



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



Report Number: 23-008331/D003.R000
Report Date: 07/21/2023
ORELAP#: OR100028
Purchase Order:
Received: 07/14/23 13:59

Customer: The Hemp Collect
Product identity: Live HHC Extract - Anytime - Cookie Jam
Client/Metric ID: 100823193012
Laboratory ID: 23-008331-0004

Summary

Potency:

Analyte	Result (%)		
HHC (9R-Hexahydrocannabinol)	42.6	<ul style="list-style-type: none"> ● HHC (9R-Hexahydrocannabinol) ● HHC (9S-Hexahydrocannabinol) ● CBD-A ● THC-A ● CBN 	CBD-Total 4.99%
HHC (9S-Hexahydrocannabinol)	31.7		THC-Total 0.214%
CBD-A	5.69		(Reported in percent of total sample)
THC-A	0.244		
CBN	0.0943		

Residual Solvents:

All analytes passing and less than LOQ.

Pesticides:

All analytes passing and less than LOQ.

Metals:

Less than LOQ for all analytes.



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Customer: The Hemp Collect
 825 NW 16th Ave
 Portland Oregon 97209
 United States of America (USA)

Product identity: Live HHC Extract - Anytime - Cookie Jam
Client/Metric ID: 100823193012
Sample Date:
Laboratory ID: 23-008331-0004
Evidence of Cooling: No
Temp: 23.2 °C
Relinquished by: Shipping



Sample Results

Potency	Method: J AOAC 2015 V98-6 (mod) ^P			Units %	Batch: 2309186	Analyze: 7/17/23 8:13:00 PM
Analyte	As Received	Dry weight	LOQ	Notes		
CBD	< LOQ		0.0716		<ul style="list-style-type: none"> ● HHC (9R-Hexahydrocannabinol) ● HHC (9S-Hexahydrocannabinol) ● CBD-A ● THC-A ● CBN 	
CBD-A	5.69		0.0716			
CBD-Total	4.99		0.134			
CBG	< LOQ		0.0716			
CBG-A	< LOQ		0.0716			
CBG-Total	< LOQ		0.134			
CBN	0.0943		0.0716			
Δ10-THC-9R	< LOQ		0.0716			
Δ10-THC-9S	< LOQ		0.0716			
Δ10-THC-Total	< LOQ		0.143			
Δ8-THC	< LOQ		0.0716			
Δ9-THC	< LOQ		0.0716			
HHC (9R-Hexahydrocannabinol)	42.6		0.716			
HHC (9S-Hexahydrocannabinol)	31.7		0.716			
THC-A	0.244		0.0716			
THC-O-Acetate, delta-8	< LOQ		0.0716			
THC-O-Acetate, delta-9	< LOQ		0.0716			
THC-Total	0.214		0.134			
Total Cannabinoids	80.3					



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Solvents											Method: Residual Solvents by GC/MS ^b					Units µg/g		Batch 2309278		Analyze 07/20/23 02:01 PM				
Analyte	Result	Limits	LOQ	Status	Notes	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-Butanol	< LOQ	5000	200	pass								
2-Ethoxyethanol	< LOQ	160	30.0	pass		2-Methylbutane (Isopentane)	< LOQ		200			2-Methylbutane (Isopentane)	< LOQ		200									
2-Methylpentane	< LOQ		30.0			2-Propanol (IPA)	< LOQ	5000	200	pass		2-Propanol (IPA)	< LOQ	5000	200	pass								
2,2-Dimethylbutane	< LOQ		30.0			2,2-Dimethylpropane (neo-pentane)	< LOQ		200			2,2-Dimethylpropane (neo-pentane)	< LOQ		200									
2,3-Dimethylbutane	< LOQ		30.0			3-Methylpentane	< LOQ		30.0			3-Methylpentane	< LOQ		30.0									
Acetone	< LOQ	5000	200	pass		Acetonitrile	< LOQ	410	100	pass		Acetonitrile	< LOQ	410	100	pass								
Benzene	< LOQ	2.00	1.00	pass		Butanes (sum)	< LOQ	5000	400	pass		Butanes (sum)	< LOQ	5000	400	pass								
Cyclohexane	< LOQ	3880	200	pass		Ethyl acetate	< LOQ	5000	200	pass		Ethyl acetate	< LOQ	5000	200	pass								
Ethyl benzene	< LOQ		200			Ethyl ether	< LOQ	5000	200	pass		Ethyl ether	< LOQ	5000	200	pass								
Ethylene glycol	< LOQ	620	200	pass		Ethylene oxide	< LOQ	50.0	20.0	pass		Ethylene oxide	< LOQ	50.0	20.0	pass								
Hexanes (sum)	< LOQ	290	150	pass		Isopropyl acetate	< LOQ	5000	200	pass		Isopropyl acetate	< LOQ	5000	200	pass								
Isopropylbenzene (Cumene)	< LOQ	70.0	30.0	pass		m,p-Xylene	< LOQ		200			m,p-Xylene	< LOQ		200									
Methanol	< LOQ	3000	200	pass		Methylene chloride	< LOQ	600	60.0	pass		Methylene chloride	< LOQ	600	60.0	pass								
Methylpropane (Isobutane)	< LOQ		200			n-Butane	< LOQ		200			n-Butane	< LOQ		200									
n-Heptane	< LOQ	5000	200	pass		n-Hexane	< LOQ		30.0			n-Hexane	< LOQ		30.0									
n-Pentane	< LOQ		200			o-Xylene	< LOQ		200			o-Xylene	< LOQ		200									
Pentanes (sum)	< LOQ	5000	600	pass		Propane	< LOQ	5000	200	pass		Propane	< LOQ	5000	200	pass								
Tetrahydrofuran	< LOQ	720	100	pass		Toluene	< LOQ	890	100	pass		Toluene	< LOQ	890	100	pass								
Total Xylenes	< LOQ		400			Total Xylenes and Ethyl benzene	< LOQ	2170	600	pass		Total Xylenes and Ethyl benzene	< LOQ	2170	600	pass								



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Pesticides											
Method: AOAC 2007.01 & EN 15662 (mod) ^b											
Units mg/kg Batch 2309188 Analyze 07/18/23 11:58 AM											
Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
Abamectin [¥]	< LOQ	0.50	0.250	pass		Acephate [¥]	< LOQ	0.40	0.200	pass	
Acequinocyl [¥]	< LOQ	2.0	1.00	pass		Acetamidiprid [¥]	< LOQ	0.20	0.100	pass	
Aldicarb [¥]	< LOQ	0.40	0.200	pass		Azoxystrobin [¥]	< LOQ	0.20	0.100	pass	
Bifentazate [¥]	< 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	0.100	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	0.100	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							

Metals										
Analyte	Result	Limits	Units	LOQ	Batch	Analyzed	Method	Status	Notes	
Arsenic [¥]	< LOQ	0.200	mg/kg	0.0865	2309307	07/20/23	AOAC 2013.06 (mod.) ^b	pass		
Cadmium [¥]	< LOQ	0.200	mg/kg	0.0865	2309307	07/20/23	AOAC 2013.06 (mod.) ^b	pass		
Lead [¥]	< LOQ	0.500	mg/kg	0.0865	2309307	07/20/23	AOAC 2013.06 (mod.) ^b	pass		
Mercury [¥]	< LOQ	0.100	mg/kg	0.0432	2309307	07/20/23	AOAC 2013.06 (mod.) ^b	pass		



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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.

Ⓐ = ISO/IEC 17025:2017 accredited method.

¥ = TNI accredited analyte.

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

Approved Signatory

Derrick Tanner
General Manager



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Revision: 4 Document ID: 7148
 Legacy ID: Worksheet Validated 04/20/2021

Laboratory Quality Control Results

J AOAC 2015 V98-6 Batch ID: 2309186

Laboratory Control Sample									
Analyte	LCS	Result	Spike	Units	% Rec	Limits		Evaluation	Notes
CBDVA	2	0.0793	0.0729	%	109	80.0	- 120	Acceptable	
CBDV	2	0.0786	0.0727	%	108	80.0	- 120	Acceptable	
CBE	2	0.0861	0.0803	%	107	80.0	- 120	Acceptable	
CBDA	1	0.0777	0.0750	%	104	90.0	- 110	Acceptable	
CBGA	1	0.0777	0.0753	%	103	80.0	- 120	Acceptable	
CBG	1	0.0791	0.0766	%	103	80.0	- 120	Acceptable	
CBD	1	0.0812	0.0779	%	104	90.0	- 110	Acceptable	
THCV	2	0.0584	0.0546	%	107	80.0	- 120	Acceptable	
d8THCV	2	0.0673	0.0644	%	105	80.0	- 120	Acceptable	
THCVA	2	0.0792	0.0711	%	111	80.0	- 120	Acceptable	
CBN	1	0.0788	0.0784	%	100	80.0	- 120	Acceptable	
exo-THC	2	0.0678	0.0653	%	104	80.0	- 120	Acceptable	
d9THC	1	0.0785	0.0759	%	103	90.0	- 110	Acceptable	
d8THC	1	0.0733	0.0738	%	99.3	90.0	- 110	Acceptable	
9S-d10THC	1	0.0791	0.0791	%	100	80.0	- 120	Acceptable	
CBL	2	0.0772	0.0718	%	108	80.0	- 120	Acceptable	
9S-HHC	3	0.308	0.316	%	97.5	80.0	- 120	Acceptable	
9R-d10THC	1	0.0717	0.0722	%	99.4	80.0	- 120	Acceptable	
CBc	2	0.0697	0.0675	%	103	80.0	- 120	Acceptable	
9R-HHC	3	0.193	0.198	%	97.6	80.0	- 120	Acceptable	
THCA	1	0.0739	0.0744	%	99.3	90.0	- 110	Acceptable	
CBCA	2	0.0800	0.0737	%	108	80.0	- 120	Acceptable	
CBLA	2	0.0758	0.0698	%	109	80.0	- 120	Acceptable	
d9THCP	2	0.0756	0.0752	%	101	80.0	- 120	Acceptable	
d8THCO	3	0.0735	0.0784	%	93.8	80.0	- 120	Acceptable	
CBT	2	0.0731	0.0753	%	97.1	80.0	- 120	Acceptable	
d9THCO	3	0.0753	0.0810	%	93.0	80.0	- 120	Acceptable	

Method Blank

Analyte	Result	LOQ	Units	Limits	Evaluation	Notes
CBDVA	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBDV	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBE	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBDA	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBGA	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBG	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBD	<LOQ	0.0677	%	< 0.0677	Acceptable	
THCV	<LOQ	0.0677	%	< 0.0677	Acceptable	
d8THCV	<LOQ	0.0677	%	< 0.0677	Acceptable	
THCVA	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBN	<LOQ	0.0677	%	< 0.0677	Acceptable	
exo-THC	<LOQ	0.0677	%	< 0.0677	Acceptable	
d9THC	<LOQ	0.0677	%	< 0.0677	Acceptable	
d8THC	<LOQ	0.0677	%	< 0.0677	Acceptable	
9S-d10THC	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBL	<LOQ	0.0677	%	< 0.0677	Acceptable	
9S-HHC	<LOQ	0.0677	%	< 0.0677	Acceptable	
9R-d10THC	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBc	<LOQ	0.0677	%	< 0.0677	Acceptable	
9R-HHC	<LOQ	0.0677	%	< 0.0677	Acceptable	
THCA	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBCA	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBLA	<LOQ	0.0677	%	< 0.0677	Acceptable	
d9THCP	<LOQ	0.0677	%	< 0.0677	Acceptable	
d8THCO	<LOQ	0.0677	%	< 0.0677	Acceptable	
CBT	<LOQ	0.0677	%	< 0.0677	Acceptable	
d9THCO	<LOQ	0.0677	%	< 0.0677	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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Revision: 4 Document ID: 7148
Legacy ID: Worksheet Validated 04/20/2021

Laboratory Quality Control Results

J AOAC 2015 V98-6		Batch ID: 2309186						
Sample Duplicate		Sample ID: 23-008331-0002						
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDVA	0.155	0.156	0.0732	%	0.766	< 20	Acceptable	
CBDV	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
CBE	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
CBD	60.1	60.9	0.0732	%	1.35	< 20	Acceptable	
CBGA	1.45	1.44	0.0732	%	0.568	< 20	Acceptable	
CBG	0.313	0.313	0.0732	%	0.158	< 20	Acceptable	
CBD	5.26	5.32	0.0732	%	1.23	< 20	Acceptable	
THCV	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
d8THCV	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
THCVA	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
CBN	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
exo-THC	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
d9THC	0.584	0.588	0.0732	%	0.755	< 20	Acceptable	
d8THC	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
9S-d10THC	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
CBL	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
9S-HHC	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
9R-d10THC	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
CBC	0.458	0.465	0.0732	%	1.50	< 20	Acceptable	
9R-HHC	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
THCA	2.15	2.17	0.0732	%	0.969	< 20	Acceptable	
CBCA	3.06	3.09	0.0732	%	1.06	< 20	Acceptable	
CBLA	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
d9THCP	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
d8THCO	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
CBT	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	
d9THCO	<LOQ	<LOQ	0.0732	%	NA	< 20	Acceptable	

Abbreviations

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LOQ - Limit of Quantitation

Units of Measure:

% - Percent



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Revision: 3 Document ID: 3120
 Legacy ID: CFL-C21 Worksheet Validated 10/30/2020

Laboratory Pesticide Quality Control Results

AOAC 2007.1 & EN 15662		Units: mg/Kg		Batch ID: 2309188				
Method Blank		Laboratory Control Sample						
Analyte	Blank Result	Blank Limits	Notes	LCS Result	LCS Spike	LCS % Rec	Limits	Notes
Abamectin	0.000	< 0.250		0.970	1.000	97.0	50.0	150
Acephate	0.132	< 0.200		0.782	0.800	97.7	60.0	120
Acequinocyl	0.000	< 1.000		3.585	4.000	89.6	40.0	160
Acetamiprid	0.000	< 0.100		0.383	0.400	95.9	60.0	120
Aldicarb	0.000	< 0.200		0.789	0.800	98.6	60.0	120
Azoxystrobin	0.000	< 0.100		0.373	0.400	93.2	60.0	120
Bifenazate	0.000	< 0.100		0.593	0.400	148.4	60.0	120
Bifenthrin	0.000	< 0.100		0.372	0.400	92.9	50.0	150
Boscalid	0.000	< 0.200		0.700	0.800	87.6	60.0	120
Carbaryl	0.000	< 0.100		0.391	0.400	97.8	60.0	120
Carbofuran	0.000	< 0.100		0.387	0.400	96.7	60.0	120
Chlorantraniliprole	0.000	< 0.100		0.384	0.400	96.1	60.0	120
Chlorfenapyr	0.000	< 0.500		1.912	2.000	95.6	60.0	120
Chlorpyrifos	0.000	< 0.100		0.372	0.400	93.1	60.0	120
Clofentazine	0.000	< 0.100		0.368	0.400	92.1	60.0	120
Cyfluthrin	0.000	< 0.500		2.068	2.000	103.4	50.0	150
Cypermethrin	0.000	< 0.500		1.956	2.000	97.8	50.0	150
Daminozide	0.433	< 0.500		2.224	2.000	111.2	60.0	120
Diazinon	0.000	< 0.100		0.418	0.400	104.5	60.0	120
Dichlorvos	0.000	< 0.500		1.879	2.000	94.0	60.0	120
Dimethoate	0.008	< 0.100		0.395	0.400	98.7	60.0	120
Ethoprophos	0.000	< 0.100		0.388	0.400	97.1	60.0	120
Etofenprox	0.000	< 0.200		0.735	0.800	91.9	50.0	150
Etoxazole	0.000	< 0.100		0.372	0.400	92.9	60.0	120
Fenoxycarb	0.000	< 0.100		0.382	0.400	95.5	60.0	120
Fenpyroximate	0.000	< 0.200		0.773	0.800	96.6	60.0	120
Fipronil	0.000	< 0.200		0.739	0.800	92.4	60.0	120
Fonicamid	0.000	< 0.250		1.073	1.000	107.3	60.0	120
Fludioxonil	0.000	< 0.200		0.783	0.800	97.9	50.0	150
Hexythiazox	0.000	< 0.250		0.907	1.000	90.7	60.0	120
Imazalil	0.000	< 0.100		0.398	0.400	99.4	60.0	120
Imidacloprid	0.000	< 0.200		0.734	0.800	91.8	60.0	120
Kresoxim-methyl	0.000	< 0.200		0.750	0.800	93.8	60.0	120
Malathion	0.000	< 0.100		0.381	0.400	95.4	60.0	120
Metaxalyl	0.000	< 0.100		0.388	0.400	97.1	60.0	120
Methiocarb	0.000	< 0.100		0.374	0.400	93.5	60.0	120
Methomyl	0.000	< 0.200		0.780	0.800	97.4	60.0	120
MGK-264	0.000	< 0.100		0.365	0.400	91.2	50.0	150
Myclobutanil	0.004	< 0.100		0.349	0.400	87.4	60.0	120
Naled	0.000	< 0.250		0.963	1.000	96.3	50.0	150
Oxamyl	0.000	< 0.500		1.951	2.000	97.6	60.0	120
Pacllobutrazole	0.000	< 0.200		0.781	0.800	97.7	60.0	120
Parathion-Methyl	0.000	< 0.100		0.418	0.400	104.4	50.0	150
Permethrin	0.000	< 0.100		0.377	0.400	94.2	50.0	150
Phosmet	0.000	< 0.100		0.389	0.400	97.2	50.0	150
Piperonyl butoxide	0.000	< 0.500		1.956	2.000	97.8	60.0	120
Prallethrin	0.002	< 0.100		0.357	0.400	89.1	60.0	120
Propiconazole	0.000	< 0.200		0.766	0.800	95.7	60.0	120
Propoxur	0.000	< 0.100		0.390	0.400	97.5	60.0	120
Pyrethrin (Summe)	0.002	< 0.100		0.468	0.488	96.0	60.0	120
Pyridaben	0.000	< 0.100		0.377	0.400	94.1	50.0	150
Spirosad	0.000	< 0.100		0.361	0.388	92.9	50.0	150
Spiromesifen	0.000	< 0.100		0.382	0.400	95.4	60.0	120
Spirotetramat	0.000	< 0.100		0.382	0.400	95.5	60.0	120
Spiroxamine	0.000	< 0.200		0.734	0.800	91.7	60.0	120
Tebuconazole	0.000	< 0.200		0.741	0.800	92.6	60.0	120
Thiacloprid	0.000	< 0.100		0.403	0.400	100.8	60.0	120
Thiamethoxam	0.000	< 0.100		0.413	0.400	103.4	60.0	120
Trifloxystrobin	0.000	< 0.100		0.376	0.400	94.1	60.0	120

Q1



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



Report Number: 23-008331/D003.R000
Report Date: 07/21/2023
ORELAP#: OR100028
Purchase Order:
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Revision: 3 Document ID: 3120
Legacy ID: CFL-C21 Worksheet Validated 10/30/2020

Laboratory Pesticide Quality Control Results

AOAC 2007.1 & EN 15662		Units: mg/Kg				Batch ID: 2309188				
Matrix Spike/Matrix Spike Duplicate Recoveries					Sample ID: 23-008394-0001					
Analyte	Result	MS Res	MSD Res	Spike	RPD%	Limit	MS % Rec	MSD % Rec	Limits	Notes
Abamectin	0.000	1.094	1.365	1.000	22.0%	< 30	109.4%	136.5%	50 - 150	
Accephate	0.000	0.700	0.810	0.800	14.5%	< 30	87.6%	101.3%	50 - 150	
Acetaminocyl	0.000	5.167	7.590	4.000	38.0%	< 30	129.2%	189.8%	50 - 150	R, Q
Acetamiprid	0.000	0.381	0.400	0.400	4.8%	< 30	95.3%	100.0%	50 - 150	
Aldicarb	0.000	0.788	0.864	0.800	9.1%	< 30	98.6%	108.0%	50 - 150	
Azoxystrobin	0.000	0.355	0.373	0.400	4.8%	< 30	88.8%	93.2%	50 - 150	
Bifenazate	0.000	0.665	0.749	0.400	11.9%	< 30	166.1%	187.1%	50 - 150	Q
Bifenthrin	0.000	0.453	0.488	0.400	7.5%	< 30	113.2%	122.1%	50 - 150	
Boscalid	0.000	0.717	0.856	0.800	17.7%	< 30	89.6%	107.0%	50 - 150	
Carbaryl	0.000	0.365	0.405	0.400	10.5%	< 30	91.1%	101.2%	50 - 150	
Carbofuran	0.000	0.371	0.410	0.400	10.1%	< 30	92.7%	102.6%	50 - 150	
Chlorantraniliprole	0.000	0.360	0.416	0.400	14.3%	< 30	90.1%	104.0%	50 - 150	
Chlorfenapyr	0.000	1.747	2.213	2.000	23.6%	< 30	87.4%	110.7%	50 - 150	
Chlorpyrifos	0.000	0.342	0.368	0.400	7.3%	< 30	85.5%	92.0%	50 - 150	
Clofentezine	0.061	0.337	0.362	0.400	8.8%	< 30	68.9%	75.3%	50 - 150	
Cyfluthrin	0.000	1.975	1.974	2.000	0.0%	< 30	98.7%	98.7%	30 - 150	
Cypermethrin	0.000	1.873	1.833	2.000	2.1%	< 30	93.6%	91.7%	50 - 150	
Daminozide	0.376	2.259	2.623	2.000	17.6%	< 30	94.2%	112.4%	30 - 150	
Diazinon	0.000	0.330	0.373	0.400	12.4%	< 30	82.4%	93.3%	50 - 150	
Dichlorvos	0.000	1.888	2.007	2.000	6.2%	< 30	94.4%	100.4%	50 - 150	
Dimethoate	0.007	0.418	0.415	0.400	0.7%	< 30	102.6%	101.9%	50 - 150	
Ethoprophos	0.000	0.363	0.427	0.400	16.1%	< 30	90.9%	106.7%	50 - 150	
Etofenprox	0.000	0.798	0.858	0.800	7.3%	< 30	99.7%	107.3%	50 - 150	
Etoxazole	0.000	0.394	0.420	0.400	6.5%	< 30	98.5%	105.0%	50 - 150	
Fenoxycarb	0.000	0.365	0.410	0.400	11.6%	< 30	91.3%	102.5%	50 - 150	
Fenpyroximate	0.000	0.664	0.697	0.800	4.8%	< 30	83.1%	87.1%	50 - 150	
Fipronil	0.000	0.654	0.767	0.800	15.8%	< 30	81.8%	95.8%	50 - 150	
Fonicamid	0.000	1.071	1.034	1.000	3.5%	< 30	107.1%	103.4%	50 - 150	
Fludioxonil	0.000	0.988	0.991	0.800	0.2%	< 30	123.5%	123.8%	50 - 150	
Hexythiazox	0.000	0.887	1.134	1.000	24.4%	< 30	88.7%	113.4%	50 - 150	
Imazalil	0.004	0.374	0.420	0.400	11.7%	< 30	92.5%	104.0%	50 - 150	
Imidacloprid	0.000	0.804	0.834	0.800	3.7%	< 30	100.5%	104.2%	50 - 150	
Kresoxim-methyl	0.000	0.725	0.810	0.800	11.0%	< 30	90.6%	101.2%	50 - 150	
Malathion	0.000	0.369	0.410	0.400	10.3%	< 30	92.3%	102.4%	50 - 150	
Metaxalyl	0.000	0.373	0.428	0.400	13.6%	< 30	93.3%	107.0%	50 - 150	
Methiocarb	0.000	0.364	0.420	0.400	14.4%	< 30	91.0%	105.1%	50 - 150	
Methomyl	0.000	0.806	0.829	0.800	2.9%	< 30	100.7%	103.6%	50 - 150	
MGK-264	0.000	0.332	0.392	0.400	16.3%	< 30	83.1%	97.9%	50 - 150	
Myclobutanil	0.000	0.382	0.401	0.400	4.8%	< 30	95.5%	100.2%	50 - 150	
Naled	0.000	0.926	1.016	1.000	9.3%	< 30	92.6%	101.6%	50 - 150	
Oxamyl	0.000	1.986	2.036	2.000	2.4%	< 30	99.3%	101.8%	50 - 150	
Pacllobutrazole	0.000	0.744	0.841	0.800	12.2%	< 30	93.0%	105.1%	50 - 150	
Parathion-Methyl	0.000	0.376	0.417	0.400	10.2%	< 30	94.1%	104.2%	30 - 150	
Permethrin	0.000	0.474	0.482	0.400	1.6%	< 30	118.5%	120.4%	50 - 150	
Phosmet	0.000	0.374	0.429	0.400	13.7%	< 30	93.4%	107.2%	50 - 150	
Piperonyl butoxide	0.000	1.799	2.095	2.000	15.2%	< 30	89.9%	104.8%	50 - 150	
Prallethrin	0.000	0.366	0.377	0.400	2.9%	< 30	91.6%	94.3%	50 - 150	
Propiconazole	0.000	0.933	1.056	0.800	12.4%	< 30	116.6%	132.1%	50 - 150	
Propoxur	0.000	0.368	0.389	0.400	5.4%	< 30	92.1%	97.2%	50 - 150	
Pyrethrin (Summe)	0.441	0.978	1.054	0.488	13.3%	< 30	110.0%	125.7%	50 - 150	
Pyridaben	0.000	0.450	0.483	0.400	7.1%	< 30	112.5%	120.8%	50 - 150	
Spirosad	0.000	0.343	0.373	0.388	8.3%	< 30	88.5%	96.2%	50 - 150	
Spiromesifen	0.000	0.420	0.424	0.400	0.8%	< 30	105.1%	105.9%	50 - 150	
Spirotetramat	0.000	0.386	0.415	0.400	7.2%	< 30	96.6%	103.8%	50 - 150	
Spiroxamine	0.000	0.717	0.821	0.800	13.5%	< 30	89.7%	102.6%	50 - 150	
Tebuconazole	0.000	0.756	0.679	0.800	10.7%	< 30	94.5%	84.9%	50 - 150	
Thiacloprid	0.000	0.376	0.419	0.400	10.8%	< 30	94.0%	104.7%	50 - 150	
Thiamethoxam	0.000	0.420	0.435	0.400	3.5%	< 30	104.9%	108.7%	50 - 150	
Trifloxystrobin	0.000	0.356	0.398	0.400	11.0%	< 30	89.1%	99.4%	50 - 150	



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Revision: 2 Document ID: 7087
 Legacy ID: CFL-E33Effective:

Laboratory Quality Control Results

Residual Solvents				Batch ID: 2309278					
Method Blank				Laboratory Control Sample					
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes
Propane	ND	< 200		560	584	µg/g	95.9	60 - 120	
Isobutane	ND	< 200		729	767	µg/g	95.0	60 - 120	
Butane	ND	< 200		725	782	µg/g	92.7	60 - 120	
2,2-Dimethylpropane	ND	< 200		895	939	µg/g	95.3	60 - 120	
Methanol	ND	< 200		1520	1640	µg/g	92.7	60 - 120	
Ethylene Oxide	ND	< 30		63.4	57.1	µg/g	111.0	60 - 120	
2-Methylbutane	ND	< 200		1390	1600	µg/g	86.9	60 - 120	
Pentane	ND	< 200		1410	1620	µg/g	87.0	60 - 120	
Ethanol	ND	< 200		1570	1610	µg/g	97.5	70 - 130	
Ethyl Ether	ND	< 200		1430	1610	µg/g	88.8	60 - 120	
2,2-Dimethylbutane	ND	< 30		151	168	µg/g	89.9	60 - 120	
Acetone	ND	< 200		1480	1620	µg/g	91.4	60 - 120	
2-Propanol	ND	< 200		1580	1600	µg/g	98.8	60 - 120	
Ethyl Formate	ND	< 500		1290	1600	µg/g	80.6	70 - 130	
Acetonitrile	ND	< 100		429	484	µg/g	88.6	60 - 120	
Methyl Acetate	ND	< 500		1440	1610	µg/g	89.4	70 - 130	
2,3-Dimethylbutane	ND	< 30		138	162	µg/g	85.2	60 - 120	
Dichloromethane	ND	< 60		434	483	µg/g	89.9	60 - 120	
2-Methylpentane	ND	< 30		153	174	µg/g	87.9	60 - 120	
MTBE	ND	< 500		1430	1610	µg/g	88.8	70 - 130	
3-Methylpentane	ND	< 30		158	168	µg/g	94.0	60 - 120	
Hexane	ND	< 30		147	168	µg/g	87.5	60 - 120	
1-Propanol	ND	< 500		1560	1600	µg/g	97.5	70 - 130	
Methylethylketone	ND	< 500		1440	1620	µg/g	88.9	70 - 130	
Ethyl acetate	ND	< 200		1480	1600	µg/g	92.5	60 - 120	
2-Butanol	ND	< 200		1590	1600	µg/g	99.4	60 - 120	
Tetrahydrofuran	ND	< 100		463	514	µg/g	90.1	60 - 120	
Cyclohexane	ND	< 200		1440	1600	µg/g	90.0	60 - 120	
2-methyl-1-propanol	ND	< 500		1640	1610	µg/g	101.9	70 - 130	
Benzene	ND	< 1		3.8	5.12	µg/g	74.2	60 - 120	
Isopropyl Acetate	ND	< 200		1490	1620	µg/g	92.0	60 - 120	
Heptane	ND	< 200		1440	1610	µg/g	89.4	60 - 120	
1-Butanol	ND	< 500		1630	1600	µg/g	101.9	70 - 130	
Propyl Acetate	ND	< 500		1440	1600	µg/g	90.0	70 - 130	
1,4-Dioxane	ND	< 100		445	493	µg/g	90.3	60 - 120	
2-Ethoxyethanol	ND	< 30		146	163	µg/g	89.6	60 - 120	
Methylisobutylketone	ND	< 500		1450	1600	µg/g	90.6	70 - 130	
3-Methyl-1-butanol	ND	< 500		1600	1610	µg/g	99.4	70 - 130	
Ethylene Glycol	ND	< 200		157	483	µg/g	32.5	60 - 120	Q6
Toluene	ND	< 100		433	493	µg/g	87.8	60 - 120	
Isobutyl Acetate	ND	< 500		1440	1600	µg/g	90.0	70 - 130	
1-Pentanol	ND	< 500		1670	1600	µg/g	104.4	70 - 130	
Butyl Acetate	ND	< 500		1430	1600	µg/g	89.4	70 - 130	
Ethylbenzene	ND	< 200		851	969	µg/g	87.8	60 - 120	
m,p-Xylene	ND	< 200		844	968	µg/g	87.2	60 - 120	
o-Xylene	ND	< 200		861	976	µg/g	88.2	60 - 120	
Cumene	ND	< 30		140	162	µg/g	86.4	60 - 120	
Anisole	ND	< 500		1370	1610	µg/g	85.1	70 - 130	
DMSO	ND	< 500		1670	1610	µg/g	103.7	70 - 130	
1,2-dimethoxyethane	ND	< 50		140	164	µg/g	85.4	70 - 130	
Triethylamine	ND	< 500		1360	1600	µg/g	85.0	70 - 130	
N,N-dimethylformamide	ND	< 150		450	484	µg/g	93.0	70 - 130	
N,N-dimethylacetamide	ND	< 150		452	489	µg/g	92.4	70 - 130	
Pyridine	ND	< 50		110	172	µg/g	64.0	70 - 130	Q6
Sulfolane	ND	< 50		104	163	µg/g	63.8	70 - 130	Q6
1,2-Dichloroethane	ND	< 1		1.08	1	µg/g	108.0	70 - 130	
Chloroform	ND	< 1		1.07	1	µg/g	107.0	70 - 130	
Trichloroethylene	ND	< 1		1.14	1	µg/g	114.0	70 - 130	
1,1-Dichloroethane	ND	< 1		0.99	1	µg/g	99.0	70 - 130	



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QC - Sample Duplicate		Sample ID: 23-008207-0001						
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	
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	
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	
Sulfolane	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	
1,1-Dichloroethane	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

Units of Measure:

µg/g- Microgram per gram or ppm



12423 NE Whitaker Way
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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.