

# CERTIFICATE OF ANALYSIS

**PRODUCT NAME:** CBD Sports Cream  
**PRODUCT STRENGTH:** 1000mg / bottle  
**BATCH:** 22165-02  
**BEST BY DATE:** 6/20/2024

### Physical Attributes

Test	Method	Specification	Results
Color	Joy Internal	White to off white	PASS
Odor	Joy Internal	Blend of Menthol, Camphor, Eucalyptus, Lavender, Rosemary, Wintergreen & Marjoram.	PASS
Appearance	Joy Internal	Creamy smooth cream consistency with medium viscosity	PASS
Primary Package Eval.	Joy Internal	Container clean and free of filth. Lid intact.	PASS
Secondary Package Eval.	Joy Internal	Labeling Compliance Checked, Cartons sturdy and clean. Sufficient cushion material exists. Box taped and secure.	PASS


### Review of Third-Party Analysis

Panel	Method	Specification	Results*	Pass/Fail
<b>Potency - Total CBD</b>	HPLC-UV DAD	LOQ*: ≥ 1000mg / bottle	<b>1179.36 mg</b>	PASS
<b>Potency - D9-THC</b>	HPLC-UV DAD	LOQ: <0.01% THC (Broad Spectrum)	<b>Below LOQ</b>	PASS
<b>Expanded Pesticide Panel</b>	HPLC-QQQ	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	<b>Below LOQ</b>	PASS
<b>Microbial</b> Escherichia coli (STEC)	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 **CFU/25	<b>Absent</b>	PASS
<b>Microbial</b> Salmonella	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram	<b>Absent</b>	PASS
<b>Microbial</b> Yeast and Mold	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 <sup>2</sup> CFU/gram	<b>Below LOQ</b>	PASS
<b>Microbial</b> Total Coliforms*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 <sup>2</sup> CFU/gram	<b>Below LOQ</b>	PASS
<b>Microbial</b> Total Aerobic Count*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 <sup>3</sup> CFU/gram	<b>Below LOQ</b>	PASS
<b>Heavy Metals</b>	ICP-MS	Arsenic (As): ≤1.5 ppm† Cadmium (Cd): ≤0.5 ppm Lead (Pb): ≤0.5 ppm Mercury (Hg): ≤1.5 ppm	<b>Below LOQ</b>	PASS
<b>Mycotoxins</b>	ICP-MS	Total Aflatoxins <20 ppb†† Afltoxin B1 < 5 ppb Ochratoxin < 5ppb	<b>Below LOQ</b>	PASS
<b>Residual Solvents</b>	GC-HS-MSD	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	<b>Below LOQ</b>	PASS

\*Level of Quantification  
 \*\*Colony Forming Units per Gram  
 † Parts Per Million †† Part Per Billion

Values expressed in scientific notation.  
 Examples:  
 10<sup>2</sup>=100  
 10<sup>3</sup>=1,000

Quality Certified

  
 \_\_\_\_\_  
 Name

7/13/22

\_\_\_\_\_



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



**Report Number:** 22-007443/D002.R001  
**Report Date:** 07/08/2022  
**ORELAP#:** OR100028  
**Purchase Order:**  
**Received:** 06/24/22 10:48

This is an amended version of report# 22-007443/D002.R000.  
 Reason: Report includes additional testing.

**Customer:** Joy Organics  
**Product identity:** CBD Sports Cream 1000mg 22165-02  
**Client/Metric ID:** .  
**Laboratory ID:** 22-007443-0001

### Summary

**Potency:**

Analyte	Result	Limits	Units	Status	
CBD	1.04		%		CBD-Total per 1g 10.4 mg/1g
CBG†	0.104		%		
Analyte per 1g	Result	Limits	Units	Status	
CBD per 1g	10.4		mg/1g		THC-Total per 1g <LOQ
CBG per 1g†	1.04		mg/1g		(Reported in milligrams per serving)

**Residual Solvents:**

All analytes passing and less than LOQ.

**Pesticides:**

All analytes passing and less than LOQ.

**Metals:**

Less than LOQ for all analytes.

**Microbiology:**

Less than LOQ for all analytes.



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**Customer:** Joy Organics

**Product identity:** CBD Sports Cream 1000mg 22165-02  
**Client/Metric ID:** .  
**Sample Date:**  
**Laboratory ID:** 22-007443-0001  
**Evidence of Cooling:** No  
**Temp:** 2202 °C  
**Relinquished by:** UPS  
**Serving Size #1:** 1 g

### Sample Results

Potency	Method: J AOAC 2015 V98-6 (mod)		Units %	Batch: 2205490	Analyze: 6/28/22 1:50:00 AM
Analyte	Result	Limits	Units	LOQ	Notes
CBD	1.04		%	0.0325	
CBD-A	< LOQ		%	0.00325	
CBD-Total	1.04		%	0.0354	
CBG <sup>†</sup>	0.104		%	0.00325	
CBG-A <sup>†</sup>	< LOQ		%	0.00325	
CBG-Total	0.104		%	0.00607	
CBN	< LOQ		%	0.00325	
Δ8-THC	< LOQ		%	0.00325	
Δ9-THC	< LOQ		%	0.00325	
THC-A	< LOQ		%	0.00325	
THC-Total	< LOQ		%	0.00610	
<b>Total Cannabinoids<sup>†</sup></b>	<b>1.14</b>		<b>%</b>		

Potency per 1g	Method: J AOAC 2015 V98-6 (mod)		Units mg/se	Batch: 2205490	Analyze: 6/28/22 1:50:00 AM
Analyte	Result	Limits	Units	LOQ	Notes
CBD per 1g	10.4		mg/1g	0.325	
CBD-A per 1g	< LOQ		mg/1g	0.0325	
CBD-Total per 1g	10.4		mg/1g	0.354	
CBG per 1g <sup>†</sup>	1.04		mg/1g	0.0325	
CBG-A per 1g <sup>†</sup>	< LOQ		mg/1g	0.0325	
CBG-Total per 1g <sup>†</sup>	1.04		mg/1g	0.0607	
CBN per 1g	< LOQ		mg/1g	0.0325	
Δ8-THC per 1g <sup>†</sup>	< LOQ		mg/1g	0.0325	
Δ9-THC per 1g	< LOQ		mg/1g	0.0325	
THC-A per 1g	< LOQ		mg/1g	0.0325	
THC-Total per 1g	< LOQ		mg/1g	0.0610	

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**Microbiology**

Analyte	Result	Limits	Units	LOQ	Batch	Analyze	Method	Status	Notes
Aerobic Plate Count	< LOQ	10,000.00	cfu/g	10	2205573	07/02/22	AOAC 990.12 (Petrifilm)	pass	X
E.coli	< LOQ	100.00	cfu/g	10	2205571	07/02/22	AOAC 991.14 (Petrifilm)	pass	X
Total Coliforms	< LOQ	100.00	cfu/g	10	2205571	07/02/22	AOAC 991.14 (Petrifilm)	pass	X
Mold (RAPID Petrifilm)	< LOQ	1,000.00	cfu/g	10	2205572	07/03/22	AOAC 2014.05 (RAPID)	pass	X
Yeast (RAPID Petrifilm)	< LOQ	1,000.00	cfu/g	10	2205572	07/03/22	AOAC 2014.05 (RAPID)	pass	X
Salmonella spp. by PCR	Negative		/25g		2205551	07/01/22	AOAC 2020.02		X
EHEC including STEC	Negative		/25g		2205553	07/01/22	AOAC RI 121806		X

**Solvents Method: Residual Solvents by GC/MS Units µg/g Batch 2205707 Analyze 07/07/22 12:10 PM**

Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
1-Butanol†	< LOQ		500			1-Pentanol†	< LOQ		500		
1,2-Dichloroethane†	< LOQ		1.00			1,2-Dimethoxyethane	< LOQ		50.0		
1,4-Dioxane	< LOQ		100			2-Butanol	< LOQ		200		
2-Ethoxyethanol	< LOQ		30.0			2-methyl-1-propanol†	< LOQ		500		
2-Methylbutane	< LOQ	1000	200	pass		2-Methylpentane	< LOQ	60.0	30.0	pass	
2-Propanol (IPA)	< LOQ	1000	200	pass		2,2-Dimethylbutane	< LOQ	60.0	30.0	pass	
2,2-Dimethylpropane	< LOQ	1000	200	pass		2,3-Dimethylbutane	< LOQ	60.0	30.0	pass	
3-Methyl-(1)-Butanol†	< LOQ		500			3-Methylpentane	< LOQ	60.0	30.0	pass	
Acetone	< LOQ	1000	200	pass		Acetonitrile	< LOQ		100		
Anisole†	< LOQ		500			Benzene	< LOQ	2.00	1.00	pass	
Butanes (sum)	< LOQ	1000	400	pass		Butyl acetate†	< LOQ		500		
Chloroform†	< LOQ		1.00			Cyclohexane	< LOQ		200		
DMSO	< LOQ		500			Ethanol†	< LOQ	1000	200	pass	
Ethyl acetate	< LOQ	1000	200	pass		Ethyl benzene	< LOQ		200		
Ethyl ether	< LOQ		200			Ethyl Formate†	< LOQ		500		
Ethylene glycol	< LOQ		200			Ethylene oxide	< LOQ		1.00		
Formic Acid	0.000		250			Hexanes (sum)	< LOQ	60.0	150	pass	
Isobutyl acetate†	< LOQ		500			Isopropyl acetate	< LOQ		200		
Isopropylbenzene	< LOQ		30.0			m,p-Xylene	< LOQ	430	200	pass	
Methanol	< LOQ	600	200	pass		Methyl-t-butyl ether†	< LOQ		500		
Methylacetat†	< LOQ		500			Methylene chloride	< LOQ		1.00		
Methylethylketone†	< LOQ		500			Methylisobutylketone†	< LOQ		500		
Methylpropane	< LOQ	1000	200	pass		n-Butane	< LOQ	1000	200	pass	
n-Heptane	< LOQ	1000	200	pass		n-Hexane	< LOQ	60.0	30.0	pass	
n-Pentane	< LOQ	1000	200	pass		n-Propanol†	< LOQ		500		
N,N-dimethylacetamide	< LOQ		200			N,N-dimethylformamide	< LOQ		200		
o-Xylene	< LOQ	430	200	pass		Pentanes (sum)	< LOQ	1000	600	pass	
Propane	< LOQ	1000	200	pass		Propyl Acetate†	< LOQ		500		
Pyridine	< LOQ		50.0			Tetrahydrofuran	< LOQ		100		
Toluene	< LOQ	180	100	pass		Total Residual Solvents	< LOQ		5,000		
Total Xylenes	< LOQ	430	400	pass		Total Xylenes and Ethyl	< LOQ		600		
Trichloroethylene†	< LOQ		1.00			Triethylamine	< LOQ		500		



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**Purchase Order:**  
**Received:** 06/24/22 10:48

Pesticides											
Method: AOAC 2007.01 & EN 15662 (mod)											
Units mg/kg Batch 2205674 Analyze 07/05/22 04:57 PM											
Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
Abamectin	< LOQ	0.25	0.070	pass		Acephate	< LOQ	0.050	0.020	pass	
Acequinocyl	< LOQ	0.030	0.025	pass		Acetamidrid	< LOQ	0.050	0.050	pass	
Aldicarb	< LOQ	0.50	0.100	pass		Allethrin	< LOQ	0.10	0.100	pass	
Atrazine	< LOQ	0.0250	0.025	pass		Azadirachtin	< LOQ	1.0	0.500	pass	
Azoxystrobin	< LOQ	0.010	0.010	pass		Benzovindiflupyr	< LOQ	0.010	0.010	pass	
Bifenazate	< LOQ	0.010	0.010	pass		Bifenthrin	< LOQ	1.0	0.100	pass	
Boscalid	< LOQ	0.010	0.010	pass		Buprofezin	< LOQ	0.020	0.010	pass	
Captan	< LOQ		0.700			Carbaryl	< LOQ	0.025	0.025	pass	
Carbofuran	< LOQ	0.010	0.010	pass		Chlorantraniliprole	< LOQ	0.020	0.010	pass	
Chlordane (cis+trans)	< LOQ		0.100			Chlorfenapyr	< LOQ	1.5	0.100	pass	
Chlorpyrifos	< LOQ	0.50	0.010	pass		Clofentezine	< LOQ	0.010	0.010	pass	
Clothianidin	< LOQ	0.025	0.025	pass		Coumaphos	< LOQ	0.010	0.010	pass	
Cyantraniliprole	< LOQ	0.010	0.010	pass		Cyfluthrin	< LOQ	0.20	0.400	pass	
Cyhalothrin,lambda	< LOQ	0.0200	0.250	pass		Cypermethrin	< LOQ	0.30	0.300	pass	
Cyprodinil	< LOQ	0.010	0.010	pass		Daminozide	< LOQ	0.10	0.050	pass	
Deltamethrin	< LOQ	0.50	0.500	pass		Diazinon	< LOQ	0.020	0.010	pass	
Dichlorvos	< LOQ	0.050	0.050	pass		Dimethoate	< LOQ	0.010	0.010	pass	
Dimethomorph	< LOQ	0.050	0.050	pass		Dinotefuran	< LOQ	0.050	0.050	pass	
Diuron	< LOQ	0.125	0.125	pass		Dodemorph	< LOQ	0.050	0.050	pass	
Endosulfan I (alpha)	< LOQ	2.5	0.050	pass		Endosulfan II (beta)	< LOQ	2.5	0.050	pass	
Endosulfan sulfate	< LOQ	2.5	0.050	pass		Ethoprophos	< LOQ	0.010	0.010	pass	
Etofenprox	< LOQ	0.050	0.010	pass		Etoxazole	< LOQ	0.020	0.010	pass	
Etridiazole	< LOQ	0.15	0.050	pass		Fenhexamid	< LOQ	0.13	0.100	pass	
Fenoxycarb	< LOQ	0.010	0.010	pass		Fenpyroximate	< LOQ	0.020	0.020	pass	
Fensulfothion	< LOQ	0.010	0.010	pass		Fenthion	< LOQ	0.010	0.010	pass	
Fenvalerate	< LOQ		0.200			Fipronil	< LOQ	0.010	0.010	pass	
Flonicamid	< LOQ	0.025	0.025	pass		Fludioxonil	< LOQ	0.010	0.010	pass	
Fluopyram	< LOQ	0.010	0.010	pass		Hexythiazox	< LOQ	0.010	0.010	pass	
Imazalil	< LOQ	0.010	0.010	pass		Imidacloprid	< LOQ	0.010	0.010	pass	
Iprodione	< LOQ	0.50	0.500	pass		Kinoprene	< LOQ	1.3	0.050	pass	
Kresoxim-methyl	< LOQ	0.15	0.010	pass		Malathion	< LOQ	0.010	0.010	pass	
Metalaxyl	< LOQ	0.010	0.010	pass		Methiocarb	< LOQ	0.010	0.010	pass	
Methomyl	< LOQ	0.025	0.025	pass		Methoprene	< LOQ	2.0	1.00	pass	
Mevinphos	< LOQ	0.025	0.025	pass		MGK-264	< LOQ	0.050	0.050	pass	
Myclobutanil	< LOQ	0.010	0.010	pass		Naled	< LOQ	0.10	0.100	pass	
Novaluron	< LOQ	0.025	0.025	pass		Oxamyl	< LOQ	1.5	0.500	pass	
Paclobotrazole	< LOQ	0.010	0.010	pass		Parathion-Methyl	< LOQ	0.050	0.030	pass	
Permethrin	< LOQ	0.50	0.040	pass		Phenothrin	< LOQ	0.050	0.025	pass	
Phosmet	< LOQ	0.020	0.010	pass		Piperonyl butoxide	< LOQ	1.3	0.200	pass	
Pirimicarb	< LOQ	0.010	0.010	pass		Prallethrin	< LOQ	0.050	0.050	pass	
Propiconazole	< LOQ	0.10	0.010	pass		Propoxur	< LOQ	0.010	0.010	pass	
Pyraclostrobin	< LOQ	0.010	0.010	pass		Pyrethrins (total)	< LOQ	0.050	0.025	pass	
Pyridaben	< LOQ	0.020	0.020	pass		Pyriproxyfen	< LOQ	0.0100	0.010	pass	
Quintozene	< LOQ	0.020	0.020	pass		Resmethrin	< LOQ	0.050	0.020	pass	
Spinetoram	< LOQ	0.010	0.010	pass		Spinosad	< LOQ	0.010	0.010	pass	
Spirodiclofen	< LOQ	0.25	0.250	pass		Spiromesifen	< LOQ	3.0	0.030	pass	



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**Purchase Order:**  
**Received:** 06/24/22 10:48

Pesticides											
Method: AOAC 2007.01 & EN 15662 (mod)						Units mg/kg	Batch 2205674	Analyze 07/05/22 04:57 PM			
Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
Spirotetramat	< LOQ	0.010	0.010	pass		Spiroxamine	< LOQ	0.10	0.010	pass	
Tebuconazole	< LOQ	0.010	0.010	pass		Tebufenozide	< LOQ	0.010	0.010	pass	
Teflubenzuron	< LOQ	0.025	0.025	pass		Tetrachlorvinphos	< LOQ	0.010	0.010	pass	
Tetramethrin	< LOQ	0.10	0.050	pass		Thiabendazole	< LOQ	0.0200	0.020	pass	
Thiacloprid	< LOQ	0.010	0.010	pass		Thiamethoxam	< LOQ	0.010	0.010	pass	
Thiophanate-Methyl	< LOQ	0.050	0.030	pass		Trifloxystrobin	< LOQ	0.010	0.010	pass	

Metals										
Analyte	Result	Limits	Units	LOQ	Batch	Analyze	Method	Status	Notes	
Arsenic	< LOQ	1.50	mg/kg	0.0819	2205768	07/07/22	AOAC 2013.06 (mod.)	pass	X	
Cadmium	< LOQ	0.50	mg/kg	0.0819	2205768	07/07/22	AOAC 2013.06 (mod.)	pass	X	
Lead	< LOQ	0.50	mg/kg	0.0819	2205768	07/07/22	AOAC 2013.06 (mod.)	pass	X	
Mercury	< LOQ	1.50	mg/kg	0.0410	2205768	07/07/22	AOAC 2013.06 (mod.)	pass	X	

Mycotoxins										
Analyte	Result	Limits	Units	LOQ	Batch	Analyze	Method	Status	Notes	
Aflatoxin B2 <sup>†</sup>	< LOQ	5.00	µg/kg	5.00	2205724	07/07/22	AOAC 2007.01 & EN	pass		
Aflatoxin B1 <sup>†</sup>	< LOQ	5.00	µg/kg	5.00	2205724	07/07/22	AOAC 2007.01 & EN	pass		
Aflatoxin G1 <sup>†</sup>	< LOQ	5.00	µg/kg	5.00	2205724	07/07/22	AOAC 2007.01 & EN	pass		
Aflatoxin G2 <sup>†</sup>	< LOQ	5.00	µg/kg	5.00	2205724	07/07/22	AOAC 2007.01 & EN	pass		
Ochratoxin A <sup>†</sup>	< LOQ	5.00	µg/kg	5.00	2205724	07/07/22	AOAC 2007.01 & EN	pass		



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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, 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.

**Threshold Note:** Action levels per 6 CCR 1010-21 CDPHE requirements

† = Analyte not NELAP accredited.

**Units of Measure**

/25g = Per 25g

cfu/g = Colony forming units per gram

g = g

µg/g = Microgram per gram

µg/kg = Micrograms per kilogram = parts per billion (ppb)

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

mg/1g = Milligram per 1g

% = Percentage of sample

% wt = µg/g divided by 10,000

**Glossary of Qualifiers**

X: Not ORELAP accredited.

Approved Signatory

Derrick Tanner  
General Manager



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Revision: 1 Document ID: 7148  
 Legacy ID: Worksheet Validated 04/20/2021

Laboratory Quality Control Results

JAOAC2015 V986									
Laboratory Control Sample									
Batch ID: 2205490									
Analyte	LCS	Result	Spike	Units	% Rec	Limits		Evaluation	Notes
CBDVA	1	0.0336	0.033	%	101	80.0	- 120	Acceptable	
CBDV	1	0.0368	0.033	%	111	80.0	- 120	Acceptable	
CBE	1	0.0330	0.033	%	99.1	80.0	- 120	Acceptable	
CBDA	1	0.0339	0.033	%	102	90.0	- 110	Acceptable	
CBGA	1	0.0320	0.033	%	96.1	80.0	- 120	Acceptable	
CBG	1	0.0328	0.033	%	98.3	80.0	- 120	Acceptable	
CBD	1	0.0350	0.033	%	105	90.0	- 110	Acceptable	
THCV	1	0.0338	0.033	%	101	80.0	- 120	Acceptable	
d8THCV	1	0.0354	0.033	%	106	80.0	- 120	Acceptable	
THCVA	1	0.0328	0.033	%	98.5	80.0	- 120	Acceptable	
CBN	1	0.0339	0.033	%	102	90.0	- 110	Acceptable	
exo-THC	1	0.0324	0.033	%	97.1	80.0	- 120	Acceptable	
d9THC	1	0.0344	0.033	%	103	90.0	- 110	Acceptable	
d8THC	1	0.0323	0.033	%	97.0	80.0	- 120	Acceptable	
CBL	1	0.0333	0.033	%	100	80.0	- 120	Acceptable	
CBC	1	0.0345	0.033	%	103	80.0	- 120	Acceptable	
THCA	1	0.0323	0.033	%	97.0	90.0	- 110	Acceptable	
CBCA	1	0.0333	0.033	%	100	80.0	- 120	Acceptable	
CBLA	1	0.0306	0.033	%	91.9	80.0	- 120	Acceptable	
CBT	1	0.0335	0.033	%	101	80.0	- 120	Acceptable	

Method Blank						
Analyte	Result	LOQ	Units	Limits	Evaluation	Notes
CBDVA	<LOQ	0.003	%	< 0.003	Acceptable	
CBDV	<LOQ	0.003	%	< 0.003	Acceptable	
CBE	<LOQ	0.003	%	< 0.003	Acceptable	
CBDA	<LOQ	0.003	%	< 0.003	Acceptable	
CBGA	<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	
d8THCV	<LOQ	0.003	%	< 0.003	Acceptable	
THCVA	<LOQ	0.003	%	< 0.003	Acceptable	
CBN	<LOQ	0.003	%	< 0.003	Acceptable	
exo-THC	<LOQ	0.003	%	< 0.003	Acceptable	
d9THC	<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	
CBLA	<LOQ	0.003	%	< 0.003	Acceptable	
CBT	<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:** 22-007443/D002.R001  
**Report Date:** 07/08/2022  
**ORELAP#:** OR100028  
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Revision: 1 Document ID: 7148  
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Laboratory Quality Control Results

JAOAC2015 V986		Batch ID: 2205490						
Sample Duplicate		Sample ID: 22-007211000101						
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBDV	0.0403	0.0403	0.003	%	0.0044	< 20	Acceptable	
CBE	0.0409	0.0405	0.003	%	0.814	< 20	Acceptable	
CBD A	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBGA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBG	0.0985	0.0994	0.003	%	0.885	< 20	Acceptable	
CBD	7.38	7.48	0.003	%	1.36	< 20	Acceptable	
THCV	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d8THCV	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
THCVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBN	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
exo-THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d9THC	0.0768	0.0770	0.003	%	0.311	< 20	Acceptable	
d8THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBL	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBC	0.0660	0.0664	0.003	%	0.668	< 20	Acceptable	
THCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBLA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBT	0.0328	0.0337	0.003	%	2.72	< 20	Acceptable	

**Abbreviations**

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

**Units of Measure:**

% - Percent



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Laboratory Quality Control Results

Residual Solvents				Batch ID: 2205707					
Method Blank				Laboratory Control Sample					
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes
Propane	ND	< 200		394	572	µg/g	68.9	60 - 120	
Isobutane	ND	< 200		476	731	µg/g	65.1	60 - 120	
Butane	ND	< 200		468	731	µg/g	64.0	60 - 120	
2,2-Dimethylpropane	ND	< 200		812	938	µg/g	86.8	60 - 120	
Methanol	ND	< 200		1690	1650	µg/g	102.4	60 - 120	
Ethylene Oxide	ND	< 30		42.7	56.2	µg/g	76.0	60 - 120	
2-Methylbutane	ND	< 200		1470	1620	µg/g	90.7	60 - 120	
Pentane	ND	< 200		1480	1610	µg/g	91.9	60 - 120	
Ethanol	ND	< 200		1470	1620	µg/g	90.7	70 - 130	
Ethyl Ether	ND	< 200		1350	1600	µg/g	84.4	60 - 120	
2,2-Dimethylbutane	ND	< 30		144	167	µg/g	86.2	60 - 120	
Acetone	ND	< 200		1460	1620	µg/g	90.1	60 - 120	
2-Propanol	ND	< 200		1470	1610	µg/g	91.3	60 - 120	
Ethyl Formate	ND	< 500		1080	1620	µg/g	66.7	70 - 130	Q6
Acetonitrile	ND	< 100		591	635	µg/g	93.1	60 - 120	
Methyl Acetate	ND	< 500		1380	1630	µg/g	84.7	70 - 130	
2,3-Dimethylbutane	ND	< 30		157	177	µg/g	88.7	60 - 120	
Dichloromethane	ND	< 60		392	498	µg/g	78.7	60 - 120	
2-Methylpentane	ND	< 30		135	166	µg/g	81.3	60 - 120	
MTBE	ND	< 500		1200	1600	µg/g	75.0	70 - 130	
3-Methylpentane	ND	< 30		150	175	µg/g	85.7	60 - 120	
Hexane	ND	< 30		149	174	µg/g	85.6	60 - 120	
1-Propanol	ND	< 500		1490	1620	µg/g	92.0	70 - 130	
Methyl ethyl ketone	ND	< 500		1350	1600	µg/g	84.4	70 - 130	
Ethyl acetate	ND	< 200		1500	1610	µg/g	93.2	60 - 120	
2-Butanol	ND	< 200		1530	1620	µg/g	94.4	60 - 120	
Tetrahydrofuran	ND	< 100		408	507	µg/g	80.5	60 - 120	
Cyclohexane	ND	< 200		1290	1610	µg/g	80.1	60 - 120	
2-methyl-1-propanol	ND	< 500		1260	1640	µg/g	76.8	70 - 130	
Benzene	ND	< 1		4.23	5.22	µg/g	81.0	60 - 120	
Isopropyl Acetate	ND	< 200		1550	1610	µg/g	96.3	60 - 120	
Heptane	ND	< 200		1530	1610	µg/g	95.0	60 - 120	
1-Butanol	ND	< 500		1320	1610	µg/g	82.0	70 - 130	
Propyl Acetate	ND	< 500		1450	1610	µg/g	90.1	70 - 130	
1,4-Dioxane	ND	< 100		398	508	µg/g	78.3	60 - 120	
2-Ethoxyethanol	ND	< 30		172	165	µg/g	104.2	60 - 120	
Methylisobutylketone	ND	< 500		1460	1610	µg/g	90.7	70 - 130	
3-Methyl-1-butanol	ND	< 500		1350	1600	µg/g	84.4	70 - 130	
Ethylene Glycol	ND	< 200		458	492	µg/g	93.1	60 - 120	
Toluene	ND	< 100		394	497	µg/g	79.3	60 - 120	
Isobutyl Acetate	ND	< 500		1430	1610	µg/g	88.8	70 - 130	
1-Pentanol	ND	< 500		1420	1600	µg/g	88.8	70 - 130	
Butyl Acetate	ND	< 500		1450	1610	µg/g	90.1	70 - 130	
Ethylbenzene	ND	< 200		772	980	µg/g	78.8	60 - 120	
m,p-Xylene	ND	< 200		758	985	µg/g	77.0	60 - 120	
o-Xylene	ND	< 200		752	965	µg/g	77.9	60 - 120	
Cumene	ND	< 30		125	168	µg/g	74.4	60 - 120	
Anisole	ND	< 500		1190	1600	µg/g	74.4	70 - 130	
DMSO	ND	< 500		1230	1610	µg/g	76.4	70 - 130	
1,2-dimethoxyethane	ND	< 50		145	165	µg/g	87.9	70 - 130	
Triethylamine	ND	< 500		980	1620	µg/g	60.5	70 - 130	Q6
N,N-dimethylformamide	ND	< 150		380	481	µg/g	79.0	70 - 130	
N,N-dimethylacetamide	ND	< 150		406	480	µg/g	84.6	70 - 130	
Pyridine	ND	< 50		132	171	µg/g	77.2	70 - 130	
1,2-Dichloroethane	ND	< 1		0.944	1	µg/g	94.4	70 - 130	
Chloroform	ND	< 1		0.924	1	µg/g	92.4	70 - 130	
Trichloroethylene	ND	< 1		0.879	1	µg/g	87.9	70 - 130	



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QC- Sample Duplicate	Sample ID: 22-007678-0001						
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	
MTBE	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	
Methylethylketone	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	
Methylisobutylketone	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	100 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	
Butyl 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  
Q6- Quality control outside QC limits. Data acceptable based on remaining QC.

**Units of Measure:**

µg/g- Microgram per gram or ppm



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Laboratory Quality Control Results

Residual Solvents						Batch ID: 2205739				
Method Blank						Laboratory Control Sample				
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes	
Acetic Acid	ND	< 200		249	261	µg/g	95.4	70 - 130		
Formic Acid	ND	< 200		303	308	µg/g	98.4	70 - 130		

QC- Sample Duplicate						Sample ID: 22-007443-0001			
Analyte	Result	Org. Result	LOQ	Units	RFD	Limits	Accept/ Fail	Notes	
Acetic Acid	ND		200	µg/g		< 20			
Formic Acid	ND		200	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



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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.