

CONSOLIDATED TEST RESULTS SUMMARY

Please see the following pages for full test results.

BULK SKU TN.O.FS50	BATCH # DH98(A)	LOQ: Limit Of Quantitation LOD: Limit Of Detection 1 g = 10 ³ kg = 10 ³ mg = 10 ⁶ µg 1 mg/kg = 1 ppm = 1000 ppb
PRODUCT NAME Org. Tincture - F.S. - 50mg	SERVING SIZE 1 mL	
LABORATORY: Columbia Laboratories	OREGON ACCREDITATION: OR100028	

POTENCY	PER SERVING	PER GRAM	Percent
Cannabidiol (CBD)	55.7 mg/serving	59.9 mg/g	5.99 %
Total THC (d9-THC, THCA)	1.99 mg/serving	2.14 mg/g	0.214 %
Cannabigerol (CBG)	0.929 mg/serving	1.00 mg/g	0.100 %
Cannabinol (CBN)	<LOQ mg/serving	<LOQ mg/g	<LOQ %
Cannabichromene (CBC)	1.66 mg/serving	1.78 mg/g	0.178 %
Tetrahydrocannabinolic Acid (THCA)	<LOQ mg/serving	<LOQ mg/g	<LOQ %
Delta-9-THC (d9-THC)	1.99 mg/serving	2.14 mg/g	0.214 %
Delta-8-THC (d8-THC)	<LOQ mg/serving	<LOQ mg/g	<LOQ %

HEAVY METALS	PER SERVING	PER GRAM	REGULATORY ACTION LEVEL
Arsenic	<LOQ µg/serving	<LOQ µg/g	10 µg/day ⁽¹⁾
Cadmium	<LOQ µg/serving	<LOQ µg/g	4.1 µg/day ⁽¹⁾
Lead	<LOQ µg/serving	<LOQ µg/g	3.5 µg/day ⁽²⁾
Mercury	<LOQ µg/serving	<LOQ µg/g	2 µg/day ⁽¹⁾

PESTICIDES	REGULATORY ACTION LEVEL
None of the other 59 pesticides tested found above limit of detection in the sample.	10 ppb ⁽¹⁾

RESIDUAL SOLVENTS	Results	REGULATORY ACTION LEVEL
Ethanol	<LOQ	
Heptane	<LOQ	
None of the 34 residual solvents tested found above limit of quantitation in the sample.		

MICROBIAL	PASS/FAIL
Yeast & Mold	Pass
Coliform	Pass

TERPENES	% OF SAMPLE
Farnesene	31.5 %
β-Caryophyllene	27.0 %
α-Bisabolol	14.1 %
Humulene	14.3 %
Caryophyllene Oxide	7.28 %



1. American Herbal Pharmacopoeia. (2014). Cannabis Inflorescence: Standards of Identity, Analysis, and Quality Control. Washington DC: AHP.

2. US Food and Drug Administration. (2019). Lead in Food, Foodware, and Dietary Supplements. Washington DC: FDA. US Food and Drug Administration. (2019). Lead in Food, Foodware, and Dietary Supplements. Washington DC: FDA.



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794



Report Number: 21-012171/D004.R001
Report Date: 10/27/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30

This is an amended version of report# 21-012171/D004.R000.
 Reason: Sample re-extracted for potency.

Customer: Etz Hayim Holdings
Product identity: FORM-DH98(A)-TN.O.FS50
Client/Metric ID: .
Laboratory ID: 21-012171-0001

Summary

Potency:

Analyte per 1ml	Result	Limits	Units	Status	
CBC per 1ml [†]	1.66		mg/1ml		CBD Total per 1ml 55.7 mg/1ml
CBD per 1ml	55.7		mg/1ml		
CBG per 1ml [†]	0.929		mg/1ml		THC-Total per 1ml 1.99 mg/1ml
CBT per 1ml [†]	2.65		mg/1ml		
Δ9 THC per 1ml	1.99		mg/1ml		(Reported in milligrams per serving)



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794

Report Number: 21-012171/D004.R001
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Received: 10/14/21 15:30



Customer: Etz Hayim Holdings
 16427 NE Airport Way
 PORTLAND 97230
 United States of America (USA)

Product identity: FORM-DH98(A)-TN.O.FS50

Client/Metric ID: .

Sample Date:

Laboratory ID: 21-012171-0001

Evidence of Cooling: No

Temp: 20.1 °C

Relinquished by: Client

Serving Size #1: 0.93 g

Density: 0.9300 g/ml

Sample Results

Potency per 1ml	Method J AOAC 2015 V98-6 (mod)	Units mg/se	Batch: 2109643	Analyze: 10/26/21 12:00:00 A	
Analyte	Result	Limits	Units	LOQ	Notes
CBC per 1ml [†]	1.66		mg/1ml	0.894	
CBC-A per 1ml [†]	< LOQ		mg/1ml	0.894	
CBC-Total per 1ml [†]	< LOQ		mg/1ml	1.68	
CBD per 1ml	55.7		mg/1ml	0.894	
CBD-A per 1ml	< LOQ		mg/1ml	0.894	
CBD-Total per 1ml	55.7		mg/1ml	1.68	
CBDV per 1ml [†]	< LOQ		mg/1ml	0.894	
CBDV-A per 1ml [†]	< LOQ		mg/1ml	0.894	
CBDV-Total per 1ml [†]	< LOQ		mg/1ml	1.67	
CBE per 1ml [†]	< LOQ		mg/1ml	0.894	
CBG per 1ml [†]	0.929		mg/1ml	0.894	
CBG-A per 1ml [†]	< LOQ		mg/1ml	0.894	
CBG-Total per 1ml [†]	< LOQ		mg/1ml	1.67	
CBL per 1ml [†]	< LOQ		mg/1ml	0.894	
CBL-A per 1ml [†]	< LOQ		mg/1ml	0.894	
CBL-Total per 1ml [†]	< LOQ		mg/1ml	1.68	
CBN per 1ml	< LOQ		mg/1ml	0.894	
CBT per 1ml [†]	2.65		mg/1ml	0.894	
Δ8-THCV per 1ml [†]	< LOQ		mg/1ml	0.894	
Δ8-THC per 1ml [†]	< LOQ		mg/1ml	0.894	
Δ9-THC per 1ml	1.99		mg/1ml	0.894	
exo-THC per 1ml [†]	< LOQ		mg/1ml	0.894	
THC-A per 1ml	< LOQ		mg/1ml	0.894	
THC-Total per 1ml	1.99		mg/1ml	1.68	
THCV per 1ml [†]	< LOQ		mg/1ml	0.894	
THCV-A per 1ml [†]	< LOQ		mg/1ml	0.894	
THCV-Total per 1ml [†]	< LOQ		mg/1ml	1.68	
Total Cannabinoids per 1ml	62.9		mg/1ml		



12423 NE Whitaker Way
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503-254-1794



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Report Number: 21-012171/D004.R001
Report Date: 10/27/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30

These test results are representative of the individual sample selected and submitted by the client.

Abbreviations

Limits: Action Levels per OAR-333-007-0400, OAR-333-007-0210, OAR-333-007-0220, CCR title 16-division 42. BCC-section 5723

Limit(s) of Quantitation (LOQ): The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

† = Analyte not NELAP accredited.

Units of Measure

g = Gram

g/ml = Gram per milliliter

mg/1ml = Milligram per 1ml

% = Percentage of sample

% wt = $\mu\text{g/g}$ divided by 10,000

Approved Signatory

Derrick Tanner
General Manager



12423 NE Whitaker Way
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503-254-1794



Report Number: 21-012171/D004.R001
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Received: 10/14/21 15:30



12423 NE Whitaker Way Portland OR 97230 p.503-254-1794

Cannabis Chain of Custody Record

ORELAP ID: OR100028

Field ID		Date/Time Collected	Pesticides - OR 59 com (see 59)	Pesticides Multi Residue - 376 compounds	Potency	Residual Solvents	Water Activity	Mold/Bur	Terpenes	Microc. Yeast and Mold	Microc. E. Coli and Total Coliform	Heavy Metals	Mycoelements	Other:	Matrix	Weight	Serving Size for edibles	Comments/Weir ID
FORM-DH08(A)-TN-D-FSSC	0/20	1855		X														Last Nat Discount
FORM-DH08(A)-TN-D-FSSC	0/29	1855							X	X								
FORM-DH08(A)-TN-D-FSSC	0/29	1855	X			X		X			X							

Collected by:	Requested by:	Date	Time	Received by:	Date	Time	Lab Use Only:
<input checked="" type="checkbox"/> Standard (5 day)							Test Alias
<input type="checkbox"/> Rush (3-4 day) (1.5x Standard)							Order Number
<input type="checkbox"/> Priority Rush (2 day) (2x Standard)							Proper Container
							Sample Condition
							Temperature
							Shipped Via
							Evidence of cooling: Yes/No

SUBMISSION OF SAMPLES WITH TESTING REQUIREMENTS TO PIXIS WILL BE UNDERSTOOD TO BE AN AGREEMENT TO BE AN AGREEMENT FOR SERVICES IN ACCORDANCE WITH THE CONDITIONS LISTED ON THE BACK OF THIS FORM
 Revision 1.02 Control#: C0023
 Effective 01/31/2013 Revised 01/31/2013
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 Page 1 of 2



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794

Report Number: 21-012171/D004.R001
Report Date: 10/27/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30



Revision #: 0.00 Control : CFL-D06
Revision Date: 05/31/2019 Effective Date: 05/31/2019

Laboratory Quality Control Results

JAOAC2015 V986							
Batch ID: 2109643							
Laboratory Control Sample							
Analyte	Result	Spike	Units	% Rec	Limits	Evaluation	Notes
CBDA	0.190	0.2	%	94.9	85.0 - 115	Acceptable	
CBV	0.201	0.2	%	100	85.0 - 115	Acceptable	
CBF	0.192	0.2	%	96.1	85.0 - 115	Acceptable	
CBDA	0.193	0.2	%	96.4	85.0 - 115	Acceptable	
CBGA	0.189	0.2	%	94.5	85.0 - 115	Acceptable	
CBG	0.199	0.2	%	99.5	85.0 - 115	Acceptable	
CB	0.204	0.2	%	102	85.0 - 115	Acceptable	
THCV	0.193	0.2	%	96.4	85.0 - 115	Acceptable	
d8THCV	0.186	0.2	%	92.9	85.0 - 115	Acceptable	
THCA	0.186	0.2	%	93.0	85.0 - 115	Acceptable	
CBN	0.210	0.2	%	105	85.0 - 115	Acceptable	
exo-THC	0.178	0.2	%	88.9	85.0 - 115	Acceptable	
d8THC	0.202	0.2	%	101	85.0 - 115	Acceptable	
d8THC	0.193	0.2	%	96.3	85.0 - 115	Acceptable	
CBL	0.176	0.2	%	87.8	85.0 - 115	Acceptable	
CB	0.198	0.2	%	98.9	85.0 - 115	Acceptable	
THCA	0.201	0.2	%	100	85.0 - 115	Acceptable	
CBGA	0.195	0.2	%	97.3	85.0 - 115	Acceptable	
CBDA	0.192	0.2	%	96.1	85.0 - 115	Acceptable	
CBF	0.200	0.2	%	100	85.0 - 115	Acceptable	

Method Blank

Analyte	Result	LOQ	Units	Limits	Evaluation	Notes
CBDA	<LOQ	0.01	%	< 0.01	Acceptable	
CBV	<LOQ	0.01	%	< 0.01	Acceptable	
CBF	<LOQ	0.01	%	< 0.01	Acceptable	
CBDA	<LOQ	0.01	%	< 0.01	Acceptable	
CBGA	<LOQ	0.01	%	< 0.01	Acceptable	
CBG	<LOQ	0.01	%	< 0.01	Acceptable	
CB	<LOQ	0.01	%	< 0.01	Acceptable	
THCV	<LOQ	0.01	%	< 0.01	Acceptable	
d8THCV	<LOQ	0.01	%	< 0.01	Acceptable	
THCA	<LOQ	0.01	%	< 0.01	Acceptable	
CBN	<LOQ	0.01	%	< 0.01	Acceptable	
exo-THC	<LOQ	0.01	%	< 0.01	Acceptable	
d8THC	<LOQ	0.01	%	< 0.01	Acceptable	
d8THC	<LOQ	0.01	%	< 0.01	Acceptable	
CBL	<LOQ	0.01	%	< 0.01	Acceptable	
CB	<LOQ	0.01	%	< 0.01	Acceptable	
THCA	<LOQ	0.01	%	< 0.01	Acceptable	
CBGA	<LOQ	0.01	%	< 0.01	Acceptable	
CBDA	<LOQ	0.01	%	< 0.01	Acceptable	
CBF	<LOQ	0.01	%	< 0.01	Acceptable	

Abbreviations

ND - None Detected at or above MRL
RPD - Relative Percent Difference
LOQ - Limit of Quantitation

Units of Measure:

% - Percent



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794



Report Number: 21-012171/D004.R001
Report Date: 10/27/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30

Revision #: 0.00 Control : CFL-D06
Revision Date: 05/31/2019 Effective Date: 05/31/2019

Laboratory Quality Control Results

JAOAC2015 V986		Batch ID: 2109643						
Sample Duplicate		Sample ID: 21-012171-0001-01						
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDA	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBDA	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBDA	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBDA	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBDA	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBDA	<LOQ	0.101	0.1	%	NA	< 20	Acceptable	
CBDA	5.99	6.10	0.1	%	1.81	< 20	Acceptable	
THCV	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
d8THCV	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
THCVA	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBN	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
exo-THC	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
d9THC	0.214	0.220	0.1	%	2.85	< 20	Acceptable	
d8THC	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBL	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBC	0.178	0.187	0.1	%	4.70	< 20	Acceptable	
THCA	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBGA	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBLA	<LOQ	<LOQ	0.1	%	NA	< 20	Acceptable	
CBF	0.285	0.125	0.1	%	77.9	< 20	Outlier	Q6

Abbreviations

- ND - None Detected at or above MRL
- RPD - Relative Percent Difference
- LOQ - Limit of Quantitation
- NA - Calculation Not Applicable given non-numerical results
- Q6 - Quality control outside QC limits. Data acceptable based on remaining QC.

Units of Measure

%- Percent



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794



Report Number: 21-012171/D004.R001
Report Date: 10/27/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30

Explanation of QC Flag Comments:

Code	Explanation
Q	Matrix interferences affecting spike or surrogate recoveries.
Q1	Quality control result biased high. Only non-detect samples reported.
Q2	Quality control outside QC limits. Data considered estimate.
Q3	Sample concentration greater than four times the amount spiked.
Q4	Non-homogenous sample matrix, affecting RPD result and/or % recoveries.
Q5	Spike results above calibration curve.
Q6	Quality control outside QC limits. Data acceptable based on remaining QC.
R	Relative percent difference (RPD) outside control limit.
R1	RPD non-calculable, as sample or duplicate results are less than five times the LOQ.
R2	Sample replicates RPD non-calculable, as only one replicate is within the analytical range.
LOQ1	Quantitation level raised due to low sample volume and/or dilution.
LOQ2	Quantitation level raised due to matrix interference.
B	Analyte detected in method blank, but not in associated samples.
B1	The sample concentration is greater than 5 times the blank concentration.
B2	The sample concentration is less than 5 times the blank concentration.



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794



Report Number: 21-012171/D003.R000
Report Date: 10/22/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30

Customer: Etz Hayim Holdings
Product identity: FORM-DH98(A)-TN.O.FS50
Client/Metric ID: .
Laboratory ID: 21-012171-0002

Summary

Microbiology:

Less than LOQ for all analytes.



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794



Report Number: 21-012171/D003.R000
Report Date: 10/22/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30

Customer: Etz Hayim Holdings
 16427 NE Airport Way
 PORTLAND 97230
 United States of America (USA)

Product identity: FORM-DH98(A)-TN.O.FS50

Client/Metric ID: .

Sample Date:

Laboratory ID: 21-012171-0002

Evidence of Cooling: No

Temp: 20.1 °C

Relinquished by: Client

Serving Size #1: 0.93 g

Density: 0.9300 g/ml

Sample Results

Microbiology									
Analyte	Result	Limits	Units	LOQ	Batch	Analyze	Method	Status	Notes
E.coli	< LOQ		cfu/g	10	2109297	10/17/21	AOAC 991.14 (Petrifilm)	X	
Total Coliforms	< LOQ		cfu/g	10	2109297	10/17/21	AOAC 991.14 (Petrifilm)	X	
Mold (RAPID Petrifilm)	< LOQ		cfu/g	10	2109298	10/17/21	AOAC 2014.05 (RAPID)	X	
Yeast (RAPID Petrifilm)	< LOQ		cfu/g	10	2109298	10/17/21	AOAC 2014.05 (RAPID)	X	



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794



Report Number: 21-012171/D003.R000
Report Date: 10/22/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30

These test results are representative of the individual sample selected and submitted by the client.

Abbreviations

Limits: Action Levels per OAR-333-007-0400, OAR-333-007-0210, OAR-333-007-0220

Limit(s) of Quantitation (LOQ): The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

Units of Measure

cfu/g = Colony forming units per gram

% wt = µg/g divided by 10,000

Glossary of Qualifiers

X: Not ORELAP accredited.

Approved Signatory

Derrick Tanner
General Manager



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794



Report Number: 21-012171/D003.R000
Report Date: 10/22/2021
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Purchase Order:
Received: 10/14/21 15:30



12423 NE Whitaker Way Portland OR 97230 p.503-254-1794

Cannabis Chain of Custody Record

ORELAP ID: OR100028

Field ID		Date/Time Collected	Pesticides - OR 59 com (see 59)	Pesticides Multi Residue - 376 compounds	Potency	Residual Solvents	Water Activity	Mold/Bur	Terpenes	Micr. Yeast and Mold	Micr. E. Coli and Total Coliform	Heavy Metals	Mycoconst	Other	Matrix	Weight	Serving Size for edibles	Comments/Weir ID
FORM-DH08(A)-TN-D-FSSC	0/20	1855		X														Lab Nat Discount
FORM-DH08(A)-TN-D-FSSC	0/29	1855							X	X								
FORM-DH08(A)-TN-D-FSSC	0/29	1855	X			X		X			X							

Collected By:	Requested By:	Date	Time	Received by:	Date	Time	Lab Use Only:
<input checked="" type="checkbox"/> Standard (5 day)							Test Alias
<input type="checkbox"/> Rush (3-4 day) (1.5x Standard)							Order number
<input type="checkbox"/> Priority Rush (2 day) (2x Standard)							Proper Container
							Sample Condition
							Temperature
							Shipped Via <i>Client</i>
							Evidence of cooling: <i>Yes / No</i>

SUBMISSION OF SAMPLES WITH TESTING REQUIREMENTS TO PIXIS WILL BE UNDERSTOOD TO BE AN AGREEMENT FOR SERVICES IN ACCORDANCE WITH THE CONDITIONS LISTED ON THE BACK OF THIS FORM

Revision 1.02 Control#: C023
Effective 01/31/2013 Revised 01/31/2013

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Page 1 of 2



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794



Report Number: 21-012171/D003.R000
Report Date: 10/22/2021
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Purchase Order:
Received: 10/14/21 15:30

Explanation of QC Flag Comments:

Code	Explanation
Q	Matrix interferences affecting spike or surrogate recoveries.
Q1	Quality control result biased high. Only non-detect samples reported.
Q2	Quality control outside QC limits. Data considered estimate.
Q3	Sample concentration greater than four times the amount spiked.
Q4	Non-homogenous sample matrix, affecting RPD result and/or % recoveries.
Q5	Spike results above calibration curve.
Q6	Quality control outside QC limits. Data acceptable based on remaining QC.
R	Relative percent difference (RPD) outside control limit.
R1	RPD non-calculable, as sample or duplicate results are less than five times the LOQ.
R2	Sample replicates RPD non-calculable, as only one replicate is within the analytical range.
LOQ1	Quantitation level raised due to low sample volume and/or dilution.
LOQ2	Quantitation level raised due to matrix interference.
B	Analyte detected in method blank, but not in associated samples.
B1	The sample concentration is greater than 5 times the blank concentration.
B2	The sample concentration is less than 5 times the blank concentration.



12423 NE Whitaker Way
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503-254-1794



Report Number: 21-012171/D002.R000
Report Date: 10/22/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30

Customer: Etz Hayim Holdings
Product identity: FORM-DH98(A)-TN.O.FS50
Client/Metric ID: .
Laboratory ID: 21-012171-0003

Summary

Residual Solvents:

All analytes passing and less than LOQ.

Pesticides:

All analytes passing and less than LOQ.

Terpenes:

Analyte	Percent by weight	Percent of Total	Analyte	Percent by weight	Percent of Total
farnesene [†]	0.125	31.49%	β-Caryophyllene [†]	0.107	26.95%
Humulene [†]	0.0566	14.26%	α-Bisabolol [†]	0.0560	14.11%
(-)-caryophyllene oxide [†]	0.0289	7.28%	β-Myrcene [†]	0.0235	5.92%
Total Terpenes[†]	0.397	100.00%			

Metals:

Less than LOQ for all analytes.



12423 NE Whitaker Way
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 503-254-1794

Report Number: 21-012171/D002.R000
Report Date: 10/22/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30



Customer: Etz Hayim Holdings
 16427 NE Airport Way
 PORTLAND 97230
 United States of America (USA)

Product identity: FORM-DH98(A)-TN.O.FS50

Client/Metric ID: .

Sample Date:

Laboratory ID: 21-012171-0003

Evidence of Cooling: No

Temp: 20.1 °C

Relinquished by: Client

Serving Size #1: 0.93 g

Density: 0.9300 g/ml

Sample Results

Solvents					Method Residual Solvents by GC/MS					Units µg/g		Batch 2109438		Analyze 10/20/21 09:54 AM	
Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes				
1,4-Dioxane	< LOQ	380	100	pass		2-Butanol	< LOQ	5000	200	pass					
2-Ethoxyethanol	< LOQ	160	30.0	pass		2-Methylbutane	< LOQ		200						
2-Methylpentane	< LOQ		30.0			2-Propanol (IPA)	< LOQ	5000	200	pass					
2,2-Dimethylbutane	< LOQ		30.0			2,2-Dimethylpropane	< LOQ		200						
2,3-Dimethylbutane	< LOQ		30.0			3-Methylpentane	< LOQ		30.0						
Acetone	< LOQ	5000	200	pass		Acetonitrile	< LOQ	410	100	pass					
Benzene	< LOQ	2.00	1.00	pass		Butanes (sum)	< LOQ	5000	400	pass					
Cyclohexane	< LOQ	3880	200	pass		Ethanol ^l	< LOQ		200						
Ethyl acetate	< LOQ	5000	200	pass		Ethyl benzene	< LOQ		200						
Ethyl ether	< LOQ	5000	200	pass		Ethylene glycol	< LOQ	620	200	pass					
Ethylene oxide	< LOQ	50.0	20.0	pass		Hexanes (sum)	< LOQ	290	150	pass					
Isopropyl acetate	< LOQ	5000	200	pass		Isopropylbenzene	< LOQ	70.0	30.0	pass					
m,p-Xylene	< LOQ		200			Methanol	< LOQ	3000	200	pass					
Methylene chloride	< LOQ	600	60.0	pass		Methylpropane	< LOQ		200						
n-Butane	< LOQ		200			n-Heptane	< LOQ	5000	200	pass					
n-Hexane	< LOQ		30.0			n-Pentane	< LOQ		200						
o-Xylene	< LOQ		200			Pentanes (sum)	< LOQ	5000	600	pass					
Propane	< LOQ	5000	200	pass		Tetrahydrofuran	< LOQ	720	100	pass					
Toluene	< LOQ	890	100	pass		Total Xylenes	< LOQ		400						
Total Xylenes and Ethyl	< LOQ	2170	600	pass											



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 503-254-1794

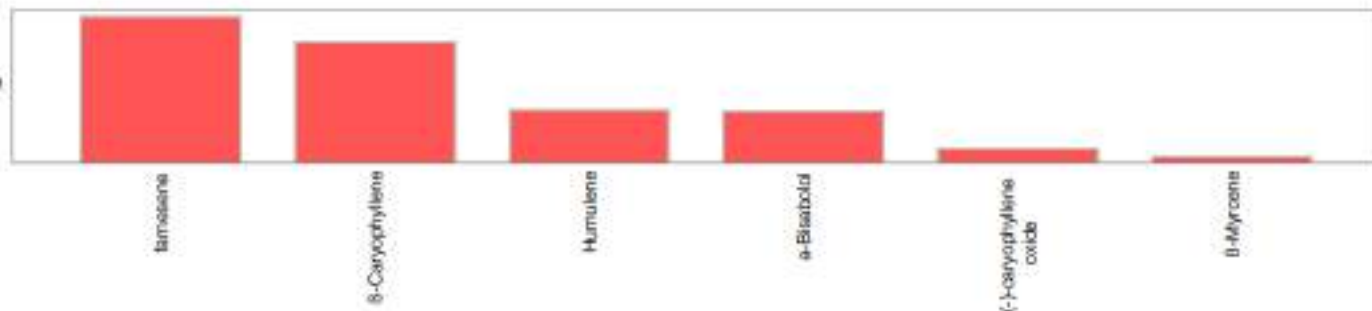


Report Number: 21-012171/D002.R000
Report Date: 10/22/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30

Pesticides											
Method AOAC 2007.01 & EN 15662 (mod) Units mg/kg Batch 2109360 Analyze 10/18/21 01:30 PM											
Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
Abamectin	< LOQ	0.50	0.250	pass		Acephate	< LOQ	0.40	0.250	pass	
Acequinocyl	< LOQ	2.0	1.00	pass		Acetamiprid	< LOQ	0.20	0.100	pass	
Aldicarb	< LOQ	0.40	0.200	pass		Azoxystrobin	< LOQ	0.20	0.100	pass	
Bifenazate	< LOQ	0.20	0.100	pass		Bifenthrin	< LOQ	0.20	0.100	pass	
Boscalid	< LOQ	0.40	0.200	pass		Carbaryl	< LOQ	0.20	0.100	pass	
Carbofuran	< LOQ	0.20	0.100	pass		Chlorantraniliprole	< LOQ	0.20	0.100	pass	
Chlorfenapyr	< LOQ	1.0	0.500	pass		Chlorpyrifos	< LOQ	0.20	0.100	pass	
Clofentezine	< LOQ	0.20	0.100	pass		Cyfluthrin	< LOQ	1.0	0.500	pass	
Cypermethrin	< LOQ	1.0	0.500	pass		Daminozide	< LOQ	1.0	0.500	pass	
Diazinon	< LOQ	0.20	0.100	pass		Dichlorvos	< LOQ	1.0	0.500	pass	
Dimethoate	< LOQ	0.20	0.100	pass		Ethoprophos	< LOQ	0.20	0.100	pass	
Etofenprox	< LOQ	0.40	0.200	pass		Etoxazole	< LOQ	0.20	0.100	pass	
Fenoxycarb	< LOQ	0.20	0.100	pass		Fenpyroximate	< LOQ	0.40	0.200	pass	
Fipronil	< LOQ	0.40	0.200	pass		Fonicamid	< LOQ	1.0	0.400	pass	
Fludioxonil	< LOQ	0.40	0.200	pass		Hexythiazox	< LOQ	1.0	0.400	pass	
Imazalil	< LOQ	0.20	0.100	pass		Imidacloprid	< LOQ	0.40	0.200	pass	
Kresoxim-methyl	< LOQ	0.40	0.200	pass		Malathion	< LOQ	0.20	0.100	pass	
Metalaxyl	< LOQ	0.20	0.100	pass		Methiocarb	< LOQ	0.20	0.100	pass	
Methomyl	< LOQ	0.40	0.200	pass		MGK-264	< LOQ	0.20	0.100	pass	
Myclobutanil	< LOQ	0.20	0.100	pass		Naled	< LOQ	0.50	0.250	pass	
Oxamyl	< LOQ	1.0	0.500	pass		Paclobutrazole	< LOQ	0.40	0.200	pass	
Parathion-Methyl	< LOQ	0.20	0.200	pass		Permethrin	< LOQ	0.20	0.100	pass	
Phosmet	< LOQ	0.20	0.100	pass		Piperonyl butoxide	< LOQ	2.0	1.00	pass	
Prallethrin	< LOQ	0.20	0.200	pass		Propiconazole	< LOQ	0.40	0.200	pass	
Propoxur	< LOQ	0.20	0.100	pass		Pyrethrin I (total)	< LOQ	1.0	0.500	pass	
Pyridaben	< LOQ	0.20	0.100	pass		Spinosad	< LOQ	0.20	0.100	pass	
Spiromesifen	< LOQ	0.20	0.100	pass		Spirotetramat	< LOQ	0.20	0.100	pass	
Spiroxamine	< LOQ	0.40	0.200	pass		Tebuconazole	< LOQ	0.40	0.200	pass	
Thiacloprid	< LOQ	0.20	0.100	pass		Thiamethoxam	< LOQ	0.20	0.100	pass	
Trifloxystrobin	< LOQ	0.20	0.100	pass							



Terpenes				Method J AOAC 2015 V98-6	Units %	Batch 2109407	Analyze 10/19/21 12:00 AM		
Analyte	Result	LOQ	% of Total	Notes	Analyte	Result	LOQ	% of Total	Notes
limesene [†]	0.125	0.019	31.486%		β-Caryophyllene [†]	0.107	0.019	26.952%	
Humulene [†]	0.0566	0.019	14.2569%		α-Bisabolol [†]	0.0560	0.019	14.1058%	
(-)-caryophyllene oxide [†]	0.0289	0.019	7.2796%		β-Myrcene [†]	0.0235	0.019	5.9194%	
Geraniol [†]	< LOQ	0.019	0.00%		(-)-Guaio [†]	< LOQ	0.019	0.00%	
Linalol [†]	< LOQ	0.019	0.00%		(R)-(+)-Limonene [†]	< LOQ	0.019	0.00%	
p-Cymene [†]	< LOQ	0.019	0.00%		(±)-trans-Nerolidol [†]	< LOQ	0.019	0.00%	
α-Terpinene [†]	< LOQ	0.019	0.00%		(+)-fenchol [†]	< LOQ	0.019	0.00%	
trans-β-Cimene [†]	< LOQ	0.013	0.00%		cis-β-Cimene [†]	< LOQ	0.006	0.00%	
gamma-Terpinene [†]	< LOQ	0.019	0.00%		nerol [†]	< LOQ	0.019	0.00%	
(-)-α-Terpineol [†]	< LOQ	0.019	0.00%		Terpinolene [†]	< LOQ	0.019	0.00%	
Sabinene hydrate [†]	< LOQ	0.019	0.00%		valencene [†]	< LOQ	0.019	0.00%	
Sabinene [†]	< LOQ	0.019	0.00%		(+)-Borneol [†]	< LOQ	0.019	0.00%	
(+)-Pulegone [†]	< LOQ	0.019	0.00%		α-pinene [†]	< LOQ	0.019	0.00%	
Geranyl acetate [†]	< LOQ	0.019	0.00%		α-phellandrene [†]	< LOQ	0.019	0.00%	
(±)-Camphor [†]	< LOQ	0.019	0.00%		(±)-fenchone [†]	< LOQ	0.019	0.00%	
(-)-Isopulegol [†]	< LOQ	0.019	0.00%		(-)-β-Pinene [†]	< LOQ	0.019	0.00%	
(+)-Cedrol [†]	< LOQ	0.019	0.00%		(±)-cis-Nerolidol [†]	< LOQ	0.019	0.00%	
α-cedrene [†]	< LOQ	0.019	0.00%		Camphene [†]	< LOQ	0.019	0.00%	
δ-3-Carene [†]	< LOQ	0.019	0.00%		Eucalyptol [†]	< LOQ	0.019	0.00%	
Isoborneol [†]	< LOQ	0.019	0.00%		Menthol [†]	< LOQ	0.019	0.00%	
Total Terpenes	0.397								



Metals									
Analyte	Result	Limits	Units	LOQ	Batch	Analyze	Method	Status	Notes
Arsenic	< LOQ	0.200	mg/kg	0.0500	2109529	10/21/21	AOAC 2013.06 (mod.)	pass	X
Cadmium	< LOQ	0.200	mg/kg	0.0500	2109529	10/21/21	AOAC 2013.06 (mod.)	pass	X
Lead	< LOQ	0.500	mg/kg	0.0500	2109529	10/21/21	AOAC 2013.06 (mod.)	pass	X
Mercury	< LOQ	0.100	mg/kg	0.0250	2109529	10/21/21	AOAC 2013.06 (mod.)	pass	X



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794



Report Number: 21-012171/D002.R000
Report Date: 10/22/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30

These test results are representative of the individual sample selected and submitted by the client.

Abbreviations

Limits: Action Levels per OAR-333-007-0400, OAR-333-007-0210, OAR-333-007-0220

Limit(s) of Quantitation (LOQ): The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

† = Analyte not NELAP accredited.

Units of Measure

µg/g = Microgram per gram

mg/kg = Milligram per kilogram = parts per million (ppm)

% = Percentage of sample

% wt = µg/g divided by 10,000

Glossary of Qualifiers

X: Not ORELAP accredited.

Approved Signatory

Derrick Tanner
General Manager



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794



Report Number: 21-012171/D002.R000
Report Date: 10/22/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30



12423 NE Whitaker Way Portland OR 97230 p.503-254-1794

Cannabis Chain of Custody Record

ORELAP ID: OR100028

		Analysis Requested										Purchase Order Number:					
												Project Number:					
												Project Name:					
Processor's License:												<input type="checkbox"/> Report Instructions: <input type="checkbox"/> Send to State - METRE <input type="checkbox"/> Final Results: <input type="checkbox"/> Final Results <input type="checkbox"/> Cash/Check/CC/Paid 30					
												Other:					
Field ID	Date/Time Collected	Pesticides - OR 89 com (see 89)	Pesticides Multi Residue - 376 compounds	Potency	Residual Solvents	Water Activity	Mold/Burden	Terpenes	Microc. Yeast and Mold	Microc. E. Coli and Total Coliform	Heavy Metals	Mycoelements	Other:	Matrix	Weight	Serving Size for edibles	Comments/Weir ID
FORM-DH8(A)-TN-D-FSSC	9/29 1855			X													Last Nat Discount
FORM-DH8(A)-TN-D-FSSC	9/29 1855							X	X								
FORM-DH8(A)-TN-D-FSSC	9/29 1855	X			X		X				X						

Collected by:	Witnessed by:	Date:	Time:	Received by:	Date:	Time:	Lab Use Only:
<input checked="" type="checkbox"/> Standard (5 day)							Test Alias
<input type="checkbox"/> Rush (3-4 day) (1.5x Standard)							Order Number
<input type="checkbox"/> Priority Rush (2 day) (2x Standard)							Proper Container
							Sample Condition
							Temperature
							Shipped Via
							Evidence of cooling: Yes/No

SUBMISSION OF SAMPLES WITH TESTING REQUIREMENTS TO PIXIS WILL BE UNDERSTOOD TO BE AN AGREEMENT TO BE AN AGREEMENT FOR SERVICES IN ACCORDANCE WITH THE CONDITIONS LISTED ON THE BACK OF THIS FORM
 Revision 1.02 Control#: C023
 Effective 01/31/2013 Revised 01/31/2013
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 Page 1 of 2

Test results relate only to the parameters tested and to the samples as received by the laboratory. Test results meet all requirements of NELAP and the Columbia Laboratories quality assurance plan unless otherwise noted. This report shall not be reproduced, except in full, without the written consent of the laboratory. Samples will be retained for a maximum of 30 days from the receipt date unless prior arrangements have been made.
 Testing in accordance with: OAR 805-007-0400 OAR 805-007-0410



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794

Report Number: 21-012171/D002.R000
 Report Date: 10/22/2021
 ORELAP#: OR100028
 Purchase Order:
 Received: 10/14/21 15:30



Revision: Document ID:
 Legacy ID: Effective:

Laboratory Pesticide Quality Control Results							
ADAC 2007.1 & EM 15602	Units: mg/kg			Batch ID: 210000			
Analysis	Blank Result	Blank Limits	Notes	LCS-Result	LCS-Spike	LCS-%Rec	Limits
Azinphos	0.000	< 0.100		1.195	3.800	119.5	78.3 - 139
Azinphos-methyl	0.000	< 1.000		5.464	4.800	134.7	75.1 - 132
Azinphos-methyl	0.000	< 0.100		0.083	3.800	111.8	10.4 - 141
Aldicarb	0.000	< 0.100		0.568	3.800	123.4	73.3 - 136
Azinphos-methyl	0.000	< 0.100		1.434	3.800	140.8	71.4 - 141
Azinphos-methyl	0.000	< 0.100		0.483	3.800	123.4	68.7 - 129
Bifenthrin	0.000	< 0.100		0.484	3.800	114.2	74.4 - 148
Bifenthrin	0.000	< 0.100		0.487	3.800	124.4	68.7 - 129
Bifenthrin	0.000	< 0.100		0.608	3.800	123.2	70.2 - 140
Carbaryl	0.000	< 0.100		0.495	3.800	123.8	70.8 - 130
Carbaryl	0.000	< 0.100		0.560	3.800	126.8	71.4 - 132
Chlorpyrifos	0.000	< 0.100		0.571	3.800	92.8	69.3 - 128
Chlorpyrifos	0.000	< 0.100		2.237	3.800	111.8	71.0 - 132
Chlorpyrifos	0.000	< 0.100		0.488	3.800	122.2	68.7 - 127
Chlorpyrifos	0.000	< 0.100		0.487	3.800	123.8	68.5 - 129
Cyfluthrin	0.000	< 0.100		2.680	2.800	131.8	71.9 - 134
Cyfluthrin	0.000	< 0.100		2.569	2.800	126.4	70.8 - 132
Deltamethrin	0.000	< 0.100		2.289	2.800	118.5	71.7 - 138
Deltamethrin	0.000	< 0.100		0.567	3.800	126.7	71.1 - 130
Deltamethrin	0.000	< 0.100		3.395	2.800	114.7	68.4 - 127
Deltamethrin	0.000	< 0.100		0.495	3.800	123.8	70.5 - 131
Disulfoton	0.000	< 0.100		0.478	3.800	119.5	68.2 - 128
Disulfoton	0.000	< 0.100		1.057	3.800	120.2	71.9 - 134
Disulfoton	0.000	< 0.100		0.483	3.800	118.8	70.8 - 131
Disulfoton	0.000	< 0.100		0.530	3.800	127.4	68.9 - 130
Disulfoton	0.000	< 0.100		0.983	3.800	127.4	70.6 - 131
Etofenprox	0.000	< 0.100		1.015	3.800	128.9	71.9 - 133
Etofenprox	0.000	< 0.100		1.194	3.800	118.4	70.4 - 131
Etofenprox	0.000	< 0.100		0.941	3.800	117.7	71.7 - 137
Etofenprox	0.000	< 0.100		1.233	3.800	113.3	68.8 - 128
Etofenprox	0.000	< 0.100		0.487	3.800	121.8	72.8 - 134
Etofenprox	0.000	< 0.100		0.988	3.800	124.8	68.8 - 130
Etofenprox-Methyl	0.000	< 0.100		1.040	3.800	126.0	70.8 - 130
Etofenprox	0.000	< 0.100		0.500	3.800	125.2	68.4 - 128
Etofenprox	0.000	< 0.100		0.488	3.800	124.5	70.5 - 131
Etofenprox	0.000	< 0.100		0.581	3.800	126.3	70.1 - 130
Etofenprox	0.000	< 0.100		0.949	3.800	118.8	68.7 - 129
Etofenprox	0.000	< 0.100		0.567	3.800	116.8	68.5 - 129
Etofenprox	0.000	< 0.100		0.500	3.800	124.8	70.2 - 130
Etofenprox	0.000	< 0.100		1.217	3.800	117.7	72.1 - 134
Etofenprox	0.000	< 0.100		2.282	2.800	113.3	70.8 - 131
Etofenprox	0.000	< 0.100		1.062	3.800	125.3	70.5 - 131
Etofenprox-Methyl	0.000	< 0.100		1.082	3.800	121.5	72.8 - 134
Etofenprox	0.000	< 0.100		0.483	3.800	123.2	70.1 - 130
Etofenprox	0.000	< 0.100		0.589	3.800	117.3	68.7 - 130
Etofenprox	0.000	< 0.100		2.243	2.800	127.2	72.7 - 135
Etofenprox	0.000	< 0.100		0.487	3.800	124.3	70.7 - 131
Etofenprox	0.000	< 0.100		0.583	3.800	124.2	70.1 - 130
Etofenprox	0.000	< 0.100		0.488	3.800	122.1	68.4 - 129
Etofenprox	0.000	< 0.100		0.487	3.413	86.5	68.8 - 128
Etofenprox	0.000	< 0.100		0.540	3.800	127.5	68.7 - 129
Etofenprox	0.000	< 0.100		0.484	3.398	127.2	72.2 - 134
Etofenprox	0.000	< 0.100		0.564	3.800	126.3	71.1 - 132
Etofenprox	0.000	< 0.100		0.488	3.400	113.8	70.4 - 131
Etofenprox	0.000	< 0.100		0.609	3.800	122.2	68.4 - 127
Etofenprox	0.000	< 0.100		0.588	3.800	123.5	68.8 - 130
Etofenprox	0.000	< 0.100		0.487	3.400	121.7	68.3 - 128
Etofenprox	0.000	< 0.100		0.421	3.400	106.3	68.7 - 129
Etofenprox	0.000	< 0.100		0.482	3.400	123.1	70.4 - 131

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 Testing in accordance with: OAR 333-007-0400 OAR 333-007-0410



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794

Report Number: 21-012171/D002.R000
Report Date: 10/22/2021
ORELAP#: OR100028
Purchase Order:
Received: 10/14/21 15:30



Revision: Document ID:
Legacy ID: Effective:

Laboratory Pesticide Quality Control Results

ADAC 2007.1 & EN 15662										Units: mg/kg		Batch ID: 211000	
Matrix Spike/Matrix Spike Duplicate Parameters										Sample ID: 21-012171-0001			
Analysis	Result	MS Res	MSD Res	Spike	RFR%	Limit	MS % Res	MSD % Res	Limit	Notes			
Acephate	0.000	5.208	5.208	1.000	5.0%	< 30	120.8%	118.8%	50 - 150				
Acyprifos	0.000	5.035	4.898	4.000	2.5%	< 30	125.6%	123.2%	50 - 150				
Azinphos	0.000	4.999	4.514	0.400	4.3%	< 30	123.4%	118.8%	50 - 150				
Aldicarb	0.000	1.012	1.047	0.800	3.4%	< 30	126.5%	130.8%	50 - 150				
Azinphos	0.000	1.407	1.405	1.000	0.3%	< 30	140.7%	140.5%	50 - 150	41			
Azinphos	0.000	3.458	3.480	0.400	4.4%	< 30	113.5%	118.2%	50 - 150				
Bifenthrin	0.000	4.572	4.554	0.400	3.1%	< 30	143.0%	140.4%	50 - 150				
Bifenthrin	0.000	3.419	3.415	0.400	0.8%	< 30	307.1%	306.3%	50 - 150				
Bifenthrin	0.000	4.962	4.916	0.400	0.4%	< 30	119.0%	116.4%	50 - 150				
Carbaryl	0.000	3.473	3.484	0.400	2.3%	< 30	118.3%	121.0%	50 - 150				
Carbaryl	0.000	4.479	4.468	0.400	1.7%	< 30	119.0%	122.0%	50 - 150				
Chlorpyrifos	0.000	3.983	3.419	0.400	6.9%	< 30	99.7%	303.6%	50 - 150				
Chlorpyrifos	0.000	1.534	1.518	1.000	0.5%	< 30	126.1%	125.5%	50 - 150				
Chlorpyrifos	0.000	3.473	3.485	0.400	2.5%	< 30	118.3%	121.2%	50 - 150				
Chlorpyrifos	0.000	4.479	4.462	0.400	2.0%	< 30	118.1%	120.5%	50 - 150				
Cyfluthrin	0.000	1.907	1.776	1.000	1.7%	< 30	98.3%	88.8%	50 - 150				
Cypermethrin	0.000	1.812	1.811	1.000	1.1%	< 30	91.6%	90.6%	50 - 150				
Diazinon	0.000	2.453	2.598	2.000	3.8%	< 30	127.5%	137.8%	50 - 150				
Diazinon	0.000	3.460	3.510	0.400	3.8%	< 30	122.8%	127.6%	50 - 150				
Diflufenican	0.000	2.374	2.339	1.000	2.8%	< 30	118.7%	116.9%	50 - 150				
Diflufenican	0.000	3.500	3.510	0.400	1.5%	< 30	125.5%	127.4%	50 - 150				
Ethioniazin	0.000	3.462	3.480	0.400	4.8%	< 30	113.1%	110.8%	50 - 150				
Ethioniazin	0.000	3.442	3.433	0.400	2.3%	< 30	305.2%	303.3%	50 - 150				
Ethioniazin	0.000	3.416	3.416	0.400	3.8%	< 30	113.8%	306.1%	50 - 150				
Fenoxypipron	0.000	3.407	3.514	0.400	3.2%	< 30	124.3%	128.4%	50 - 150				
Fenoxypipron	0.000	4.463	4.472	0.400	2.9%	< 30	81.6%	84.6%	50 - 150				
Fipronil	0.000	3.445	3.473	0.400	3.3%	< 30	305.6%	308.2%	50 - 150				
Fipronil	0.000	1.184	1.218	1.000	2.7%	< 30	118.6%	121.8%	50 - 150				
Fipronil	0.000	1.011	1.056	0.800	7.6%	< 30	126.3%	136.3%	50 - 150				
Heptachlor	0.000	1.147	1.149	1.000	0.1%	< 30	114.7%	114.9%	50 - 150				
Imidacloprid	0.000	3.514	3.518	0.400	0.8%	< 30	126.6%	127.5%	50 - 150				
Imidacloprid	0.000	1.018	1.056	0.800	4.1%	< 30	127.3%	131.3%	50 - 150				
Imidacloprid	0.000	3.399	3.006	0.800	0.7%	< 30	124.5%	125.8%	50 - 150				
Malathion	0.000	4.464	4.468	0.400	5.3%	< 30	115.7%	121.8%	50 - 150				
Malathion	0.000	3.514	3.542	0.400	5.1%	< 30	128.8%	135.3%	50 - 150				
Malathion	0.000	3.415	3.468	0.400	3.6%	< 30	118.0%	121.8%	50 - 150				
Malathion	0.000	3.799	3.823	0.800	3.9%	< 30	99.2%	303.6%	50 - 150				
MSL 204	0.000	3.475	3.501	0.400	5.8%	< 30	118.8%	125.2%	50 - 150				
Myndofenol	0.000	3.495	3.487	0.400	2.4%	< 30	116.8%	121.7%	50 - 150				
Permethrin	0.000	1.214	1.217	1.000	0.2%	< 30	121.4%	121.7%	50 - 150				
Permethrin	0.000	2.348	2.398	1.000	2.9%	< 30	112.3%	309.9%	50 - 150				
Permethrin	0.000	3.932	3.974	0.800	2.6%	< 30	116.5%	116.5%	50 - 150				
Permethrin	0.000	3.933	3.958	0.800	2.8%	< 30	116.6%	119.9%	50 - 150				
Permethrin	0.000	3.437	3.442	0.400	0.9%	< 30	306.3%	110.3%	50 - 150				
Phosmet	0.000	3.486	3.487	0.400	0.4%	< 30	114.8%	124.3%	50 - 150				
Piperonyl butoxide	0.000	2.316	2.318	1.000	0.1%	< 30	116.3%	116.4%	50 - 150				
Piperonyl butoxide	0.000	3.474	3.499	0.400	3.9%	< 30	148.4%	179.4%	50 - 150	42			
Propiconazole	0.000	3.912	3.938	0.800	1.7%	< 30	114.0%	116.2%	50 - 150				
Propiconazole	0.000	3.476	3.496	0.400	3.0%	< 30	118.9%	123.6%	50 - 150				
Pyrethrin	0.000	3.962	3.969	0.413	1.9%	< 30	87.2%	85.4%	50 - 150				
Pyridalox	0.000	4.464	4.468	0.400	0.9%	< 30	115.9%	116.8%	50 - 150				
Spinosad	0.000	3.502	3.515	0.388	2.0%	< 30	125.4%	133.8%	50 - 150				
Spinosad	0.000	3.476	3.496	0.400	4.1%	< 30	118.9%	124.8%	50 - 150				
Spiromesifen	0.000	3.553	3.566	0.400	6.5%	< 30	137.7%	141.5%	50 - 150				
Spiromesifen	0.000	3.903	3.903	0.800	0.1%	< 30	123.9%	124.3%	50 - 150				
Tebuconazole	0.000	3.914	3.913	0.800	0.1%	< 30	114.2%	114.2%	50 - 150				
Thiodiazinon	0.000	3.460	3.517	0.400	4.9%	< 30	123.3%	126.3%	50 - 150				
Thiamethoxam	0.000	3.453	3.478	0.400	4.2%	< 30	112.7%	117.5%	50 - 150				
Thiamethoxam	0.000	3.479	3.460	0.400	2.7%	< 30	119.8%	123.3%	50 - 150				

Test results relate only to the parameters tested and to the samples as received by the laboratory. Test results meet all requirements of NELAP and the Columbia Laboratories quality assurance plan unless otherwise noted. This report shall not be reproduced, except in full, without the written consent of this laboratory. Samples will be retained for a maximum of 30 days from the receipt date unless prior arrangements have been made.

Testing in accordance with: OAR 333-007-0400 OAR 333-007-0410



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794



Report Number: 21-012171/D002.R000
Report Date: 10/22/2021
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Terpenes Quality Control Results

Method Reference: EP/5035 Batch D: 2109407

Analyte	Method Blank			Laboratory Control Sample					
	Result	LOQ	Notes	Result	LCS	Units	LCS % Rec	Limits	Notes
a-pinene	<LOQ	< 200		435	500	µg/g	87%	70 - 130	
Camphene	<LOQ	< 200		459	500	µg/g	92%	70 - 130	
Sabinene	<LOQ	< 200		429	500	µg/g	86%	70 - 130	
b-Phene	<LOQ	< 200		425	500	µg/g	85%	70 - 130	
b-Myrcene	<LOQ	< 200		451	500	µg/g	90%	70 - 130	
a-phellandrene	<LOQ	< 200		463	500	µg/g	93%	70 - 130	
d-3-Caene	<LOQ	< 200		506	500	µg/g	101%	70 - 130	
a-Terpinene	<LOQ	< 200		384	500	µg/g	77%	70 - 130	
p-Cymene	<LOQ	< 200		444	500	µg/g	89%	70 - 130	
D-Limonene	<LOQ	< 200		412	500	µg/g	82%	70 - 130	
Eucalyptol	<LOQ	< 200		429	500	µg/g	86%	70 - 130	
b-α-Cimene	<LOQ	< 67		145	167	µg/g	87%	70 - 130	
b-trans-Cimene	<LOQ	< 133		299	333	µg/g	90%	70 - 130	
g-Terpinene	<LOQ	< 200		427	500	µg/g	85%	70 - 130	
Sabinene Hydrate	<LOQ	< 200		400	500	µg/g	80%	70 - 130	
Terpinolene	<LOQ	< 200		378	500	µg/g	76%	70 - 130	
D-Fenchone	<LOQ	< 200		432	500	µg/g	86%	70 - 130	
Linalool	<LOQ	< 200		474	500	µg/g	95%	70 - 130	
Fenchol	<LOQ	< 200		416	500	µg/g	83%	70 - 130	
Camphor	<LOQ	< 200		422	500	µg/g	84%	70 - 130	
Isopuleg	<LOQ	< 200		444	500	µg/g	89%	70 - 130	
Isborneol	<LOQ	< 200		422	500	µg/g	84%	70 - 130	
Borneol	<LOQ	< 200		419	500	µg/g	84%	70 - 130	
DL-Menthol	<LOQ	< 200		425	500	µg/g	85%	70 - 130	
Terpineol	<LOQ	< 200		399	500	µg/g	80%	70 - 130	
Nerol	<LOQ	< 200		390	500	µg/g	78%	70 - 130	
Pulegone	<LOQ	< 200		441	500	µg/g	88%	70 - 130	
Geraniol	<LOQ	< 200		437	500	µg/g	87%	70 - 130	
Geranyl Acetate	<LOQ	< 200		408	500	µg/g	82%	70 - 130	
α-Cedrene	<LOQ	< 200		414	500	µg/g	83%	70 - 130	
b-Caryophyllene	<LOQ	< 200		385	500	µg/g	77%	70 - 130	
α-Humulene	<LOQ	< 200		461	500	µg/g	92%	70 - 130	
Valenene	<LOQ	< 200		366	500	µg/g	73%	70 - 130	
cis-Nerolidol	<LOQ	< 200		425	500	µg/g	85%	70 - 130	
α-Farnesene	<LOQ	< 200		494	500	µg/g	99%	70 - 130	
trans-Nerolidol	<LOQ	< 200		434	500	µg/g	87%	70 - 130	
Caryophyllene Oxide	<LOQ	< 200		523	500	µg/g	105%	70 - 130	
Guaiol	<LOQ	< 200		438	500	µg/g	88%	70 - 130	
Cedrol	<LOQ	< 200		395	500	µg/g	79%	70 - 130	
α-Bisabolol	<LOQ	< 200		427	500	µg/g	85%	70 - 130	

Definitions

LOQ	Limit of Quantitation
LCS	Laboratory Control Sample
%REC	Percent Recovery



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794



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Terpenes Quality Control Results

Method Reference: EPA5035		Batch D: 2109407					
Sample/Sample Duplicate		Sample D: 21-012071-0001					
Analyte	Result	Org. Result	LOQ	Units	% RPD	LIMIT	Notes
a-pinene	1850	1790	187	µg/g	3%	< 20	
Camphene	292	292	187	µg/g	0%	< 20	
Sabinene	<LOQ	<LOQ	187	µg/g	0%	< 20	
b-Pinene	2400	2360	187	µg/g	2%	< 20	
b-Myrcene	44200	43000	187	µg/g	3%	< 20	
a-phellandrene	1010	969	187	µg/g	4%	< 20	
d-3-Caene	700	728	187	µg/g	4%	< 20	
a-Terpinene	1010	1030	187	µg/g	2%	< 20	
p-Cymene	295	247	187	µg/g	18%	< 20	
D-Limonene	10300	10100	187	µg/g	2%	< 20	
Eucalyptol	<LOQ	<LOQ	187	µg/g	0%	< 20	
b-cis-OCimene	267	248	62.3	µg/g	7%	< 20	
b-trans-OCimene	5850	5700	125	µg/g	3%	< 20	
g-Terpinene	704	699	187	µg/g	1%	< 20	
Sabinene Hydrate	<LOQ	<LOQ	187	µg/g	0%	< 20	
Terpinolene	22800	22400	187	µg/g	2%	< 20	
D-Fenchone	<LOQ	<LOQ	187	µg/g	0%	< 20	
Linalool	1230	1200	187	µg/g	2%	< 20	
Fenchol	1040	1030	187	µg/g	1%	< 20	
Camphor	<LOQ	<LOQ	187	µg/g	0%	< 20	
Isopuleg	<LOQ	<LOQ	187	µg/g	0%	< 20	
Isborneol	<LOQ	<LOQ	187	µg/g	0%	< 20	
Borneol	240	240	187	µg/g	0%	< 20	
DL-Menthol	<LOQ	<LOQ	187	µg/g	0%	< 20	
Terpineol	917	898	187	µg/g	2%	< 20	
Nerol	<LOQ	<LOQ	187	µg/g	0%	< 20	
Rulegone	<LOQ	<LOQ	187	µg/g	0%	< 20	
Geraniol	<LOQ	<LOQ	187	µg/g	0%	< 20	
Geranyl_Acetate	<LOQ	<LOQ	187	µg/g	0%	< 20	
a-Cedrene	<LOQ	<LOQ	187	µg/g	0%	< 20	
b-Caryophyllene	7510	7390	187	µg/g	2%	< 20	
a-Humulene	3200	3080	187	µg/g	4%	< 20	
Valenene	624	572	187	µg/g	9%	< 20	
cis-Nerolidol	<LOQ	<LOQ	187	µg/g	0%	< 20	
a-Farnesene	6700	6590	187	µg/g	2%	< 20	
trans-Nerolidol	537	501	187	µg/g	7%	< 20	
Caryophyllene_Oxide	423	414	187	µg/g	2%	< 20	
Guaiol	5070	5010	187	µg/g	1%	< 20	
Cedrol	<LOQ	<LOQ	187	µg/g	0%	< 20	
a-Bisabol	1100	1070	187	µg/g	3%	< 20	

Definitions

RPD Relative Percent Difference



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794



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Laboratory Quality Control Results

Batch ID: 2109438

Residual Solvents			Laboratory Control Sample						
Method Blank	LOQ		Notes	Result	Spike	Units	% Rec	Limits	Notes
Analyte	Result	<							
Propane	ND	<	200	487	407	µg/g	119.7	70	130
Isobutane	ND	<	200	567	491	µg/g	115.9	70	130
Butane	ND	<	200	564	491	µg/g	114.9	70	130
2,2-Dimethylpropane	ND	<	200	745	609	µg/g	122.3	70	130
Methanol	ND	<	200	1610	1610	µg/g	100.0	70	130
Ethylene Oxide	ND	<	30	37	38.9	µg/g	95.1	70	130
2-Methylbutane	ND	<	200	1580	1610	µg/g	98.1	70	130
Pentane	ND	<	200	1570	1610	µg/g	97.5	70	130
Ethanol	ND	<	200	1810	1610	µg/g	112.4	70	130
Ethyl Ether	ND	<	200	1610	1610	µg/g	100.0	70	130
2,2-Dimethylbutane	ND	<	30	162	164	µg/g	98.8	70	130
Acetone	ND	<	200	1580	1610	µg/g	98.1	70	130
2-Propanol	ND	<	200	1700	1610	µg/g	105.6	70	130
Ethyl Formate	ND	<	500	1540	1610	µg/g	95.7	70	130
Acetonitrile	ND	<	100	485	484	µg/g	100.2	70	130
Methyl Acetate	ND	<	500	1640	1610	µg/g	101.9	70	130
2,3-Dimethylbutane	ND	<	30	188	167	µg/g	112.6	70	130
Dichloromethane	ND	<	60	522	491	µg/g	106.3	70	130
2-Methylpentane	ND	<	30	184	165	µg/g	111.5	70	130
MTBE	ND	<	500	1670	1600	µg/g	104.4	70	130
3-Methylpentane	ND	<	30	187	172	µg/g	108.7	70	130
Hexane	ND	<	30	175	167	µg/g	104.8	70	130
1-Propanol	ND	<	500	1530	1610	µg/g	95.0	70	130
Methylethylketone	ND	<	500	1510	1620	µg/g	93.2	70	130
Ethyl acetate	ND	<	200	1610	1610	µg/g	100.0	70	130
2-Butanol	ND	<	200	1630	1610	µg/g	101.2	70	130
Tetrahydrofuran	ND	<	100	529	483	µg/g	109.5	70	130
Cyclohexane	ND	<	200	1530	1610	µg/g	95.0	70	130
2-methyl-1-propanol	ND	<	500	1650	1620	µg/g	101.9	70	130
Benzene	ND	<	1	5.38	5.38	µg/g	99.8	70	130
Isopropyl Acetate	ND	<	200	1670	1620	µg/g	103.1	70	130
Heptane	ND	<	200	1510	1610	µg/g	93.8	70	130
1-Butanol	ND	<	500	1670	1610	µg/g	103.7	70	130
Propyl Acetate	ND	<	500	1640	1620	µg/g	101.2	70	130
1,4-Dioxane	ND	<	100	516	489	µg/g	105.5	70	130
2-Ethoxyethanol	ND	<	30	152	167	µg/g	91.0	70	130
Methyl isobutylketone	ND	<	500	1420	1610	µg/g	88.2	70	130
3-Methyl-1-butanol	ND	<	500	1270	1610	µg/g	78.9	70	130
Ethylene Glycol	ND	<	200	477	504	µg/g	94.6	70	130
Toluene	ND	<	200	489	484	µg/g	101.0	70	130
Isobutyl Acetate	ND	<	500	1210	1610	µg/g	75.2	70	130
1-Pentanol	ND	<	500	1210	1610	µg/g	75.2	70	130
Butyl Acetate	ND	<	500	1680	1620	µg/g	103.7	70	130
Ethyl benzene	ND	<	200	988	968	µg/g	102.1	70	130
m-Xylene	ND	<	200	1050	977	µg/g	107.5	70	130
p-Xylene	ND	<	200	1050	982	µg/g	106.9	70	130
Cumene	ND	<	30	179	169	µg/g	105.3	70	130
Anisole	ND	<	500	1590	1630	µg/g	97.5	70	130
DMSO	ND	<	500	1540	1630	µg/g	94.5	70	130
1,2-dimethoxyethane	ND	<	50	174	162	µg/g	107.4	70	130
Tetraethylamine	ND	<	500	1710	1670	µg/g	102.4	70	130
N,N-dimethylformamide	ND	<	150	467	502	µg/g	93.0	70	130
N,N-dimethylacetamide	ND	<	150	444	489	µg/g	91.0	70	130
Pyridine	ND	<	50	86	166	µg/g	51.8	70	130 Q6
1,2-Dichloroethane	ND	<	1	1.14	1	µg/g	114.0	70	130
Chloroform	ND	<	1	1.16	1	µg/g	115.0	70	130
Tetrachloroethylene	ND	<	1	1.16	1	µg/g	115.0	70	130



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794



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QC - Sample Duplicate Sample ID: 21-012202-0001

Analyte	Result	Org. Result	LOQ Units	RPD	Limits	Accept/ Fail	Notes
Propane	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Isobutane	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Butane	ND	ND	200 µg/g	0.0	< 20	Acceptable	
2,2-Dimethylpropane	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Methanol	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Ethylene Oxide	ND	ND	30 µg/g	0.0	< 20	Acceptable	
2-Methylbutane	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Pentane	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Ethanol	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Ethyl Ether	ND	ND	200 µg/g	0.0	< 20	Acceptable	
2,2-Dimethylbutane	ND	ND	30 µg/g	0.0	< 20	Acceptable	
Acetone	ND	ND	200 µg/g	0.0	< 20	Acceptable	
2-Propanol	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Ethyl Formate	ND	ND	500 µg/g	0.0	< 20	Acceptable	
Acetonitrile	ND	ND	100 µg/g	0.0	< 20	Acceptable	
Methyl Acetate	ND	ND	500 µg/g	0.0	< 20	Acceptable	
2,3-Dimethylbutane	ND	ND	30 µg/g	0.0	< 20	Acceptable	
Dichloromethane	ND	ND	60 µg/g	0.0	< 20	Acceptable	
2-Methylpentane	ND	ND	30 µg/g	0.0	< 20	Acceptable	
MTE	ND	ND	500 µg/g	0.0	< 20	Acceptable	
3-Methylpentane	ND	ND	30 µg/g	0.0	< 20	Acceptable	
Hexane	ND	ND	30 µg/g	0.0	< 20	Acceptable	
1-Propanol	ND	ND	500 µg/g	0.0	< 20	Acceptable	
Methyl ethyl ketone	ND	ND	500 µg/g	0.0	< 20	Acceptable	
Ethyl acetate	ND	ND	200 µg/g	0.0	< 20	Acceptable	
2-Butanol	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Tetrahydrofuran	ND	ND	100 µg/g	0.0	< 20	Acceptable	
Cyclohexane	ND	ND	200 µg/g	0.0	< 20	Acceptable	
2-methyl-1-propanol	ND	ND	500 µg/g	0.0	< 20	Acceptable	
Benzene	ND	ND	1 µg/g	0.0	< 20	Acceptable	
Isopropyl Acetate	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Heptane	ND	ND	200 µg/g	0.0	< 20	Acceptable	
1-Butanol	ND	ND	500 µg/g	0.0	< 20	Acceptable	
Propyl Acetate	ND	ND	500 µg/g	0.0	< 20	Acceptable	
1,4-Dioxane	ND	ND	100 µg/g	0.0	< 20	Acceptable	
2-Ethoxyethanol	ND	ND	30 µg/g	0.0	< 20	Acceptable	
Methyl isobutyl ketone	ND	ND	500 µg/g	0.0	< 20	Acceptable	
3-Methyl-1-butanol	ND	ND	500 µg/g	0.0	< 20	Acceptable	
Ethylene Glycol	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Toluene	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Isobutyl Acetate	ND	ND	500 µg/g	0.0	< 20	Acceptable	
1-Pentanol	ND	ND	500 µg/g	0.0	< 20	Acceptable	
Bnfl Acetate	ND	ND	500 µg/g	0.0	< 20	Acceptable	
Ethylbenzene	ND	ND	200 µg/g	0.0	< 20	Acceptable	
m-p-Xylene	ND	ND	200 µg/g	0.0	< 20	Acceptable	
o-Xylene	ND	ND	200 µg/g	0.0	< 20	Acceptable	
Cumene	ND	ND	30 µg/g	0.0	< 20	Acceptable	
Anisole	ND	ND	500 µg/g	0.0	< 20	Acceptable	
DMSO	ND	ND	500 µg/g	0.0	< 20	Acceptable	
1,2-dimethoxyethane	ND	ND	50 µg/g	0.0	< 20	Acceptable	
Triethylamine	ND	ND	500 µg/g	0.0	< 20	Acceptable	
N,N-dimethylformamide	ND	ND	150 µg/g	0.0	< 20	Acceptable	
N,N-dimethylacetamide	ND	ND	150 µg/g	0.0	< 20	Acceptable	
Pyridine	ND	ND	50 µg/g	0.0	< 20	Acceptable	
1,2-Dichloroethane	ND	ND	1 µg/g	0.0	< 20	Acceptable	
Chloroform	ND	ND	1 µg/g	0.0	< 20	Acceptable	
Trichloroethylene	ND	ND	1 µg/g	0.0	< 20	Acceptable	

Abbreviations

ND - None Detected at or above MRL
 RPD - Relative Percent Difference
 LOQ - Limit of Quantitation
 O6 - Quality control outside QC limits. Data acceptable based on remaining QC.

Units of Measure:

µg/g - Microgram per gram or ppm



12423 NE Whitaker Way
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 503-254-1794



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Explanation of QC Flag Comments:

Code	Explanation
Q	Matrix interferences affecting spike or surrogate recoveries.
Q1	Quality control result biased high. Only non-detect samples reported.
Q2	Quality control outside QC limits. Data considered estimate.
Q3	Sample concentration greater than four times the amount spiked.
Q4	Non-homogenous sample matrix, affecting RPD result and/or % recoveries.
Q5	Spike results above calibration curve.
Q6	Quality control outside QC limits. Data acceptable based on remaining QC.
R	Relative percent difference (RPD) outside control limit.
R1	RPD non-calculable, as sample or duplicate results are less than five times the LOQ.
R2	Sample replicates RPD non-calculable, as only one replicate is within the analytical range.
LOQ1	Quantitation level raised due to low sample volume and/or dilution.
LOQ2	Quantitation level raised due to matrix interference.
B	Analyte detected in method blank, but not in associated samples.
B1	The sample concentration is greater than 5 times the blank concentration.
B2	The sample concentration is less than 5 times the blank concentration.