Hemp Quality Assurance Testing

CERTIFICATE OF ANALYSIS

DATE ISSUED 10/13/2021

SAMPLE NAME: R+R Medicinals 1000mg Full Spectrum Hemp Extract Infused Cream

Infused, Hemp Infused

CULTIVATOR / MANUFACTURER

Business Name:
License Number:
Address:

DISTRIBUTOR / TESTED FOR

Business Name: R+R Medicinals
License Number:
Address:

SAMPLE DETAIL

Batch Number: 3101
Sample ID: 210921S003

Date Collected: 09/21/2021
Date Received: 09/21/2021
Batch Size:
Sample Size: 1.0 units
Unit Mass: 74 grams per Unit
Serving Size: 2.45 grams per Serving

Scan QR code to verify authenticity of results.

CANNABINOID ANALYSIS - SUMMARY

Total THC: 31.820 mg/unit

Total CBD: 1062.122 mg/unit

Sum of Cannabinoids: 1165.944 mg/unit

Total Cannabinoids: 1165.944 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 = Δ9THC + (THCa (0.877))
Total CBD = CBD + (CBDa (0.877))
Sum of Cannabinoids = Δ9THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa + Δ8THC + 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: 0.0086%

Guaiol 0.045 mg/g | β Caryophyllene 0.041 mg/g | α Humulene <LOQ

SAFETY ANALYSIS - SUMMARY

Pesticides: PASS
Mycotoxins: PASS
Residual Solvents: PASS
Heavy Metals: PASS
Microbiology (PCR): 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 approval of the laboratory.

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: Mackenzie Whitman
Date: 10/13/2021

Approved by: Josh Wurzer, President
Date: 10/13/2021

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: 31.820 mg/unit
Total THC (Δ9THC+0.877*THCa)

TOTAL CBD: 1062.122 mg/unit
Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 1165.944 mg/unit
Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) + Δ8THC + CBL + CBN

TOTAL CBG: 22.718 mg/unit
Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND
Total THCV (THCV+0.877*THCVa)

TOTAL CBC: 38.628 mg/unit
Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 6.364 mg/unit
Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 09/23/2021

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT mg/g	RESULT (mg/g)	RESULT (%)
CBD	*0.004 / 0.011*	*±0.6875*	14.353	1.4353
CBC	*0.003 / 0.010*	*±0.0216*	0.522	0.0522
Δ9THC	*0.002 / 0.014*	*±0.0303*	0.430	0.0430
CBG	*0.002 / 0.006*	*±0.0191*	0.307	0.0307
CBDV	*0.002 / 0.012*	*±0.0045*	0.086	0.0086
CBL	*0.003 / 0.010*	*±0.0023*	0.049	0.0049
CBN	*0.001 / 0.007*	*±0.0003*	0.009	0.0009
Δ8THC	*0.01 / 0.02*	*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
CBCa	*0.001 / 0.015*	*N/A*	ND	ND
THCa	*0.001 / 0.005*	*N/A*	ND	ND
SUM OF CANNABINOIDS			15.756 mg/g	1.5756%

Unit Mass: 74 grams per Unit / Serving Size: 2.45 grams per Serving

Δ9THC per Unit	31.820 mg/unit
Δ9THC per Serving	1.054 mg/serving
Total THC per Unit	31.820 mg/unit
Total THC per Serving	1.054 mg/serving
CBD per Unit	1062.122 mg/unit
CBD per Serving	35.165 mg/serving
Total CBD per Unit	1062.122 mg/unit
Total CBD per Serving	35.165 mg/serving
Sum of Cannabinoids per Unit	1165.944 mg/unit
Sum of Cannabinoids per Serving	38.602 mg/serving
Total Cannabinoids per Unit	1165.944 mg/unit
Total Cannabinoids per Serving	38.603 mg/serving

Terpenoid Analysis

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

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

1 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.

2 β 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_2 receptor agonist. Found in black pepper, clove, hops, rosemary, black-jack, perilla, spicebush, Indian pennywort, celery, frankincense, vitex, parsley, marigold, tamarind...etc.

3 α Humulene

Also known as α-caryophyllene, it is an isomer of the sesquiterpene β-Caryophyllene which frequently occurs in nature with many aromatic plants across the globe. It has a fragrance that can be described as earthy or musky with spicy undertones. Found in hops, forskohlii, skullcaps, basil, nutmeg, cloves, sage, cotton, tamarind, black pepper, guava, Scotch pine...etc.

TERPENOID TEST RESULTS - 09/24/2021

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT mg/g	RESULT (mg/g)	RESULT (%)
Guaiol	*0.009 / 0.030*	*±0.0021*	0.045	0.0045
β Caryophyllene	*0.004 / 0.012*	*±0.0015*	0.041	0.0041
α Humulene	*0.009 / 0.029*	*N/A*	<LOQ	<LOQ
Caryophyllene Oxide	*0.010 / 0.033*	*N/A*	<LOQ	<LOQ
α Bisabolol	*0.008 / 0.026*	*N/A*	<LOQ	<LOQ
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
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
Ocimene	*0.011 / 0.038*	*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
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
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
Nerolidol	*0.009 / 0.028*	*N/A*	ND	ND
Cedrol	*0.008 / 0.027*	*N/A*	ND	ND
TOTAL TERPENOIDS			0.086 mg/g	0.0086%

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 - 09/24/2021 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT µg/g	RESULT (µg/g)	RESULT
Abamectin	0.032 / 0.097	0.07	N/A	ND	PASS
Acephate	0.006 / 0.018	0.05	N/A	ND	PASS
Acequinocyl	0.009 / 0.027	0.03	N/A	ND	PASS
Acetamiprid	0.016 / 0.049	0.05	N/A	ND	PASS
Aldicarb	0.030 / 0.090	0.1	N/A	ND	PASS
Allethrin	0.030 / 0.092	0.1	N/A	ND	PASS
Atrazine	0.006 / 0.019	0.025	N/A	ND	PASS
Azadirachtin	0.082 / 0.248	0.5	N/A	ND	PASS
Azoxystrobin	0.003 / 0.009	0.01	N/A	ND	PASS
Benzovindiflupyr	0.003 / 0.009	0.01	N/A	ND	PASS
Bifenazate	0.003 / 0.009	0.01	N/A	ND	PASS
Bifenthrin	0.021 / 0.064	0.2	N/A	ND	PASS
Boscalid	0.003 / 0.009	0.01	N/A	ND	PASS
Buprofezin	0.006 / 0.019	0.02	N/A	ND	PASS
Captan	0.045 / 0.135	3	N/A	ND	PASS
Carbaryl	0.007 / 0.020	0.025	N/A	ND	PASS
Carbofuran	0.003 / 0.008	0.01	N/A	ND	PASS
Chlorantraniliprole	0.006 / 0.018	0.02	N/A	ND	PASS
Chlordane*	0.005 / 0.107	0.1	N/A	ND	PASS
Chlorfenapyr*	0.005 / 0.015	0.1	N/A	ND	PASS
Chlormequat chloride	0.022 / 0.066	3	N/A	ND	PASS
Chlorpyrifos	0.013 / 0.039	0.04	N/A	ND	PASS
Clofentezine	0.003 / 0.009	0.01	N/A	ND	PASS
Clothianidin	0.008 / 0.025	0.025	N/A	ND	PASS
Coumaphos	0.003 / 0.010	0.01	N/A	ND	PASS
Cyantraniliprole	0.003 / 0.010	0.01	N/A	ND	PASS
Cyfluthrin	0.052 / 0.159	0.1	N/A	ND	PASS
Cypermethrin	0.051 / 0.153	0.3	N/A	ND	PASS
Cyprodinil	0.026 / 0.080	0.01	N/A	ND	PASS
Daminozide	0.026 / 0.077	0.1	N/A	ND	PASS
DDVP (Dichlorvos)	0.012 / 0.038	0.1	N/A	ND	PASS
Deltamethrin	0.059 / 0.180	0.5	N/A	ND	PASS
Diazinon	0.006 / 0.017	0.02	N/A	ND	PASS
Dimethoate	0.003 / 0.009	0.1	N/A	ND	PASS
Dimethomorph	0.016 / 0.050	0.05	N/A	ND	PASS
Dinotefuran	0.010 / 0.030	0.05	N/A	ND	PASS
Diuron	0.013 / 0.040	0.125	N/A	ND	PASS
Dodemorph	0.012 / 0.035	0.05	N/A	ND	PASS
Endosulfan sulfate	0.016 / 0.048	0.05	N/A	ND	PASS
Endosulfan-alpha*	0.004 / 0.014	0.2	N/A	ND	PASS
Endosulfan-beta*	0.006 / 0.019	0.05	N/A	ND	PASS

Continued on next page

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 - 09/24/2021 *continued* ✓ PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT µg/g	RESULT (µg/g)	RESULT
Ethoprop(hos)	0.003 / 0.009	0.01	N/A	ND	PASS
Etofenprox	0.014 / 0.042	0.05	N/A	ND	PASS
Etoxazole	0.007 / 0.020	0.01	N/A	ND	PASS
Etridiazole*	0.002 / 0.005	0.03	N/A	ND	PASS
Fenhexamid	0.003 / 0.008	0.125	N/A	ND	PASS
Fenoxycarb	0.003 / 0.010	0.01	N/A	ND	PASS
Fenpyroximate	0.007 / 0.020	0.2	N/A	ND	PASS
Fensulfothion	0.003 / 0.010	0.01	N/A	ND	PASS
Fenthion	0.003 / 0.010	0.01	N/A	ND	PASS
Fenvalerate	0.033 / 0.099	0.1	N/A	ND	PASS
Fipronil	0.003 / 0.010	0.01	N/A	ND	PASS
Flonicamid	0.007 / 0.022	0.025	N/A	ND	PASS
Fludioxonil	0.003 / 0.010	0.01	N/A	ND	PASS
Fluopyram	0.003 / 0.009	0.01	N/A	ND	PASS
Hexythiazox	0.003 / 0.010	0.01	N/A	ND	PASS
Imazalil	0.003 / 0.009	0.01	N/A	ND	PASS
Imidacloprid	0.003 / 0.010	0.01	N/A	ND	PASS
Iprodione	0.077 / 0.233	0.5	N/A	ND	PASS
Kinoprene	0.077 / 0.233	0.5	N/A	ND	PASS
Kresoxim-methyl	0.006 / 0.019	0.02	N/A	ND	PASS
Malathion	0.003 / 0.009	0.02	N/A	ND	PASS
Metalaxyl	0.003 / 0.010	0.02	N/A	ND	PASS
Methiocarb	0.003 / 0.008	0.02	N/A	ND	PASS
Methomyl	0.008 / 0.025	0.05	N/A	ND	PASS
Methoprene	0.172 / 0.521	2	N/A	ND	PASS
Methyl parathion	0.016 / 0.050	0.05	N/A	ND	PASS
Mevinphos	0.008 / 0.024	0.025	N/A	ND	PASS
MGK-264	0.015 / 0.047	0.05	N/A	ND	PASS
Myclobutanil	0.003 / 0.009	0.01	N/A	ND	PASS
Naled	0.021 / 0.064	0.1	N/A	ND	PASS
Novaluron	0.002 / 0.005	0.025	N/A	ND	PASS
Oxamyl	0.017 / 0.051	0.5	N/A	ND	PASS
Paclobutrazol	0.003 / 0.010	0.01	N/A	ND	PASS
Pentachloronitrobenzene*	0.004 / 0.012	0.02	N/A	ND	PASS
Permethrin	0.056 / 0.168	0.04	N/A	ND	PASS
Phenothrin	0.016 / 0.047	0.05	N/A	ND	PASS
Phosmet	0.007 / 0.020	0.02	N/A	ND	PASS
Piperonylbutoxide	0.010 / 0.029	0.2	N/A	ND	PASS
Pirimicarb	0.015 / 0.046	0.01	N/A	ND	PASS
Prallethrin	0.003 / 0.009	0.05	N/A	ND	PASS
Propiconazole	0.027 / 0.080	0.1	N/A	ND	PASS

Continued on next page

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 - 09/24/2021 *continued* PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT µg/g	RESULT (µg/g)	RESULT
Propoxur	0.003 / 0.008	0.01	N/A	ND	PASS
Pyraclostrobin	0.003 / 0.010	0.01	N/A	ND	PASS
Pyrethrins	0.016 / 0.049	0.05	N/A	ND	PASS
Pyridaben	0.005 / 0.017	0.02	N/A	ND	PASS
Pyriproxyfen	0.003 / 0.009	0.01	N/A	ND	PASS
Resmethrin	0.013 / 0.039	0.05	N/A	ND	PASS
Spinetoram	0.004 / 0.014	0.01	N/A	ND	PASS
Spinosad	0.004 / 0.012	0.01	N/A	ND	PASS
Spirodiclofen	0.031 / 0.093	0.25	N/A	ND	PASS
Spiromesifen	0.016 / 0.050	0.03	N/A	ND	PASS
Spirotetramat	0.003 / 0.010	0.01	N/A	ND	PASS
Spiroxamine	0.020 / 0.062	0.1	N/A	ND	PASS
Tebuconazole	0.003 / 0.010	0.01	N/A	ND	PASS
Tebufenozide	0.003 / 0.008	0.01	N/A	ND	PASS
Teflubenzuron	0.007 / 0.022	0.025	N/A	ND	PASS
Tetrachlorvinphos	0.003 / 0.008	0.01	N/A	ND	PASS
Tetramethrin	0.021 / 0.063	0.1	N/A	ND	PASS
Thiabendazole	0.006 / 0.020	0.02	N/A	ND	PASS
Thiacloprid	0.003 / 0.009	0.01	N/A	ND	PASS
Thiamethoxam	0.003 / 0.010	0.01	N/A	ND	PASS
Thiophanate-methyl	0.013 / 0.040	0.05	N/A	ND	PASS
Trifloxystrobin	0.003 / 0.009	0.02	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

Additions[1] see last page

MYCOTOXIN TEST RESULTS - 09/23/2021 PASS

COMPOUND	LOD/LOQ (µg/kg)	ACTION LIMIT (µg/kg)	MEASUREMENT µg/kg	RESULT (µg/kg)	RESULT
Aflatoxin B1	2.0 / 6.0	5	N/A	ND	PASS
Aflatoxin B2	1.8 / 5.6	20	N/A	ND	PASS
Aflatoxin G1	1.0 / 3.1	20	N/A	ND	PASS
Aflatoxin G2	1.2 / 3.5	20	N/A	ND	PASS
Total Aflatoxin		20		ND	PASS
Ochratoxin A	6.3 / 19.2	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

RESIDUAL SOLVENTS TEST RESULTS - 09/24/2021 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT µg/g	RESULT (µg/g)	RESULT
Propane	0.133 / 0.445	500	N/A	ND	PASS
Butane	0.042 / 0.141	2000	N/A	ND	PASS
Methylpropane	0.04 / 0.133	5000	N/A	ND	PASS
Total Butanes		500		ND	PASS
2-Methylbutane	0.065 / 0.216	5000	N/A	ND	PASS
2,2-Dimethylpropane	0.181 / 0.604		N/A	ND	
Pentane	0.181 / 0.604	1000	N/A	ND	PASS
Total Pentanes		500		ND	PASS
2,2-Dimethylbutane	0.147 / 0.488	290	N/A	ND	PASS
2,3-Dimethylbutane 2-Methylpentane	0.375 / 1.249	290	N/A	ND	PASS
3-Methylpentane	0.075 / 0.251	290	N/A	ND	PASS
Hexane	0.054 / 0.181	0	N/A	ND	PASS
Total Hexanes		290		ND	PASS
Cyclohexane	0.091 / 0.302	500	N/A	ND	PASS
Heptane	0.153 / 0.511	500	N/A	ND	PASS
Benzene	0.066 / 0.221	0	N/A	ND	PASS
Toluene	0.074 / 0.246	0	N/A	ND	PASS
Cumene	0.31 / 1.033	70	N/A	ND	PASS
1,2-Dimethylbenzene	0.239 / 0.797	2170	N/A	ND	PASS
1,3-Dimethylbenzene 1,4-Dimethylbenzene	0.213 / 0.71	2170	N/A	ND	PASS
Ethylbenzene	0.176 / 0.586	2170	N/A	ND	PASS
Total Xylenes	0.320 / 1.067	217	N/A	ND	PASS
Methanol	0.018 / 0.061	500	±0.5189	6.593	PASS
Ethanol	0.129 / 0.429	1000	±0.5941	7.858	PASS
1-Propanol	0.528 / 1.759	5000	N/A	ND	PASS
Isopropyl Alcohol	0.064 / 0.214	500	±0.3784	4.140	PASS
1-Butanol	0.17 / 0.565	5000	N/A	ND	PASS
2-Butanol	0.535 / 1.784	5000	N/A	ND	PASS
1-Pentanol	0.379 / 1.262		N/A	ND	
Acetone	0.083 / 0.277	5000	N/A	ND	PASS
2-Butanone	0.193 / 0.642	5000	N/A	ND	PASS
Tetrahydrofuran	0.22 / 0.735	720	N/A	ND	PASS
Ethyl ether	0.1 / 0.335	5000	N/A	ND	PASS
Ethylene Glycol	31.104 / 103.68	620	N/A	ND	PASS
2-Ethoxyethanol	1.08 / 3.599	160	N/A	ND	PASS
1,2-Dimethoxyethane	1.093 / 3.645	100	N/A	ND	PASS
1,4-Dioxane	0.379 / 1.265	380	N/A	ND	PASS
Ethylene Oxide	0.05 / 0.166	5	N/A	ND	PASS
Ethyl acetate	0.29 / 0.967	1000	N/A	ND	PASS
Isopropyl Acetate	0.346 / 1.153	5000	N/A	ND	PASS

Continued on next page

Residual Solvents Analysis
Continued

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

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

RESIDUAL SOLVENTS TEST RESULTS - 09/24/2021 *continued* PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT µg/g	RESULT (µg/g)	RESULT
Chloroform	*0.1 / 0.2*	*1*	*N/A*	ND	PASS
Methylene chloride	*0.114 / 0.381*	*600*	*N/A*	ND	PASS
Trichloroethylene	*0.1 / 0.3*	*80*	*N/A*	ND	PASS
1,2-Dichloroethane	*0.05 / 0.1*	*5*	*N/A*	ND	PASS
Sulfolane	*11.728 / 39.094*	*160*	*N/A*	ND	PASS
Dimethyl Sulfoxide	*1.679 / 5.596*	*5000*	*N/A*	ND	PASS
Acetonitrile	*0.049 / 0.164*	*410*	*N/A*	ND	PASS
Pyridine	*0.118 / 0.394*	*100*	*N/A*	ND	PASS
N,N-Dimethylacetamide	*0.2 / 0.668*	*1090*	*N/A*	ND	PASS
N,N-Dimethylformamide	*0.335 / 1.116*	*880*	*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 - 09/22/2021 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT 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) - 09/25/2021 PASS

COMPOUND	ACTION LIMIT (cfu/g)	RESULT (cfu/g)	RESULT
Shiga toxin-producing *Escherichia coli*	*Not Detected in 1g*	ND	PASS
Salmonella spp.	*Not Detected in 1g*	ND	PASS
Aspergillus fumigatus	*Not Detected in 1g*	ND	PASS
Aspergillus flavus	*Not Detected in 1g*	ND	PASS
Aspergillus niger	*Not Detected in 1g*	ND	PASS
Aspergillus terreus	*Not Detected in 1g*	ND	PASS
Candida albicans	*Not Detected in 1g*	ND	PASS
Campylobacter spp.	*Detect*	ND	PASS
Yersinia spp.	*Detect*	ND	PASS
Listeria monocytogenes	*Detect*	ND	PASS
Psuedomonas aeruginosa	*Not Detected in 1g*	ND	PASS
Bile-Tolerant Gram-Negative Bacteria	*100*	ND	PASS
Staphylococcus aureus	*Not Detected in 1g*	ND	PASS

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

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

MICROBIOLOGY TEST RESULTS (PLATING) - 09/25/2021 PASS

COMPOUND	ACTION LIMIT (cfu/g)	RESULT (cfu/g)	RESULT
Total Aerobic Bacteria	*100*	ND	PASS
Total Yeast and Mold	*10*	ND	PASS
Total Enterobacteriaceae	*1000*	ND	PASS
Escherichia coli	*Not Detected in 1g*	ND	PASS
Coliforms	*100*	ND	PASS

NOTES

COA amended, update to action limit application.

1. Additions: Aflatoxin B1 LOD/LOQ: 1.6/5.0, Aflatoxin B2 LOD/LOQ: 1.4/4.1, Aflatoxin G1 LOD/LOQ: 1.6/4.9, Aflatoxin G2 LOD/LOQ: 1.6/5.0, Ochratoxin A LOD/LOQ: 1.6/5.0