



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



Report Number: 20-014124/D02.R00
Report Date: 12/31/2020
ORELAP#: OR100028
Purchase Order:
Received: 12/23/20 11:22

Customer: Blissful Plant Co
Product identity: BP_IMMUNE Choco. Lot #12202002I
Client/Metric ID: .
Laboratory ID: 20-014124-0002

Summary

Potency:

Analyte per 28g	Result	Limits	Units	Status		
CBC per 28g	1.18		mg/28g		CBD-Total per 28g	35.3 mg/28g
CBD per 28g	35.3		mg/28g			
Δ9-THC per 28g	1.22		mg/28g		THC-Total per 28g	<LOQ
						(Reported in milligrams per serving)

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
(R)-(+)-Limonene†	0.0598	100.00%	Total Terpenes†	0.0598	100.00%

Metals:

Analyte	Result	Limits	Analyte	Result	Limits
Lead	0.0618		Cadmium	0.0421	
Arsenic	0.0136				

Microbiology:

Less than LOQ for all analytes.



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Customer: Blissful Plant Co

Product identity: BP_IMMUNE Choco. Lot #12202002I
Client/Metric ID: .
Sample Date:
Laboratory ID: 20-014124-0002
Relinquished by: FEDEX
Temp: 18.8 °C
Serving Size #1: 28 g

Sample Results

Potency per 28g		Method J AOAC 2015 V98-6 (mod)		Batch: 2010803	Analyze: 12/29/20 2:02:00 PM
Analyte	Result	Limits	Units	LOQ	Notes
CBC per 28g	1.18		mg/28g	0.906	
CBC-A per 28g	< LOQ		mg/28g	0.906	
CBC-Total per 28g	< LOQ		mg/28g	1.70	
CBD per 28g	35.3		mg/28g	0.906	
CBD-A per 28g	< LOQ		mg/28g	0.906	
CBD-Total per 28g	35.3		mg/28g	1.70	
CBDV per 28g	< LOQ		mg/28g	0.906	
CBDV-A per 28g	< LOQ		mg/28g	0.906	
CBDV-Total per 28g	< LOQ		mg/28g	1.69	
CBG per 28g	< LOQ		mg/28g	0.906	
CBG-A per 28g	< LOQ		mg/28g	0.906	
CBG-Total per 28g	< LOQ		mg/28g	1.69	
CBL per 28g	< LOQ		mg/28g	0.906	
CBN per 28g	< LOQ		mg/28g	0.906	
Δ8-THC per 28g	< LOQ		mg/28g	0.906	
Δ9-THC per 28g	1.22		mg/28g	0.906	
THC-A per 28g	< LOQ		mg/28g	0.906	
THC-Total per 28g	< LOQ		mg/28g	1.70	
THCV per 28g	< LOQ		mg/28g	0.906	
THCV-A per 28g	< LOQ		mg/28g	0.906	
THCV-Total per 28g	< LOQ		mg/28g	1.70	
Total Cannabinoids 28g†	37.7		mg/28g		



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Microbiology

Analyte	Result	Limits	Units	LOQ	Batch	Analyze	Method	Notes
Aerobic Plate Count	< LOQ		cfu/g	10	2010725	12/28/20	AOAC 990.12 (Petrifilm)	X
E.coli	< LOQ		cfu/g	10	2010726	12/28/20	AOAC 991.14 (Petrifilm)	X
Total Coliforms	< LOQ		cfu/g	10	2010726	12/28/20	AOAC 991.14 (Petrifilm)	X
Staphylococcus aureus	< LOQ		cfu/g	10	2010729	12/27/20	AOAC 2003.07	X
Mold (RAPID Petrifilm)	< LOQ		cfu/g	10	2010728	12/28/20	AOAC 2014.05 (RAPID)	X
Yeast (RAPID Petrifilm)	< LOQ		cfu/g	10	2010728	12/28/20	AOAC 2014.05 (RAPID)	X
Salmonella spp.	Negative		/25g		2010730	12/27/20	AOAC 2016.01	X
Listeria spp.	Negative		/25g		2010731	12/27/20	AOAC 2016.07	X
E.coli O157:H7	Negative		/25g		2010732	12/27/20	AOAC 2017.01	X.I

Solvents		Method EPA5021A				Units µg/g	Batch 2010661	Analyze 12/28/20 07:36 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		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	30.0	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	200	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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Pesticides	Method AOAC 2007.01 & EN 15662 (mod)					Units mg/kg	Batch 2010776	Analyze 12/29/20 08:07 AM			
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		Flonicamid	< 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							

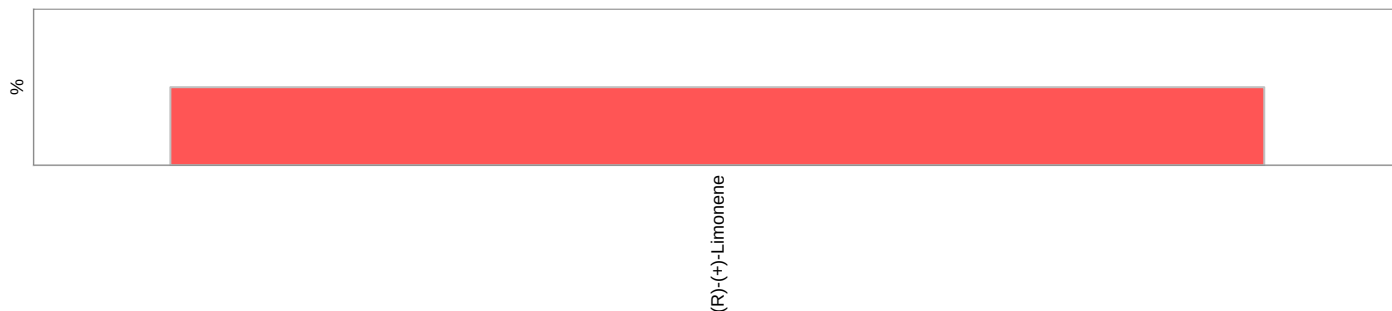


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Terpenes				Method J AOAC 2015 V98-6	Units %	Batch 2010779	Analyze 12/29/20 08:52 AM		
Analyte	Result	LOQ	% of Total	Notes	Analyte	Result	LOQ	% of Total	Notes
(R)-(+)-Limonene [†]	0.0598	0.020	100.00%		(-)-a-Terpineol [†]	< LOQ	0.020	0.00%	
(-)-caryophyllene oxide [†]	< LOQ	0.020	0.00%		(-)-Guaiol [†]	< LOQ	0.020	0.00%	
(-)-Isopulegol [†]	< LOQ	0.020	0.00%		(-)-β-Pinene [†]	< LOQ	0.020	0.00%	
(+)-Borneol [†]	< LOQ	0.020	0.00%		(+)-Cedrol [†]	< LOQ	0.020	0.00%	
(+)-fenchol [†]	< LOQ	0.020	0.00%		(+)-Pulegone [†]	< LOQ	0.020	0.00%	
(±)-Camphor [†]	< LOQ	0.020	0.00%		(±)-cis-Nerolidol [†]	< LOQ	0.020	0.00%	
(±)-fenchone [†]	< LOQ	0.020	0.00%		(±)-trans-Nerolidol [†]	< LOQ	0.020	0.00%	
a-Bisabolol [†]	< LOQ	0.020	0.00%		a-cedrene [†]	< LOQ	0.020	0.00%	
a-phellandrene [†]	< LOQ	0.020	0.00%		a-pinene [†]	< LOQ	0.020	0.00%	
a-Terpinene [†]	< LOQ	0.020	0.00%		Camphene [†]	< LOQ	0.020	0.00%	
cis-β-Ocimene [†]	< LOQ	0.006	0.00%		d-3-Carene [†]	< LOQ	0.020	0.00%	
Eucalyptol [†]	< LOQ	0.020	0.00%		farnesene [†]	< LOQ	0.020	0.00%	
gamma-Terpinene [†]	< LOQ	0.020	0.00%		Geraniol [†]	< LOQ	0.020	0.00%	
Geranyl acetate [†]	< LOQ	0.020	0.00%		Humulene [†]	< LOQ	0.020	0.00%	
Isoborneol [†]	< LOQ	0.020	0.00%		Linalool [†]	< LOQ	0.020	0.00%	
Menthol [†]	< LOQ	0.020	0.00%		nerol [†]	< LOQ	0.020	0.00%	
p-Cymene [†]	< LOQ	0.020	0.00%		Sabinene [†]	< LOQ	0.020	0.00%	
Sabinene hydrate [†]	< LOQ	0.020	0.00%		β-Caryophyllene [†]	< LOQ	0.020	0.00%	
β-Myrcene [†]	< LOQ	0.020	0.00%		Terpinolene [†]	< LOQ	0.020	0.00%	
trans-β-Ocimene [†]	< LOQ	0.013	0.00%		valencene [†]	< LOQ	0.020	0.00%	
Total Terpenes	0.0598								



Metals								
Analyte	Result	Limits	Units	LOQ	Batch	Analyze	Method	Notes
Arsenic	0.0136		mg/kg	0.00967	2010816	12/29/20	AOAC 2013.06 (mod.)	X
Cadmium	0.0421		mg/kg	0.00967	2010816	12/29/20	AOAC 2013.06 (mod.)	X
Lead	0.0618		mg/kg	0.00967	2010816	12/29/20	AOAC 2013.06 (mod.)	X
Mercury	< LOQ		mg/kg	0.00484	2010816	12/29/20	AOAC 2013.06 (mod.)	X



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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

/25g = Per 25g

cfu/g = Colony forming units per gram

g = Gram

µg/g = Microgram per gram

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

mg/28g = Milligram per 28g

% = Percentage of sample

% wt = µg/g divided by 10,000

Glossary of Qualifiers

I: Insufficient sample received to meet method requirements.

X: Not ORELAP accredited.

Approved Signatory

Derrick Tanner
General Manager



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Columbia Laboratories
Sample Receipt Form

Revision: 1.01 Document Control: CF015
Revised: 02/28/2020 Effective: 02/28/2020

Job Number: 20-014124 Search Name: _____

Package/Cooler opened on (if different than received date/time) Date: 12/23 Time: 11:22

Received By (Initials): JB

1) Were custody seals on outside of the package/cooler?
If YES, how many and where? _____ YES NO NA

Were signature and date correct? _____ YES NO NA

2) Were custody papers included in the package/cooler? YES NO NA

3) Were custody papers properly filled out (ink, sign, date)? YES NO NA

4) Did you sign custody papers in the appropriate place? YES NO NA

5) How was the package/cooler delivered?

UPS FEDEX USPS CLIENT COURIER OTHER: _____

Tracking Number (written in or copy of shipping label): 7724 4529 2104

6) Was packing material used? YES NO NA

Peanuts Bubble Wrap Foam Paper Other: _____

7) Was sufficient ice used (if appropriate)?
What kind? YES NO NA

Blue Ice Ice Cooler Packs Dry Ice

8) Were all sample containers sealed in separate plastic bags? YES NO NA

9) Did all sample containers arrive in good condition? YES NO NA

10) Were all sample container labels complete? YES NO NA

11) Did all sample container labels and tags agree with the coc? YES NO NA

12) Were correct sample containers used for the tests indicated? YES NO NA

13) Were VOA vials checked for absence of air bubbles (note if found)? YES NO NA

14) Was a sufficient amount of sample sent in each sample container? YES NO NA

15) Temperature of the samples upon receipt (See SOP for proper temps) 18.8 °C

16) Sample location prior to login: R25 R39 R44 F44 Ambient Shelf Cannabis Table Other: _____

Explain any discrepancies: _____

Page 1 of 1



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Laboratory Quality Control Results									
Residual Solvents				Batch ID: 2010661					
Method Blank				Laboratory Control Sample					
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes
Propane	ND	< 200		529	595	µg/g	88.9	70 - 130	
Isobutane	ND	< 200		678	761	µg/g	89.1	70 - 130	
Butane	ND	< 200		687	761	µg/g	90.3	70 - 130	
2,2-Dimethylpropane	ND	< 200		849	955	µg/g	88.9	70 - 130	
Methanol	ND	< 200		1490	1610	µg/g	92.5	70 - 130	
Ethylene Oxide	ND	< 30		49.1	58.3	µg/g	84.2	70 - 130	
2-Methylbutane	ND	< 200		1190	1600	µg/g	74.4	70 - 130	
Pentane	ND	< 200		1220	1610	µg/g	75.8	70 - 130	
Ethanol	ND	< 200		1410	1610	µg/g	87.6	70 - 130	
Ethyl Ether	ND	< 200		1400	1610	µg/g	87.0	70 - 130	
2,2-Dimethylbutane	ND	< 30		140	168	µg/g	83.3	70 - 130	
Acetone	ND	< 200		1430	1610	µg/g	88.8	70 - 130	
2-Propanol	ND	< 200		1480	1600	µg/g	92.5	70 - 130	
Ethyl Formate	ND	< 500		1320	1710	µg/g	77.2	70 - 130	
Acetonitrile	ND	< 100		417	486	µg/g	85.8	70 - 130	
Methyl Acetate	ND	< 500		1320	1610	µg/g	82.0	70 - 130	
2,3-Dimethylbutane	ND	< 30		168	162	µg/g	103.7	70 - 130	
Dichloromethane	ND	< 200		427	490	µg/g	87.1	70 - 130	
2-Methylpentane	ND	< 30		132	164	µg/g	80.5	70 - 130	
MTBE	ND	< 500		1330	1620	µg/g	82.1	70 - 130	
3-Methylpentane	ND	< 30		142	166	µg/g	85.5	70 - 130	
Hexane	ND	< 30		146	167	µg/g	87.4	70 - 130	
1-Propanol	ND	< 500		1420	1600	µg/g	88.8	70 - 130	
Methylethylketone	ND	< 500		1370	1610	µg/g	85.1	70 - 130	
Ethyl acetate	ND	< 200		1450	1610	µg/g	90.1	70 - 130	
2-Butanol	ND	< 200		1500	1610	µg/g	93.2	70 - 130	
Tetrahydrofuran	ND	< 100		423	484	µg/g	87.4	70 - 130	
Cyclohexane	ND	< 200		1430	1610	µg/g	88.8	70 - 130	
2-methyl-1-propanol	ND	< 500		1470	1610	µg/g	91.3	70 - 130	
Benzene	ND	< 1		17.9	24.5	µg/g	73.1	70 - 130	
Isopropyl Acetate	ND	< 200		1450	1620	µg/g	89.5	70 - 130	
Heptane	ND	< 200		1510	1610	µg/g	93.8	70 - 130	
1-Butanol	ND	< 500		1430	1600	µg/g	89.4	70 - 130	
Propyl Acetate	ND	< 500		1430	1620	µg/g	88.3	70 - 130	
1,4-Dioxane	ND	< 100		430	484	µg/g	88.8	70 - 130	
2-Ethoxyethanol	ND	< 30		151	186	µg/g	81.2	70 - 130	
Methylisobutylketone	ND	< 500		1280	1610	µg/g	79.5	70 - 130	
3-Methyl-1-butanol	ND	< 500		1320	1610	µg/g	82.0	70 - 130	
Ethylene Glycol	ND	< 200		447	509	µg/g	87.8	70 - 130	
Toluene	ND	< 200		441	492	µg/g	89.6	70 - 130	
Isobutyl Acetate	ND	< 500		1440	1610	µg/g	89.4	70 - 130	
1-Pentanol	ND	< 500		1400	1620	µg/g	86.4	70 - 130	
Butyl Acetate	ND	< 500		1400	1610	µg/g	87.0	70 - 130	
Ethylbenzene	ND	< 200		883	971	µg/g	90.9	70 - 130	
m,p-Xylene	ND	< 200		874	975	µg/g	89.6	70 - 130	
o-Xylene	ND	< 200		848	966	µg/g	87.8	70 - 130	
Cumene	ND	< 30		161	167	µg/g	96.4	70 - 130	
Anisole	ND	< 500		1330	1610	µg/g	82.6	70 - 130	
DMSO	ND	< 500		1330	1650	µg/g	80.6	70 - 130	
1,2-dimethoxyethane	ND	< 50		144	170	µg/g	84.7	70 - 130	
Triethylamine	ND	< 500		1240	1610	µg/g	77.0	70 - 130	
N,N-dimethylformamide	ND	< 150		401	490	µg/g	81.8	70 - 130	
N,N-dimethylacetamide	ND	< 150		378	485	µg/g	77.9	70 - 130	
Pyridine	ND	< 50		135	167	µg/g	80.8	70 - 130	



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QC - Sample Duplicate			Sample ID: 20-0014079-0001					
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Accept/Fail	Notes
Propane	ND		200	µg/g		< 20		
Isobutane	ND		200	µg/g		< 20		
Butane	ND		200	µg/g		< 20		
2,2-Dimethylpropane	ND		200	µg/g		< 20		
Methanol	ND		200	µg/g		< 20		
Ethylene Oxide	ND		30	µg/g		< 20		
2-Methylbutane	ND		200	µg/g		< 20		
Pentane	ND		200	µg/g		< 20		
Ethanol	ND		200	µg/g		< 20		
Ethyl Ether	ND		200	µg/g		< 20		
2,2-Dimethylbutane	ND		30	µg/g		< 20		
Acetone	ND		200	µg/g		< 20		
2-Propanol	ND		200	µg/g		< 20		
Ethyl Formate	ND		500	µg/g		< 20		
Acetonitrile	ND		100	µg/g		< 20		
Methyl Acetate	ND		500	µg/g		< 20		
2,3-Dimethylbutane	ND		30	µg/g		< 20		
Dichloromethane	ND		200	µg/g		< 20		
2-Methylpentane	ND		30	µg/g		< 20		
MTBE	ND		500	µg/g		< 20		
3-Methylpentane	ND		30	µg/g		< 20		
Hexane	ND		30	µg/g		< 20		
1-Propanol	ND		500	µg/g		< 20		
Methylethylketone	ND		500	µg/g		< 20		
Ethyl acetate	ND		200	µg/g		< 20		
2-Butanol	ND		200	µg/g		< 20		
Tetrahydrofuran	ND		100	µg/g		< 20		
Cyclohexane	ND		200	µg/g		< 20		
2-methyl-1-propanol	ND		500	µg/g		< 20		
Benzene	ND		1	µg/g		< 20		
Isopropyl Acetate	ND		200	µg/g		< 20		
Heptane	ND		200	µg/g		< 20		
1-Butanol	ND		500	µg/g		< 20		
Propyl Acetate	ND		500	µg/g		< 20		
1,4-Dioxane	ND		100	µg/g		< 20		
2-Ethoxyethanol	ND		30	µg/g		< 20		
Methylisobutylketone	ND		500	µg/g		< 20		
3-Methyl-1-butanol	ND		500	µg/g		< 20		
Ethylene Glycol	ND		200	µg/g		< 20		
Toluene	ND		200	µg/g		< 20		
Isobutyl Acetate	ND		500	µg/g		< 20		
1-Pentanol	ND		500	µg/g		< 20		
Butyl Acetate	ND		500	µg/g		< 20		
Ethylbenzene	ND		200	µg/g		< 20		
m,p-Xylene	ND		200	µg/g		< 20		
o-Xylene	ND		200	µg/g		< 20		
Cumene	ND		30	µg/g		< 20		
Anisole	ND		500	µg/g		< 20		
DMSO	ND		500	µg/g		< 20		
1,2-dimethoxyethane	ND		50	µg/g		< 20		
Triethylamine	ND		500	µg/g		< 20		
N,N-dimethylformamide	ND		150	µg/g		< 20		
N,N-dimethylacetamide	ND		150	µg/g		< 20		
Pyridine	ND		50	µg/g		< 20		

Abbreviations

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

Units of Measure:

µg/g - Microgram per gram or ppm



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



Report Number: 20-014124/D02.R00
Report Date: 12/31/2020
ORELAP#: OR100028
Purchase Order:
Received: 12/23/20 11:22

Terpenes Quality Control Results

Method Reference: EPA 5035				Batch ID: 2010779					
Method Blank				Laboratory Control Sample					
Analyte	Result	LOQ	Notes	Result	LCS	Units	LCS % Rec	Limits	Notes
a-pinene	<LOQ	< 200		602	500	µg/g	120%	70 - 130	
Camphene	<LOQ	< 200		557	500	µg/g	111%	70 - 130	
Sabinene	<LOQ	< 200		541	500	µg/g	108%	70 - 130	
b-Pinene	<LOQ	< 200		642	500	µg/g	128%	70 - 130	
b-Myrcene	<LOQ	< 200		407	500	µg/g	81%	70 - 130	
a-phellandrene	<LOQ	< 200		494	500	µg/g	99%	70 - 130	
d-3-Carene	<LOQ	< 200		602	500	µg/g	120%	70 - 130	
a-Terpinene	<LOQ	< 200		500	500	µg/g	100%	70 - 130	
p-Cymene	<LOQ	< 200		449	500	µg/g	90%	70 - 130	
D-Limonene	<LOQ	< 200		553	500	µg/g	111%	70 - 130	
Eucalyptol	<LOQ	< 200		581	500	µg/g	116%	70 - 130	
b-cis-Ocimene	<LOQ	< 66.7		154	167	µg/g	93%	70 - 130	
b-trans-Ocimene	<LOQ	< 133		303	333	µg/g	91%	70 - 130	
g-Terpinene	<LOQ	< 200		523	500	µg/g	105%	70 - 130	
Sabinene_Hydrate	<LOQ	< 200		552	500	µg/g	110%	70 - 130	
Terpinolene	<LOQ	< 200		483	500	µg/g	97%	70 - 130	
D-Fenchone	<LOQ	< 200		586	500	µg/g	117%	70 - 130	
Linalool	<LOQ	< 200		516	500	µg/g	103%	70 - 130	
Fenchol	<LOQ	< 200		556	500	µg/g	111%	70 - 130	
Camphor	<LOQ	< 200		561	500	µg/g	112%	70 - 130	
Isopulego	<LOQ	< 200		470	500	µg/g	94%	70 - 130	
Isoborneol	<LOQ	< 200		605	500	µg/g	121%	70 - 130	
Borneol	<LOQ	< 200		560	500	µg/g	112%	70 - 130	
DL-Menthol	<LOQ	< 200		559	500	µg/g	112%	70 - 130	
Terpineol	<LOQ	< 200		500	500	µg/g	100%	70 - 130	
Nerol	<LOQ	< 200		375	500	µg/g	75%	70 - 130	
Pulegone	<LOQ	< 200		523	500	µg/g	105%	70 - 130	
Geraniol	<LOQ	< 200		420	500	µg/g	84%	70 - 130	
Geranyl_Acetate	<LOQ	< 200		522	500	µg/g	104%	70 - 130	
a-Cedrene	<LOQ	< 200		555	500	µg/g	111%	70 - 130	
b-Caryophyllene	<LOQ	< 200		559	500	µg/g	112%	70 - 130	
a-Humulene	<LOQ	< 200		608	500	µg/g	122%	70 - 130	
Valenene	<LOQ	< 200		507	500	µg/g	101%	70 - 130	
cis-Nerolidol	<LOQ	< 200		565	500	µg/g	113%	70 - 130	
a-Farnesene	<LOQ	< 200		518	500	µg/g	104%	70 - 130	
trans-Nerolidol	<LOQ	< 200		532	500	µg/g	106%	70 - 130	
Caryophyllene_Oxide	<LOQ	< 200		564	500	µg/g	113%	70 - 130	
Guaiol	<LOQ	< 200		575	500	µg/g	115%	70 - 130	
Cedrol	<LOQ	< 200		577	500	µg/g	115%	70 - 130	
a-Bisabolol	<LOQ	< 200		566	500	µg/g	113%	70 - 130	

Definitions

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

Formulas

$$\text{LCS Percent Recovery} = \frac{\text{LCS Result } \mu\text{g/g}}{\text{Spike } \mu\text{g/g}} * 100\%$$



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



Report Number: 20-014124/D02.R00
Report Date: 12/31/2020
ORELAP#: OR100028
Purchase Order:
Received: 12/23/20 11:22

Terpenes Quality Control Results

Method Reference: EPA 5035				Batch ID: 2010779			
Sample/Sample Duplicate			Sample ID: 20-014124-0001				
Analyte	Result	Org. Result	LOQ	Units	% RPD	LIMIT	Notes
a-pinene	<LOQ	<LOQ	200	µg/g	0%	< 20	
Camphene	<LOQ	<LOQ	200	µg/g	0%	< 20	
Sabinene	<LOQ	<LOQ	200	µg/g	0%	< 20	
b-Pinene	<LOQ	<LOQ	200	µg/g	0%	< 20	
b-Myrcene	<LOQ	<LOQ	200	µg/g	0%	< 20	
a-phellandrene	<LOQ	<LOQ	200	µg/g	0%	< 20	
d-3-Carene	<LOQ	<LOQ	200	µg/g	0%	< 20	
a-Terpinene	<LOQ	<LOQ	200	µg/g	0%	< 20	
p-Cymene	<LOQ	<LOQ	200	µg/g	0%	< 20	
D-Limonene	<LOQ	<LOQ	200	µg/g	0%	< 20	
Eucalyptol	<LOQ	<LOQ	200	µg/g	0%	< 20	
b-cis-Öcimene	<LOQ	<LOQ	66.7	µg/g	0%	< 20	
b-trans-Öcimene	<LOQ	<LOQ	133	µg/g	0%	< 20	
g-Terpinene	<LOQ	<LOQ	200	µg/g	0%	< 20	
Sabinene_Hydrate	<LOQ	<LOQ	200	µg/g	0%	< 20	
Terpinolene	<LOQ	<LOQ	200	µg/g	0%	< 20	
D-Fenchone	<LOQ	<LOQ	200	µg/g	0%	< 20	
Linalool	<LOQ	<LOQ	200	µg/g	0%	< 20	
Fenchol	<LOQ	<LOQ	200	µg/g	0%	< 20	
Camphor	<LOQ	<LOQ	200	µg/g	0%	< 20	
Isopulego	<LOQ	<LOQ	200	µg/g	0%	< 20	
Isoborneol	<LOQ	<LOQ	200	µg/g	0%	< 20	
Borneol	<LOQ	<LOQ	200	µg/g	0%	< 20	
DL-Menthol	<LOQ	<LOQ	200	µg/g	0%	< 20	
Terpineol	<LOQ	<LOQ	200	µg/g	0%	< 20	
Nerol	<LOQ	<LOQ	200	µg/g	0%	< 20	
Pulegone	<LOQ	<LOQ	200	µg/g	0%	< 20	
Geraniol	<LOQ	<LOQ	200	µg/g	0%	< 20	
Geranyl_Acetate	<LOQ	<LOQ	200	µg/g	0%	< 20	
a-Cedrene	<LOQ	<LOQ	200	µg/g	0%	< 20	
b-Caryophyllene	<LOQ	<LOQ	200	µg/g	0%	< 20	
a-Humulene	<LOQ	<LOQ	200	µg/g	0%	< 20	
Valenene	<LOQ	<LOQ	200	µg/g	0%	< 20	
cis-Nerolidol	<LOQ	<LOQ	200	µg/g	0%	< 20	
a-Farnesene	<LOQ	<LOQ	200	µg/g	0%	< 20	
trans-Nerolidol	<LOQ	<LOQ	200	µg/g	0%	< 20	
Caryophyllene_Oxide	<LOQ	<LOQ	200	µg/g	0%	< 20	
Guaiol	<LOQ	<LOQ	200	µg/g	0%	< 20	
Cedrol	<LOQ	<LOQ	200	µg/g	0%	< 20	
a-Bisabolol	<LOQ	<LOQ	200	µg/g	0%	< 20	

Definitions

RPD Relative Percent Difference

Formulas

Relative Percent Difference

$$= \frac{[Sample\ Result\ \mu g/g - Duplicate\ Result\ \mu g/g]}{(\frac{Sample\ Results\ \mu g/g + Duplicate\ Result\ \mu g/g}{2})} * 100\%$$



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



Report Number: 20-014124/D02.R00
Report Date: 12/31/2020
ORELAP#: OR100028
Purchase Order:
Received: 12/23/20 11:22

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

Laboratory Quality Control Results

J AOAC 2015 V98-6 **Batch ID: 2010803**

Laboratory Control Sample

Analyte	Result	Spike	Units	% Rec	Limits	Evaluation	Notes
CBDV-A	0.00939	0.01	%	93.9	85.0 - 115	Acceptable	
CBDV	0.00984	0.01	%	98.4	85.0 - 115	Acceptable	
CBD-A	0.0101	0.01	%	101	85.0 - 115	Acceptable	
CBG-A	0.00934	0.01	%	93.4	85.0 - 115	Acceptable	
CBG	0.00983	0.01	%	98.3	85.0 - 115	Acceptable	
CBD	0.0105	0.01	%	105	85.0 - 115	Acceptable	
THCV	0.01000	0.01	%	100	85.0 - 115	Acceptable	
THCVA	0.00880	0.01	%	88.0	85.0 - 115	Acceptable	
CBN	0.0110	0.01	%	110	85.0 - 115	Acceptable	
THC	0.0107	0.01	%	107	85.0 - 115	Acceptable	
D8THC	0.00983	0.01	%	98.3	85.0 - 115	Acceptable	
CBL	0.00983	0.01	%	98.3	85.0 - 115	Acceptable	
CBC	0.01000	0.01	%	100	85.0 - 115	Acceptable	
THCA	0.0100	0.01	%	100	85.0 - 115	Acceptable	
CBCA	0.00880	0.01	%	88.0	85.0 - 115	Acceptable	

Method Blank

Analyte	Result	LOQ	Units	Limits	Evaluation	Notes
CBDV-A	<LOQ	0.003	%	< 0.003	Acceptable	
CBDV	<LOQ	0.003	%	< 0.003	Acceptable	
CBD-A	<LOQ	0.003	%	< 0.003	Acceptable	
CBG-A	<LOQ	0.003	%	< 0.003	Acceptable	
CBG	<LOQ	0.003	%	< 0.003	Acceptable	
CBD	<LOQ	0.003	%	< 0.003	Acceptable	
THCV	<LOQ	0.003	%	< 0.003	Acceptable	
THCVA	<LOQ	0.003	%	< 0.003	Acceptable	
CBN	<LOQ	0.003	%	< 0.003	Acceptable	
THC	<LOQ	0.003	%	< 0.003	Acceptable	
D8THC	<LOQ	0.003	%	< 0.003	Acceptable	
CBL	<LOQ	0.003	%	< 0.003	Acceptable	
CBC	<LOQ	0.003	%	< 0.003	Acceptable	
THCA	<LOQ	0.003	%	< 0.003	Acceptable	
CBCA	<LOQ	0.003	%	< 0.003	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: 20-014124/D02.R00
Report Date: 12/31/2020
ORELAP#: OR100028
Purchase Order:
Received: 12/23/20 11:22

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

Laboratory Quality Control Results

J AOAC 2015 V98-6				Batch ID: 2010803				
Sample Duplicate				Sample ID: 20-013985-0001				
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDV-A	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBDV	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBD-A	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBG-A	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBG	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBD	0.258	0.259	0.003	%	0.448	< 20	Acceptable	
THCV	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
THCVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBN	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
D8THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBL	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
THCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	

Abbreviations

ND - None Detected at or above MRL
RPD - Relative Percent Difference
LOQ - Limit of Quantitation
NA - Calculation Not Applicable given non-numerical results

Units of Measure:

% - Percent



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



Report Number: 20-014124/D02.R00
Report Date: 12/31/2020
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Purchase Order:
Received: 12/23/20 11:22

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.