

Certificate of Analysis

Zilis LLC

415 US 377
Argyle Texas 76226 United States

Sample Name:	UltraCell Berry	Eurofins Sample:	13400834
Project ID	ZILIS-20231009-0020	Receipt Date	16-Oct-2023
PO Number	NA	Receipt Condition	Ambient temperature
Lot Number	2307N	Login Date	09-Oct-2023
Sample Serving Size	0.5 mL	Date Started	16-Oct-2023
Description	hemp tincture	Sampled	Sample results apply as received
		Number Composited	6
		Online Order	13342-19E6D203

Analysis	Result
Industrial Hemp Cannabinoid Profile	
CBD	0.429 %
Delta 9-THC	0.00969 %
Delta 8-THC	None detected at detection limit of 0.0017 %
THCA	None detected at detection limit of 0.0017 %
Total THC (THC + (THCA x 0.877))	0.00969 %
Terpenes	
(-)-alpha-Bisabolol	0.032 mg/Serving Size
Camphene	<0.027 mg/Serving Size
(1S)-(+)-3-Carene	<0.027 mg/Serving Size
beta-Caryophyllene	0.052 mg/Serving Size
p-Cymene	<0.027 mg/Serving Size
Eucalyptol	<0.027 mg/Serving Size
alpha-Humulene (alpha-Caryophyllene)	<0.027 mg/Serving Size
(-)-Isopulegol	<0.027 mg/Serving Size
(R)-(+)-Limonene	<0.027 mg/Serving Size
Linalool	<0.027 mg/Serving Size
beta-Myrcene	<0.027 mg/Serving Size
(E)-b-Ocimene	<0.027 mg/Serving Size
(Z)-b-Ocimene	<0.027 mg/Serving Size
alpha-Pinene	<0.027 mg/Serving Size
beta-Pinene	<0.027 mg/Serving Size
alpha-Terpinene	<0.027 mg/Serving Size
gamma-Terpinene	<0.027 mg/Serving Size
Terpinolene	<0.027 mg/Serving Size
Density by Gravimetric Analysis	
Density	1.080 g/mL
Aerobic Plate Count *	
Aerobic Plate Count	10 (est) CFU/g
E. coli *	

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Analysis	Result
E. coli *	
Escherichia Coli	Absent /10 g
Salmonella USP *	
Salmonella	Absent /10 g
Yeast and Mold Count *	
Combined Yeast and Mold Count	<10 CFU/g
Elements by ICP Mass Spectrometry	
Arsenic	<0.0100 ppm
Cadmium	<0.00500 ppm
Lead	<0.00500 ppm
Mercury	<0.00500 ppm
Mycotoxins in Raw Materials	
Aflatoxin B1	<0.500 ppb
Aflatoxin B2	<0.500 ppb
Aflatoxin G1	<0.500 ppb
Aflatoxin G2	<0.500 ppb
Ochratoxin A	<1.00 ppb
Sum of B1 B2 G1 and G2	<2.00 ppb

Analysis	Limit	Result	Pass/Fail
Multi-Residue Analysis for hemp products - BCC Pesticide List			
Abamectin	0.3 mg/kg	<0.30 mg/kg	Pass
Acephate	5 mg/kg	<0.10 mg/kg	Pass
Acequinocyl	4 mg/kg	<1.0 mg/kg	Pass
Acetamiprid	5 mg/kg	<0.10 mg/kg	Pass
Aldicarb	0.1 mg/kg	<0.10 mg/kg	Pass
Aldicarb sulfone (Aldoxycarb)	0.1 mg/kg	<0.10 mg/kg	Pass
Aldicarb sulfoxide	0.1 mg/kg	<0.10 mg/kg	Pass
Azoxystrobin	40 mg/kg	<0.10 mg/kg	Pass
Bifenazate	5 mg/kg	<0.10 mg/kg	Pass
Bifenthrin	0.5 mg/kg	<0.10 mg/kg	Pass

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Analysis	Limit	Result	Pass/Fail
Multi-Residue Analysis for hemp products - BCC Pesticide List			
Boscalid	10 mg/kg	<0.10 mg/kg	Pass
Captan	5 mg/kg	<0.20 mg/kg	Pass
Carbaryl	0.5 mg/kg	<0.10 mg/kg	Pass
Carbofuran	0.1 mg/kg	<0.10 mg/kg	Pass
Carbofuran-3-hydroxy-	0.1 mg/kg	<0.10 mg/kg	Pass
Chlorantraniliprole	40 mg/kg	<0.10 mg/kg	Pass
Chlordane, cis-	0.1 mg/kg	<0.10 mg/kg	Pass
Chlordane, trans-	0.1 mg/kg	<0.10 mg/kg	Pass
Chlorfenapyr	0.1 mg/kg	<0.10 mg/kg	Pass
Chlorpyrifos	0.1 mg/kg	<0.10 mg/kg	Pass
Clofentezine	0.5 mg/kg	<0.10 mg/kg	Pass
Coumaphos	0.1 mg/kg	<0.10 mg/kg	Pass
Cyfluthrin	1 mg/kg	<0.10 mg/kg	Pass
Cypermethrin	1 mg/kg	<0.10 mg/kg	Pass
Diazinon	0.2 mg/kg	<0.10 mg/kg	Pass
Dichlorvos	0.1 mg/kg	<0.10 mg/kg	Pass
Dimethoate	0.1 mg/kg	<0.10 mg/kg	Pass
Dimethomorph	20 mg/kg	<0.10 mg/kg	Pass
Ethoprophos	0.1 mg/kg	<0.10 mg/kg	Pass
Etofenprox	0.1 mg/kg	<0.10 mg/kg	Pass
Etoxazole	1.5 mg/kg	<0.10 mg/kg	Pass
Fenoxycarb	0.1 mg/kg	<0.10 mg/kg	Pass
Fenpyroximate	2 mg/kg	<0.10 mg/kg	Pass
Fipronil	0.1 mg/kg	<0.10 mg/kg	Pass
Fipronil desulfinyl	0.1 mg/kg	<0.10 mg/kg	Pass
Fipronil sulfone	0.1 mg/kg	<0.10 mg/kg	Pass
Flonicamid	2 mg/kg	<0.10 mg/kg	Pass
Fludioxonil	30 mg/kg	<0.10 mg/kg	Pass
Hexythiazox	2 mg/kg	<0.10 mg/kg	Pass

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Printed: 25-Oct-2023 11:42 am

Page 3 of 8

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Analysis	Limit	Result	Pass/Fail
Multi-Residue Analysis for hemp products - BCC Pesticide List			
Imazalil	0.1 mg/kg	<0.10 mg/kg	Pass
Imidacloprid	3 mg/kg	<0.10 mg/kg	Pass
Kresoxim-methyl	1 mg/kg	<0.10 mg/kg	Pass
Malathion	5 mg/kg	<0.10 mg/kg	Pass
Metalaxyl	15 mg/kg	<0.10 mg/kg	Pass
Methiocarb	0.1 mg/kg	<0.10 mg/kg	Pass
Methiocarb sulfone	0.1 mg/kg	<0.10 mg/kg	Pass
Methiocarb sulfoxide	0.1 mg/kg	<0.10 mg/kg	Pass
Methomyl	0.1 mg/kg	<0.10 mg/kg	Pass
Mevinphos	0.1 mg/kg	<0.10 mg/kg	Pass
Myclobutanil	9 mg/kg	<0.10 mg/kg	Pass
Naled	0.5 mg/kg	<0.10 mg/kg	Pass
Oxamyl	0.2 mg/kg	<0.10 mg/kg	Pass
Paclobutrazol	0.1 mg/kg	<0.10 mg/kg	Pass
Methyl parathion	0.1 mg/kg	<0.10 mg/kg	Pass
Pentachloroaniline	0.2 mg/kg	<0.10 mg/kg	Pass
Pentachlorobenzene	0.2 mg/kg	<0.10 mg/kg	Pass
Pentachlorobenzonitrile	0.2 mg/kg	<0.10 mg/kg	Pass
Pentachlorothioanisole	0.2 mg/kg	<0.10 mg/kg	Pass
Permethrin	20 mg/kg	<0.10 mg/kg	Pass
Phosmet	0.2 mg/kg	<0.10 mg/kg	Pass
Piperonylbutoxide	8 mg/kg	<0.10 mg/kg	Pass
Prallethrin	0.4 mg/kg	<1.0 mg/kg	Pass
Propiconazole (sum of isomers)	20 mg/kg	<0.10 mg/kg	Pass
Propoxur	0.1 mg/kg	<0.10 mg/kg	Pass
Pyrethrins	1 mg/kg	<1.0 mg/kg	Pass
Pyridaben	3 mg/kg	<0.10 mg/kg	Pass
Pentachloronitrobenzene	0.2 mg/kg	<0.10 mg/kg	Pass
Spinetoram	3 mg/kg	<0.10 mg/kg	Pass

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Analysis	Limit	Result	Pass/Fail
Multi-Residue Analysis for hemp products - BCC Pesticide List			
Spinosad	3 mg/kg	<0.10 mg/kg	Pass
Spiromesifen	12 mg/kg	<0.10 mg/kg	Pass
Spirotetramat	13 mg/kg	<0.10 mg/kg	Pass
Spiroxamine	0.1 mg/kg	<0.10 mg/kg	Pass
Tebuconazole	2 mg/kg	<0.10 mg/kg	Pass
Thiacloprid	0.1 mg/kg	<0.10 mg/kg	Pass
Thiamethoxam	4.5 mg/kg	<0.10 mg/kg	Pass
Trifloxystrobin	30 mg/kg	<0.10 mg/kg	Pass

The Pass/Fail reporting designations are relative to the limits set forth by the Bureau of Cannabis Control, Title 16, Division 42.

Prallethrin reporting limit is higher than BCC action level, but EPA tolerance is 1 ppm.

Analysis	LOQ	Limit	Result	Pass/Fail
Residual Solvents - Class 3				
1-Butanol	200 ppm	5000 ppm	<200 ppm	Pass
1-Pentanol	200 ppm	5000 ppm	<200 ppm	Pass
1-Propanol	200 ppm	5000 ppm	<200 ppm	Pass
2-Butanol	200 ppm	5000 ppm	<200 ppm	Pass
Methylethylketone	200 ppm	5000 ppm	<200 ppm	Pass
3-Methyl-1-butanol	200 ppm	5000 ppm	<200 ppm	Pass
Acetic Acid Butyl Ester	200 ppm	5000 ppm	<200 ppm	Pass
Acetone	200 ppm	5000 ppm	<200 ppm	Pass
Anisole	200 ppm	5000 ppm	<200 ppm	Pass
Diethyl Ether	200 ppm	5000 ppm	<200 ppm	Pass
Ethyl Acetate	200 ppm	5000 ppm	<200 ppm	Pass
Ethyl Formate	500 ppm	5000 ppm	<500 ppm	Pass
2-Methyl-1-propanol	200 ppm	5000 ppm	<200 ppm	Pass

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Analysis	LOQ	Limit	Result	Pass/Fail
Residual Solvents - Class 3				
Isobutyl Acetate	200 ppm	5000 ppm	<200 ppm	Pass
2-Propanol	200 ppm	5000 ppm	<200 ppm	Pass
Isopropyl Acetate	200 ppm	5000 ppm	<200 ppm	Pass
Methyl Acetate	200 ppm	5000 ppm	<200 ppm	Pass
Methylisobutylketone	200 ppm	5000 ppm	<200 ppm	Pass
tert-Butylmethyl Ether	200 ppm	5000 ppm	<200 ppm	Pass
n-Heptane	200 ppm	5000 ppm	<200 ppm	Pass
n-Pentane	200 ppm	5000 ppm	<200 ppm	Pass
Propyl Acetate	200 ppm	5000 ppm	<200 ppm	Pass
Total Class 3 Residual Solvents	5000 ppm	5000 ppm	>5000 ppm	Fail

Method References

Testing Location

Aerobic Plate Count (USPC2021)

Eurofins Micro Lab - Madison
6304 Ronald Reagan Ave Madison, WI 53704 USA

USP Current revision, Chapter 2021.

To satisfy the requirements of the USP, the Preparatory Test must be completed on each matrix.

**Based on the results of the preparatory test, the detection limit stipulated is adequate for the enumeration of the specified microorganisms.

Density by Gravimetric Analysis (SPGP_S)

Food Integrity Innovation-Madison
6304 Ronald Reagan Ave Madison, WI 53704 USA

NIST Handbook 133 - Checking the Net Contents of Packaged Goods, 2015 Edition (Modified)

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Page 6 of 8

Certificate of Analysis

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Method References

Testing Location

E. coli (USPE2022)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

USP Current revision, Chapter 2022.

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**Based on the results of the preparatory test, conditions stipulated are adequate for detecting the presence of the specified microorganism.

Elements by ICP Mass Spectrometry (ICP_MS_S)

Food Integrity Innovation-Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Official Methods of Analysis, Methods 2011.19 and 993.14, and 2015.01, AOAC INTERNATIONAL, (Modified).

Industrial Hemp Cannabinoid Profile (IHCBD_S)

Food Integrity Innovation-Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Official Methods of Analysis, AOAC 2018.11, AOAC International, Gaithersburg, MD (Modified).

Multi-Residue Analysis for hemp products - BCC Pesticide List (PEST_HEMP)

Food Integrity Innovation-Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Official Methods of Analysis, AOAC Official Method 2007.01, Pesticide Residues in Foods by Acetonitrile Extraction and Partitioning with Magnesium Sulfate, AOAC INTERNATIONAL (modified).

CEN Standard Method EN 15662: Food of plant origin - Determination of pesticide residues using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE - QuEChERS method.

List of the tested pesticides and their limits of quantification (LOQs) are available upon request.

Mycotoxins in Raw Materials (MYCO_REG_S)

Food Integrity Innovation-Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Varga, E., Glauner, T., Koppen, R., Mayer, K., Sulyok, M., Schumacher, R., Krska, R. and Berthiller, F., "Stable isotope dilution assay for the accurate determination of mycotoxins in maize by UHPLC-MS/MS," *Analytical and BioAnalytical Chemistry*, 402:2675-2686 (2012).

Residual Solvents - Class 3 (USPR_S)

Food Integrity Innovation-Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

United States Pharmacopeia, 38th Rev. - National Formulary 33rd Ed., Method <467>, USP Convention, Inc., Rockville, MD (2015). (Modified).

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Printed: 25-Oct-2023 11:42 am

Page 7 of 8

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Method References

Testing Location

Salmonella USP (USPS2022)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

USP Current revision, Chapter 2022.

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**Based on the results of the preparatory test, conditions stipulated are adequate for detecting the presence of the specified microorganism.

Terpenes (TERPENES_S)

Food Integrity Innovation-Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Internally Developed Method

Yeast and Mold Count (USPM2021)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

USP Current revision, Chapter 2021.

To satisfy the requirements of the USP, the Preparatory Test must be completed on each matrix.

**Based on the results of the preparatory test, the detection limit stipulated is adequate for the enumeration of the specified microorganisms.

Testing Location(s)

Released on Behalf of Eurofins by

Food Integrity Innovation-Madison

Edward Ladwig - President Eurofins Food Chemistry Testing Madison

Eurofins Food Chemistry Testing Madison, Inc.
6304 Ronald Reagan Ave
Madison WI 53704
800-675-8375



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These results apply only to the items tested. This certificate of analysis shall not be reproduced, except in its entirety, without the written approval of Eurofins. Measurement uncertainty for individual analyses can be obtained upon request.

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Page 8 of 8