



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



Report Number: 19-011730/D07.R01
Report Date: 03/09/2020
ORELAP#: OR100028
Purchase Order:
Received: 09/26/19 12:25

QC - Sample Duplicate Sample ID: 19-011618-0002

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	
n-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	
Isopropyl alcohol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Acetonitrile	ND	ND	100	µg/g	0.0	< 20	Acceptable	
2,3-Dimethylbutane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Dichloromethane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-Methylpentane	ND	ND	30	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	
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	
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	
1,4-Dioxane	ND	ND	100	µg/g	0.0	< 20	Acceptable	
2-Ethoxyethanol	ND	ND	30	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	
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	

Abbreviations

ND - None Detected at or above MRL
 RPD - Relative Percent Difference
 LOQ - Limit of Quantitation
 * Screening only
 Q1 Quality Control result biased high. Only non detect samples reported.

Units of Measure:

µg/g- Microgram per gram or ppm
 mg/Kg - Milligrams per Kilogram
 Aw- Water Activity unit

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.



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



Report Number: 19-011730/D07.R01
Report Date: 03/09/2020
ORELAP#: OR100028
Purchase Order:
Received: 09/26/19 12:25

Revision: 1.00 Control: CFL-C21
Revised: 08/12/2019 Effective: 08/15/2019

Laboratory Pesticide Quality Control Results

AOAC 2007.1 & EN 15662		Units: mg/Kg		Laboratory Control Sample			Batch ID: 1908797	
Method Blank	Blank Result	Blank Limits	Notes	LCS Result	LCS Spike	LCS % Rec	Limits	Notes
Acetate	0.032	< 0.200		0.861	1.000	86.1	69.8 - 117	
Acequinocyl	0.000	< 1.000		3.949	4.000	98.7	72.9 - 135	
Acelamiprid	0.000	< 0.100		0.342	0.400	85.5	81.6 - 116	
Aldicarb	0.070	< 0.200		0.623	0.800	77.8	78.7 - 118	Q6
Abamectin	0.000	< 0.288		0.919	1.000	91.9	81.4 - 113	
Azoxystrobin	0.002	< 0.100		0.362	0.400	90.4	82.3 - 114	
Bifenazate	0.003	< 0.100		0.407	0.400	101.8	84.7 - 115	
Bifenthrin	0.012	< 0.100		0.388	0.400	97.1	82.0 - 113	
Boscalid	0.010	< 0.100		0.744	0.800	92.9	80.6 - 125	
Carbaryl	0.000	< 0.100		0.405	0.400	101.2	85.1 - 113	
Carbofuran	0.003	< 0.100		0.377	0.400	94.2	82.6 - 121	
Chlorantraniliprol	0.000	< 0.100		0.361	0.400	90.3	68.3 - 120	
Chlorfenapyr	0.585	< 1.000		1.765	2.000	88.3	69.1 - 126	
Chlorpyrifos	0.000	< 0.100		0.321	0.400	80.2	80.3 - 113	Q6
Clofentezine	0.026	< 0.100		0.251	0.400	62.8	57.0 - 106	
Cyfluthrin	0.000	< 1.000		2.128	2.000	106.4	82.2 - 118	
Cypermethrin	0.000	< 1.000		1.933	2.000	96.6	85.8 - 108	
Daminozide	0.000	< 1.000		0.731	2.000	36.5	24.9 - 46.2	
Diazinon	0.000	< 0.100		0.397	0.400	99.3	71.3 - 125	
Dichlorvos	0.018	< 0.500		1.961	2.000	98.0	80.5 - 111	
Dimethoat	0.000	< 0.100		0.364	0.400	91.0	85.0 - 109	
Ethoprophos	0.003	< 0.100		0.427	0.400	106.6	88.0 - 111	
Etofenprox	0.006	< 0.100		0.845	0.800	105.7	88.6 - 111	
Etoxazol	0.000	< 0.100		0.359	0.400	89.9	74.9 - 139	
Fenoxycarb	0.000	< 0.100		0.385	0.400	96.3	75.4 - 124	
Fenpyroximat	0.000	< 0.100		0.771	0.800	96.4	85.8 - 113	
Fipronil	0.003	< 0.100		0.843	0.800	105.4	75.9 - 126	
Flonicamid	0.000	< 0.400		0.980	1.000	98.0	77.6 - 116	
Fludoxonil	0.000	< 0.100		0.812	0.800	101.5	80.7 - 111	
Hexythiazox	0.000	< 0.400		0.985	1.000	98.5	75.1 - 118	
Imazalil	0.000	< 0.100		0.356	0.400	89.1	83.0 - 117	
Imidacloprid	0.016	< 0.200		0.744	0.800	93.0	84.7 - 111	
Kresoxim-Methyl	0.000	< 0.100		0.706	0.800	88.3	77.2 - 123	
Malathion	0.001	< 0.100		0.394	0.400	98.6	83.5 - 117	
Metalaxyl	0.005	< 0.100		0.382	0.400	95.4	85.4 - 109	
Methiocarb	0.005	< 0.100		0.397	0.400	99.2	82.0 - 116	
Methomyl	0.000	< 0.200		0.735	0.800	91.8	71.7 - 121	
MGK 264	0.000	< 0.100		0.384	0.400	95.9	80.7 - 120	
Myclobutanil	0.000	< 0.100		0.375	0.400	93.8	84.0 - 114	
Naled	0.031	< 0.200		0.966	1.000	96.6	63.4 - 118	
Oxamyl	0.000	< 0.400		1.818	2.000	90.9	72.6 - 119	
Pachlobutrazol	0.000	< 0.200		0.771	0.800	96.4	82.5 - 125	
Parathion Methyl	0.000	< 0.200		0.915	0.800	114.3	72.3 - 134	
Permethrin	0.000	< 0.100		0.417	0.400	104.3	84.9 - 110	
Phosmet	0.000	< 0.100		0.374	0.400	93.4	79.9 - 119	
Piperonyl butoxide	0.000	< 1.000		2.115	2.000	105.8	85.4 - 114	
Prallethrin	0.024	< 0.200		0.755	0.800	94.4	77.7 - 121	
Propiconazole	0.000	< 0.200		0.779	0.800	97.4	80.9 - 115	
Propoxur	0.002	< 0.100		0.394	0.400	98.5	79.1 - 121	
Pyrethrins	0.001	< 0.500		0.397	0.284	139.8	88.3 - 123	Q1
Pyridaben	0.000	< 0.100		0.375	0.400	93.8	78.8 - 119	
Spinosad	0.000	< 0.100		0.286	0.388	73.8	77.6 - 134	Q6
Spiromesifen	0.000	< 0.100		0.401	0.400	100.4	70.6 - 122	
Spirotetramat	0.000	< 0.100		0.393	0.400	98.2	71.8 - 124	
Spiroxamine	0.000	< 0.100		0.738	0.800	92.3	81.3 - 117	
Tebuconazol	0.000	< 0.200		0.804	0.800	100.5	76.1 - 120	
Thiacloprid	0.000	< 0.100		0.383	0.400	95.8	78.7 - 116	
Thiamethoxam	0.000	< 0.100		0.377	0.400	94.2	74.3 - 119	
Trifloxystrobin	0.000	< 0.100		0.389	0.400	97.3	88.0 - 114	

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.



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



Report Number: 19-011730/D07.R01
Report Date: 03/09/2020
ORELAP#: OR100028
Purchase Order:
Received: 09/26/19 12:25

Revision: 1.00 Control: CFL-C21
Revised: 08/12/2019 Effective: 08/15/2019

Laboratory Pesticide Quality Control Results

AOAC 2007.1 & EN 15662		Units: mg/Kg				Batch ID: 1908797				
Matrix Spike/Matrix Spike Duplicate Recoveries		Sample ID: 19-011774-0001								
Analyte	Result	MS Res	MSD Res	Spike	RPD%	Limit	MS % Rec	MSD % Rec	Limits	Notes
Acephate	0.004	0.945	0.989	1.000	4.6	< 30	94.0	98.5	50 - 150	
Acequinocyl	0.000	4.935	4.947	4.000	0.2	< 30	123.4	123.7	50 - 150	
Acelamiprid	0.000	0.502	0.500	0.400	0.6	< 30	125.6	124.9	50 - 150	
Aldicarb	0.081	0.963	0.997	0.800	3.5	< 30	110.2	114.5	50 - 150	
Abamectin	0.000	1.016	1.011	1.000	0.5	< 30	101.6	101.1	50 - 150	
Azoxystrobin	0.001	0.476	0.469	0.400	1.6	< 30	118.9	117.0	50 - 150	
Bifenazate	0.001	0.436	0.442	0.400	1.5	< 30	108.5	110.2	50 - 150	
Bifenthrin	0.016	0.513	0.509	0.400	0.7	< 30	124.3	123.4	50 - 150	
Boscalid	0.010	0.902	0.932	0.800	3.4	< 30	111.5	115.3	50 - 150	
Carbaryl	0.000	0.508	0.504	0.400	0.8	< 30	127.0	125.9	50 - 150	
Carbofuran	0.002	0.501	0.495	0.400	1.2	< 30	124.5	123.1	50 - 150	
Chlorantraniliprol	0.000	0.471	0.446	0.400	5.5	< 30	117.7	111.5	50 - 150	
Chlorfenapyr	0.000	2.175	1.838	2.000	16.8	< 30	108.8	91.9	50 - 150	
Chlorpyrifos	0.002	0.647	0.695	0.400	7.1	< 30	161.4	173.2	50 - 150	Q1
Clofentezine	0.026	0.271	0.302	0.400	11.0	< 30	61.2	69.1	50 - 150	
Cyfluthrin	0.000	1.346	1.696	2.000	23.0	< 30	67.3	84.8	30 - 150	
Cypermethrin	0.000	2.648	2.664	2.000	0.6	< 30	132.4	133.2	50 - 150	
Daminozide	0.000	0.956	0.997	2.000	4.2	< 30	47.8	49.9	30 - 150	
Diazinon	0.000	0.500	0.480	0.400	4.0	< 30	124.9	120.0	50 - 150	
Dichlorvos	0.028	2.496	2.498	2.000	0.1	< 30	123.4	123.5	50 - 150	
Dimethoat	0.000	0.439	0.519	0.400	16.8	< 30	109.6	129.8	50 - 150	
Ethoprophos	0.003	0.490	0.466	0.400	5.1	< 30	121.7	115.6	50 - 150	
Etofenprox	0.006	1.006	0.946	0.800	6.2	< 30	125.1	117.5	50 - 150	
Etoxazol	0.000	0.421	0.394	0.400	6.4	< 30	105.1	98.6	50 - 150	
Fenoxycarb	0.000	0.486	0.478	0.400	1.7	< 30	121.5	119.4	50 - 150	
Fenpyroximat	0.000	0.956	0.997	0.800	4.2	< 30	119.5	124.6	50 - 150	
Fipronil	0.000	1.052	0.956	0.800	9.6	< 30	131.5	119.5	50 - 150	
Flonicamid	0.000	0.974	0.982	1.000	0.8	< 30	97.4	98.2	50 - 150	
Fludioxonil	0.000	0.937	0.883	0.800	5.9	< 30	117.1	110.4	50 - 150	
Hexythiazox	0.000	2.035	2.058	1.000	1.1	< 30	203.5	205.8	50 - 150	Q1
Imazalil	0.000	0.522	0.505	0.400	3.2	< 30	130.5	126.4	50 - 150	
Imidacloprid	0.000	0.817	0.859	0.800	5.0	< 30	102.1	107.3	50 - 150	
Kresoxim-Methyl	0.000	1.003	1.015	0.800	1.2	< 30	125.3	126.8	50 - 150	
Malathion	0.001	0.471	0.487	0.400	3.3	< 30	117.7	121.6	50 - 150	
Metalaxyl	0.005	0.457	0.465	0.400	1.8	< 30	112.9	115.0	50 - 150	
Methiocarb	0.008	0.494	0.435	0.400	12.7	< 30	121.5	106.7	50 - 150	
Methomyl	0.000	0.792	0.781	0.800	1.4	< 30	99.1	97.6	50 - 150	
MGK 264	0.000	0.536	0.505	0.400	6.0	< 30	133.9	126.1	50 - 150	
Myclobutanil	0.000	0.407	0.414	0.400	1.7	< 30	101.7	103.5	50 - 150	
Naled	0.031	1.040	1.028	1.000	1.1	< 30	100.8	99.7	50 - 150	
Oxamyl	0.000	1.842	1.878	2.000	1.9	< 30	92.1	93.9	50 - 150	
Paclbutrazol	0.000	0.883	0.874	0.800	1.1	< 30	110.4	109.2	50 - 150	
Parathion Methyl	0.000	0.817	0.654	0.800	22.2	< 30	102.2	81.8	30 - 150	
Permethrin	0.000	0.467	0.425	0.400	9.4	< 30	116.7	106.2	50 - 150	
Phosmet	0.000	0.535	0.538	0.400	0.6	< 30	133.7	134.5	50 - 150	
Piperonyl butoxide	0.000	2.274	2.233	2.000	1.8	< 30	113.7	111.7	50 - 150	
Prallethrin	0.029	1.478	1.624	0.800	9.4	< 30	181.1	199.3	50 - 150	Q1
Propiconazole	0.000	0.890	0.879	0.800	1.2	< 30	111.2	109.8	50 - 150	
Propoxur	0.001	0.511	0.506	0.400	0.9	< 30	127.6	126.4	50 - 150	
Pyrethrins	0.000	0.494	0.495	0.284	0.0	< 30	174.1	174.2	50 - 150	Q1
Pyridaben	0.000	0.697	0.665	0.400	4.7	< 30	174.2	166.2	50 - 150	Q1
Spinosad	0.000	0.385	0.394	0.388	2.3	< 30	99.3	101.6	50 - 150	
Spiromesifen	0.000	0.589	0.594	0.400	0.7	< 30	147.4	148.4	50 - 150	
Spirotetramat	0.000	0.390	0.367	0.400	6.0	< 30	97.4	91.7	50 - 150	
Spiroxamine	0.000	0.949	0.948	0.800	0.1	< 30	118.6	118.5	50 - 150	
Tebuconazol	0.000	0.918	0.952	0.800	3.6	< 30	114.8	119.0	50 - 150	
Thiacloprid	0.000	0.537	0.528	0.400	1.7	< 30	134.1	131.9	50 - 150	
Thiamethoxam	0.000	0.403	0.436	0.400	7.8	< 30	100.8	109.0	50 - 150	
Trifloxystrobin	0.000	0.470	0.497	0.400	3.9	< 30	117.4	124.4	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.



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



Report Number: 19-011730/D07.R01
Report Date: 03/09/2020
ORELAP#: OR100028
Purchase Order:
Received: 09/26/19 12:25

Laboratory Quality Control Results

J AOAC 2015 V98-6 **Batch ID: 1908909**

Laboratory Control Sample

Analyte	Result	Spike	Units	% Rec	Limits	Evaluation	Notes
CBDV-A	0.00955	0.01	%	95.5	85 - 115	Acceptable	
CBDV	0.00998	0.01	%	99.8	85 - 115	Acceptable	
CBD-A	0.00984	0.01	%	98.4	85 - 115	Acceptable	
CBG-A	0.00954	0.01	%	95.4	85 - 115	Acceptable	
CBG	0.0101	0.01	%	101	85 - 115	Acceptable	
CBD	0.0105	0.01	%	105	85 - 115	Acceptable	
THCV	0.0100	0.01	%	100	85 - 115	Acceptable	
THCVA	0.00984	0.01	%	98.4	85 - 115	Acceptable	
CBN	0.0102	0.01	%	102	85 - 115	Acceptable	
THC	0.0111	0.01	%	111	85 - 115	Acceptable	
D8THC	0.00914	0.01	%	91.4	85 - 115	Acceptable	
CBL	0.0102	0.01	%	102	85 - 115	Acceptable	
CBC	0.00987	0.01	%	98.7	85 - 115	Acceptable	
THCA	0.0102	0.01	%	102	85 - 115	Acceptable	
CBCA	0.00868	0.01	%	86.8	85 - 115	Acceptable	

Method Blank

Analyte	Result	LOQ	Units	Limits	Evaluation	Notes
CBDV-A	ND	0.003	%	< 0.003	Acceptable	
CBDV	ND	0.003	%	< 0.003	Acceptable	
CBD-A	ND	0.003	%	< 0.003	Acceptable	
CBG-A	ND	0.003	%	< 0.003	Acceptable	
CBG	ND	0.003	%	< 0.003	Acceptable	
CBD	ND	0.003	%	< 0.003	Acceptable	
THCV	ND	0.003	%	< 0.003	Acceptable	
THCVA	ND	0.003	%	< 0.003	Acceptable	
CBN	ND	0.003	%	< 0.003	Acceptable	
THC	ND	0.003	%	< 0.003	Acceptable	
D8THC	ND	0.003	%	< 0.003	Acceptable	
CBL	ND	0.003	%	< 0.003	Acceptable	
CBC	ND	0.003	%	< 0.003	Acceptable	
THCA	ND	0.003	%	< 0.003	Acceptable	
CBCA	ND	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

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.



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



Report Number: 19-011730/D07.R01
Report Date: 03/09/2020
ORELAP#: OR100028
Purchase Order:
Received: 09/26/19 12:25

J AOAC 2015 V98-6 **Batch ID: 1908909**

Sample Duplicate **Sample ID: 19-011730-0007**

Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDV-A	ND	ND	0.003	%	0	< 20	Acceptable	
CBDV	ND	ND	0.003	%	0	< 20	Acceptable	
CBD-A	ND	ND	0.003	%	0	< 20	Acceptable	
CBG-A	ND	ND	0.003	%	0	< 20	Acceptable	
CBG	ND	ND	0.003	%	0	< 20	Acceptable	
CBD	0.767	0.757	0.003	%	1.31	< 20	Acceptable	
THCV	ND	ND	0.003	%	0	< 20	Acceptable	
THCVA	ND	ND	0.003	%	0	< 20	Acceptable	
CBN	ND	ND	0.003	%	0	< 20	Acceptable	
THC	ND	ND	0.003	%	0	< 20	Acceptable	
D8THC	ND	ND	0.003	%	0	< 20	Acceptable	
CBL	ND	ND	0.003	%	0	< 20	Acceptable	
CBC	ND	ND	0.003	%	0	< 20	Acceptable	
THCA	ND	ND	0.003	%	0	< 20	Acceptable	
CBCA	ND	ND	0.003	%	0	< 20	Acceptable	

Abbreviations

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

Units of Measure:

% - Percent

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.



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



Report Number: 19-011730/D07.R01
Report Date: 03/09/2020
ORELAP#: OR100028
Purchase Order:
Received: 09/26/19 12:25

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.