0.026 / 0.077	N/A	ND
Deltamethrin	0.059 / 0.180	N/A	ND
Diazinon	0.006 / 0.017	N/A	ND
Dichlorvos (DDVP)	0.012 / 0.038	N/A	ND
Dimethoate	0.003 / 0.009	N/A	ND
Dimethomorph	0.016 / 0.050	N/A	ND
Dinotefuran	0.010 / 0.030	N/A	ND
Diuron	0.013 / 0.040	N/A	ND
Dodemorph	0.012 / 0.035	N/A	ND
Endosulfan sulfate	0.016 / 0.048	N/A	ND
Endosulfan-α*	0.004 / 0.014	N/A	ND
Endosulfan-β*	0.006 / 0.019	N/A	ND
Ethoprophos	0.003 / 0.009	N/A	ND
Etofenprox	0.014 / 0.042	N/A	ND
Etoxazole	0.007 / 0.020	N/A	ND

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Pesticide Analysis *Continued*

PESTICIDE TEST RESULTS - 05/20/2024 *continued ND*

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Etridiazole*	0.002 / 0.005	N/A	ND
Fenhexamid	0.003 / 0.008	N/A	ND
Fenoxycarb	0.003 / 0.010	N/A	ND
Fenpyroximate	0.007 / 0.020	N/A	ND
Fensulfothion	0.003 / 0.010	N/A	ND
Fenthion	0.003 / 0.010	N/A	ND
Fenvalerate	0.033 / 0.099	N/A	ND
Fipronil	0.003 / 0.010	N/A	ND
Flonicamid	0.007 / 0.022	N/A	ND
Fludioxonil	0.003 / 0.010	N/A	ND
Fluopyram	0.003 / 0.009	N/A	ND
Hexythiazox	0.003 / 0.010	N/A	ND
Imazalil	0.003 / 0.009	N/A	ND
Imidacloprid	0.003 / 0.010	N/A	ND
Iprodione	0.077 / 0.233	N/A	ND
Kinoprene	0.077 / 0.233	N/A	ND
Kresoxim-methyl	0.006 / 0.019	N/A	ND
λ-Cyhalothrin	0.068 / 0.206	N/A	ND
Malathion	0.003 / 0.009	N/A	ND
Metaxyl	0.003 / 0.010	N/A	ND
Methiocarb	0.003 / 0.008	N/A	ND
Methomyl	0.008 / 0.025	N/A	ND
Methoprene	0.172 / 0.521	N/A	ND
Mevinphos	0.008 / 0.024	N/A	ND
MGK-264	0.015 / 0.047	N/A	ND
Myclobutanil	0.003 / 0.009	N/A	ND
Naled	0.021 / 0.064	N/A	ND
Novaluron	0.002 / 0.005	N/A	ND
Oxamyl	0.017 / 0.051	N/A	ND
Paclobutrazol	0.003 / 0.010	N/A	ND
Parathion-methyl	0.016 / 0.050	N/A	ND
Pentachloronitrobenzene*	0.004 / 0.012	N/A	ND
Permethrin	0.056 / 0.168	N/A	ND
Phenothrin	0.016 / 0.047	N/A	ND
Phosmet	0.007 / 0.020	N/A	ND
Piperonyl Butoxide	0.010 / 0.029	N/A	ND
Pirimicarb	0.003 / 0.009	N/A	ND
Prallethrin	0.015 / 0.046	N/A	ND
Propiconazole	0.027 / 0.080	N/A	ND
Propoxur	0.003 / 0.008	N/A	ND
Pyraclostrobin	0.003 / 0.010	N/A	ND

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Pesticide Analysis *Continued*

PESTICIDE TEST RESULTS - 05/20/2024 *continued* ND

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Pyrethrins	0.016 / 0.049	N/A	ND
Pyridaben	0.005 / 0.017	N/A	ND
Pyriproxyfen	0.003 / 0.009	N/A	ND
Resmethrin	0.013 / 0.039	N/A	ND
Spinetoram	0.003 / 0.010	N/A	ND
Spinosad	0.003 / 0.010	N/A	ND
Spirodiclofen	0.031 / 0.093	N/A	ND
Spiromesifen	0.016 / 0.050	N/A	ND
Spirotetramat	0.003 / 0.010	N/A	ND
Spiroxamine	0.020 / 0.062	N/A	ND
Tebuconazole	0.003 / 0.010	N/A	ND
Tebufenozide	0.003 / 0.008	N/A	ND
Teflubenzuron	0.007 / 0.022	N/A	ND
Tetrachlorvinphos	0.003 / 0.008	N/A	ND
Tetramethrin	0.021 / 0.063	N/A	ND
Thiabendazole	0.006 / 0.020	N/A	ND
Thiacloprid	0.003 / 0.009	N/A	ND
Thiamethoxam	0.003 / 0.010	N/A	ND
Thiophanate-methyl	0.013 / 0.040	N/A	ND
Trifloxystrobin	0.003 / 0.009	N/A	ND



Mycotoxin Analysis

MYCOTOXIN TEST RESULTS - 05/20/2024 ✔ PASS

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

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

COMPOUND	LOD/LOQ (µg/kg)	ACTION LIMIT (µg/kg)	MEASUREMENT UNCERTAINTY (µg/kg)	RESULT (µg/kg)	RESULT
Aflatoxin B1	1.6 / 5.0	5	N/A	ND	PASS
Aflatoxin B2	1.4 / 4.1		N/A	ND	
Aflatoxin G1	1.6 / 4.9		N/A	ND	
Aflatoxin G2	1.6 / 5.0		N/A	ND	
Total Aflatoxin		20		ND	PASS
Ochratoxin A	1.6 / 5.0	5	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 - 05/20/2024 ND

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Propane	0.234 / 0.781	N/A	ND
2-Methylpropane (Isobutane)	0.052 / 0.173	N/A	ND
n-Butane	0.019 / 0.063	N/A	ND
Total Butanes			ND
n-Pentane	0.310 / 1.033	N/A	ND
n-Hexane	0.110 / 0.366	N/A	ND
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	N/A	ND
Total Heptanes			ND
Benzene	0.089 / 0.295	N/A	ND
Toluene	0.115 / 0.382	N/A	ND
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			ND
Methanol	53.92 / 163.4	N/A	ND
Ethanol	8.984 / 27.23	N/A	ND
2-Propanol (Isopropyl Alcohol)	8.421 / 25.52	N/A	ND
Acetone	10.59 / 32.08	N/A	ND
Ethyl Acetate	1.123 / 3.745	N/A	ND

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 - 05/19/2024 PASS

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

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

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

MICROBIOLOGY TEST RESULTS (PCR) - 05/21/2024 ✔ PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing <i>Escherichia coli</i>	Not Detected in 25g	ND	PASS
<i>Salmonella</i> spp.	Not Detected in 25g	ND	PASS

MICROBIOLOGY TEST RESULTS (PLATING) - 05/21/2024 ✔ PASS

COMPOUND	ACTION LIMIT (cfu/g)	RESULT (cfu/g)	RESULT
Total Aerobic Bacteria	10000	ND	PASS
Total Yeast and Mold	1000	ND	PASS
Coliforms	100	ND	PASS

NOTES

Reason for Amendment: Order Detail Information Change