

Report: COA Evaluation Summary

OLCC License No. 10087092BDA | ORELAP ID. 4147
545 SW 2nd Street, Corvallis OR. 97333 | 541.257.5002 | services@preelab.com | Preelab.com

For OLCC/OHA Compliance Purposes.

Product Description

Client: **GVB Oregon**

Product Name: **CBDA Isolate B# GVL-TST145 Prim GVB | CBD**

Process Date: 2022-01-20

Retest Date: 2024-01-20

Matrix: Hemp Concentrate

Metrc Source ID: n/a

Metrc Package ID: n/a

License Number: n/a

Date Collected: 2022-01-21

Date Received: 2022-01-21

Report Date: 2022-01-26

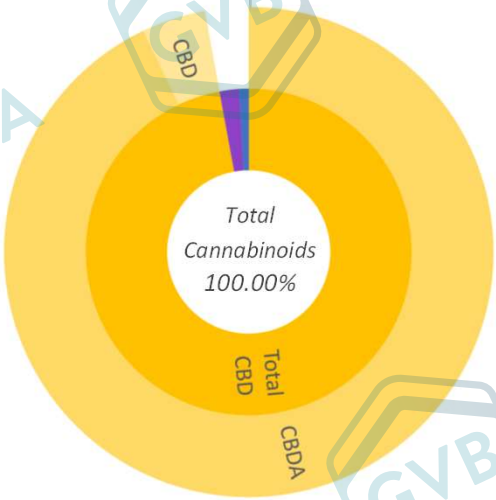
Report ID: A5721-01

Tests Requested: Cannabinoid Potency Analysis

Evaluation Summary

Moisture Analysis | Test Not Required

Cannabinoid Potency Analysis		Abrv.	Dry Wt. %	Dry Wt. mg/g
Total THC *	< LOQ	THCA	< LOQ	< LOQ
		Δ-9-THC	< LOQ	< LOQ
		Δ-8-THC	< LOQ	< LOQ
		THCV	< LOQ	< LOQ
		CBD	< LOQ	< LOQ
Total CBD *	89.36 % 893.6 mg/g	THCA	< LOQ	< LOQ
		Δ-9-THC	< LOQ	< LOQ
		Δ-8-THC	< LOQ	< LOQ
		THCV	< LOQ	< LOQ
		CBDA	96.88 %	968.8 mg/g
		CBD	4.40 %	44.0 mg/g
		CBGA	1.99 %	19.9 mg/g
		CBG	< LOQ	< LOQ
		CBDVA	1.00 %	10.0 mg/g
		CBDV	< LOQ	< LOQ
		CBN	< LOQ	< LOQ
		CBL	< LOQ	< LOQ
		CBC	< LOQ	< LOQ



* moisture compensated & adjusted for the loss of carboxylic acid group - OAR 333-064-0100

Report: Case Narrative

This certificate of analysis is prepared for...

GVB Oregon

2490 Ewald Ave SE Salem, OR 97302

This report presents the analytical findings for the sample collected on 2022-01-21 by Skyler Smith using sampling plan A5721 and received by PREE Laboratory on 2022-01-21. The sample was assigned a laboratory ID of A5721-01. The results in this report only apply to sample A5721-01.

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The testing methods used are of sufficient sensitivity to meet the compliance criteria set in OAR 333-007. However, it is the responsibility of the client to utilize the data to comply with standards set in OAR 333-007.

All analyses were performed in accordance with PREE Laboratory's NELAP/TNI approved quality control system and all quality control data was within the laboratory's predefined acceptance criteria unless otherwise noted in the case narrative of this report. General comments are also recorded below.

Notes:

The Oregon Department of Agriculture requires hemp products to not contain more than 0.35% total THC, per OAR 603-048. Pesticides and Solvents Subcontracted to Third Party Laboratories



Sardar, Tamzid M. | Laboratory Director
Corvallis, Oregon



If you have any questions regarding the information in this report, please feel free to call 541-257-5002 or email PREE at services@preelab.com.

Report: Evaluation Detail

OLCC License No. 10087092BDA | ORELAP ID. 4147
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For OLCC/OHA Compliance Purposes.

Moisture Analysis

Evaluation Detail

Moisture Analysis	Test Not Requested/Required
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Cannabinoid Potency Analysis

Evaluation Detail

Product Name: CBDA Isolate B# GVL-TST145 Prim

Analysis Date: 2022-01-24

Testing Batch ID: POR220124B

Testing Method: LSOP #303 Cannabinoid Quantification

Cannabinoid Potency Analysis	Compound	Abrv.	Dry Wt. (%)	Dry Wt. (mg/g)	RL (%)
Total THC *	Tetrahydro-cannabinolic acid	THCA	< LOQ	< LOQ	0.1 %
< LOQ	Delta9 Tetrahydro-cannabinol	Δ-9-THC	< LOQ	< LOQ	0.1 %
< LOQ	Delta8 Tetrahydro-cannabinol	Δ-8-THC	< LOQ	< LOQ	0.1 %
	Tetrahydrocannabivarin	THCV	< LOQ	< LOQ	0.1 %
Total CBD *	Cannabidiolic acid	CBDA	96.88 %	968.8	0.1 %
89.36 %	Cannabidiol	CBD	4.40 %	44.0	0.1 %
893.6 mg/g	Cannabigerolic acid	CBGA	1.99 %	19.9	0.1 %
	Cannabigerol	CBG	< LOQ	< LOQ	0.1 %
	Cannabidivarinic acid	CBDVA	1.00 %	10.0	0.1 %
	Cannabidivarin	CBDV	< LOQ	< LOQ	0.1 %
	Cannabinol	CBN	< LOQ	< LOQ	0.1 %
	Cannabicyclol	CBL	< LOQ	< LOQ	0.1 %
	Cannabichromene	CBC	< LOQ	< LOQ	0.1 %

Note: Accreditation for Δ-8-THC, THCV, CBGA,CBG, CBDVA, CBDV, CBL, CBC, CBN is not offered by ORELAP and therefore are not accredited tests.

* moisture compensated & adjusted for the loss of carboxylic acid group - OAR 333-064-0100

Report: Quality Check

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Moisture Analysis

Quality Control Detail

Moisture Analysis |

Test Not Requested/Required

Cannabinoid Potency Analysis

Quality Control Detail

Analysis Date: 2022-01-24

Testing Batch ID: POR220124B

Cannabinoid Potency Analysis	MB	LCS	Expected Value (%)	Tested Value (%)	Pass Criteria
Tetrahydro-cannabinolic acid	○		< 0.1%	< 0.1%	< 0.1%
Delta9 Tetrahydro-cannabinol	○		< 0.1%	< 0.1%	< 0.1%
Cannabidiolic acid	○		< 0.1%	< 0.1%	< 0.1%
Cannabidiol	○		< 0.1%	< 0.1%	< 0.1%
Tetrahydro-cannabinolic acid		●	100.0%	109.7%	± 20%
Delta9 Tetrahydro-cannabinol		●	100.0%	99.1%	± 20%
Cannabidiolic acid		●	100.0%	107.7%	± 20%
Cannabidiol		●	100.0%	110.0%	± 20%

Note: Accreditation for Δ-8-THC, THCV, CBGA,CBG, CBDVA, CBDV, CBL, CBC, CBN is not offered by ORELAP and therefore are not accredited tests.

Definitions

- Limit of Quantitation (LOQ) : The minimum level, concentration, or quantity of a target analyte that can be reported with a specific degree of confidence.
- Method Blank (MB) : A quality control sample that is free of the analyte being measured.
- Laboratory Control Sample (LCS) : A quality control sample with a known amount of the analyte used to demonstrate accuracy.
- Field Duplicate : A second sample collected in the field using the same sampling method as the primary sample.
- Action Limit : Analyte levels set by the state of Oregon (OAR 333-007) indicating that follow-up action is necessary.
- ppm : parts per million, equivalent to 1 µg/g and 1 µg/L or 0.001 mg/g and 0.001 mg/L
- COA : Certificate of Analysis.
- Report Flag (A) : Compound tested over 100% or 1000 mg/g. The test result is within the method uncertainty and instrument result is not above the upper limit of quantitation. Value will be adjusted down to 100% or 1000 mg/mg in the reporting process.
- Report Flag (B) : Blank contamination - The analyte was detected above one-half the reporting limit in an associated blank.
- Report Flag (E) : Compound tested above the upper limit of quantitation.
- Report Flag (Q) : One or more quality control criteria (for example, LCS recovery, surrogate spike recovery) failed.

Calculations

- Cannabinoid Potency :
$$\text{Wet WT\%} = (\text{Exported concentration ppm}) \times (\text{Dilution}) \times (\text{Extraction Vol./Wet wt mg}) \times 100$$
$$\text{Total THC\%} = (\% \text{THCA}) \times 0.877 + (\% \text{THC})$$
$$\text{Total CBD\%} = (\% \text{CBDA}) \times 0.877 + (\% \text{CBD})$$
$$\text{Total THC (Dry WT)\%} = \% \text{ total THC(wet)} / [1 - (\% \text{moisture}/100)]$$
$$\text{Total CBD (Dry WT)\%} = \% \text{ total CBD(wet)} / [1 - (\% \text{moisture}/100)]$$
- Percentage Recovery :
$$\% \text{ Rec.} = [(\text{Amount measured}) / (\text{Known amount})] \times 100$$

Disclaimers

- Disposal : All marijuana and hemp products received by PREE will be disposed of following the OLCC's rules for Marijuana Waste Management, regardless of product type, unless PREE is given specific disposal instructions for a product based on test results from state regulatory agencies.

A5721-01

Lab ID: 2201211-01

PREE Laboratories

METRC Batch ID:

Date Sampled: 01/21/22

Date Printed: 01/26/22

A5721-01

PREE Laboratories

Sample ID: 2201211-01

Matrix: Extracts and Concentrates

M #:

Date Sampled: 01/21/22 00:00

Date Accepted: 01/21/22

Results Valid Until: 01/21/23

Pesticide Analysis in PPM

Date/Time Extracted: 01/25/22 17:24

Date/Time Analyzed: 01/26/22 03:31

Analysis Method/SOP: SOP 33

Instrument: Selene

Batch Identification: B22A122

Analyte	Result	Action Level	LOQ	Type
Abamectin	< LOQ	0.5	0.2500	Avermectin insecticide
Acephate	< LOQ	0.4	0.2000	Organophosphate Insecticide
Acequinocyl	< LOQ	2	1.000	Quinoline insecticide
Acetamiprid	< LOQ	0.2	0.1000	Neonicotinoid insecticide
Aldicarb	< LOQ	0.4	0.2000	Carbamate insecticide
Azoxystrobin	< LOQ	0.2	0.1000	Strobin fungicide
Bifenazate	< LOQ	0.2	0.1000	Carbazate miticide
Bifenthrin	< LOQ	0.2	0.1000	Pyrethroid insecticide
Boscalid	< LOQ	0.4	0.2000	Carboxamide fungicide
Carbaryl	< LOQ	0.2	0.1000	Carbamate insecticide
Carbofuran	< LOQ	0.2	0.1000	Carbamate insecticide
Chlorantraniliprole	< LOQ	0.2	0.1000	Anthranilic diamide insecticide
Chlorfenapyr	< LOQ	1	0.5000	Pyrrole insecticide
Chlorpyrifos	< LOQ	0.2	0.1000	Organophosphate Insecticide
Clofentezine	< LOQ	0.2	0.1000	Tetrazine miticide
Cyfluthrin	< LOQ	1	0.5000	Pyrethroid insecticide
Cypermethrin	< LOQ	1	0.5000	Pyrethroid insecticide
Daminozide	< LOQ	1	0.5000	Plant growth regulator
DDVP (Dichlorvos)	< LOQ	1	0.5000	Organophosphate insecticide
Diazinon	< LOQ	0.2	0.1000	Organophosphate Insecticide
Dimethoate	< LOQ	0.2	0.1000	Organophosphate insecticide

Erik Werstler

Erik Werstler
Lab Director

A5721-01

PREE Laboratories

Laboratory ID: 2201211-01

A5721-01

PREE Laboratories

Date Sampled: 01/21/22 00:00

Date Accepted: 01/21/22

Results Valid Until: 01/21/23

Sample ID: 2201211-01

Matrix: Extracts and Concentrates

M #:

Pesticide Analysis in PPM

Date/Time Extracted: 01/25/22 17:24

Date/Time Analyzed: 01/26/22 03:31

Analysis Method/SOP: SOP 33

Instrument: Selene

Batch Identification: B22A122

Analyte	Result	Action Level	LOQ	Type
Ethoprophos	< LOQ	0.2	0.1000	Organophosphate insecticide
Etofenprox	< LOQ	0.4	0.2000	Pyrethroid insecticide
Etoazole	< LOQ	0.2	0.1000	Oxazoline insecticide
Fenoxycarb	< LOQ	0.2	0.1000	Carbamate insecticide
Fenpyroximate	< LOQ	0.4	0.2000	Pyrazolium miticide
Fipronil	< LOQ	0.4	0.2000	Pyrazole insecticide
Flonicamid	< LOQ	1	0.5000	Pyridinecarboxamide insecticide
Fludioxonil	< LOQ	0.4	0.2000	Benzodioxole fungicide
Hexythiazox	< LOQ	1	0.5000	Heterocyclic miticide
Imazalil	< LOQ	0.2	0.1000	Imidazole fungicide
Imidacloprid	< LOQ	0.4	0.2000	Neonicotinoid insecticide
Kresoxim-methyl	< LOQ	0.4	0.2000	Strobilurin fungicide
Malathion	< LOQ	0.2	0.1000	Organophosphate insecticide
Metalaxyl	< LOQ	0.2	0.1000	Benzenoid fungicide
Methiocarb	< LOQ	0.2	0.1000	Carbamate insecticide
Methomyl	< LOQ	0.4	0.2000	Carbamate insecticide
Methyl parathion	< LOQ	0.2	0.1000	Organophosphate insecticide
MGK-264	< LOQ	0.2	0.1000	Pesticide synergist
Myclobutanil	< LOQ	0.2	0.1000	Triazole fungicide
Naled	< LOQ	0.5	0.2500	Organophosphate insecticide
Oxamyl	< LOQ	1	0.5000	Carbamate insecticide
Paclobutrazol	< LOQ	0.4	0.2000	Triazole fungicide
Permethrins	< LOQ	0.2	0.1000	Pyrethroid insecticide
Phosmet	< LOQ	0.2	0.1000	Organophosphate insecticide
Piperonyl butoxide	< LOQ	2	1.000	Pesticide synergist
Prallethrin	< LOQ	0.2	0.1000	Pyrethroid insecticide

Erik Werstler

Erik Werstler
Lab Director

A5721-01

PREE Laboratories

Laboratory ID: 2201211-01

A5721-01

PREE Laboratories

Date Sampled: 01/21/22 00:00

Date Accepted: 01/21/22

Results Valid Until: 01/21/23

Sample ID: 2201211-01

Matrix: Extracts and Concentrates

M #:

Pesticide Analysis in PPM

Date/Time Extracted: 01/25/22 17:24

Date/Time Analyzed: 01/26/22 03:31

Analysis Method/SOP: SOP 33

Instrument: Selene

Batch Identification: B22A122

Analyte	Result	Action Level	LOQ	Type
Propiconazole	< LOQ	0.4	0.2000	Triazole fungicide
Propoxur	< LOQ	0.2	0.1000	Carbamate insecticide
Pyrethrins	< LOQ	1	0.5000	Pyrethroid insecticide
Pyridaben	< LOQ	0.2	0.1000	Pyridazinone insecticide
Spinosad	< LOQ	0.2	0.1000	Spinosyn insecticide
Spiromesifen	< LOQ	0.2	0.1000	Keto-enol insecticide
Spirotetramat	< LOQ	0.2	0.1000	Keto-enol insecticide
Spiroxamine	< LOQ	0.4	0.2000	Spiroketamine fungicide
Tebuconazole	< LOQ	0.4	0.2000	Triazole fungicide
Thiacloprid	< LOQ	0.2	0.1000	Neonicotinoid insecticide
Thiamethoxam	< LOQ	0.2	0.1000	Neonicotinoid insecticide
Trifloxystrobin	< LOQ	0.2	0.1000	Strobin fungicide

<LOQ - Results below the Limit of Quantitation - Compound not detected

Results above the Action Level fail state testing requirements and will be highlighted Red.

Erik Werstler

Erik Werstler
Lab Director

A5721-01

PREE Laboratories

Laboratory ID: 2201211-01

Residual Solvents

Analysis Method/SOP: RS

Solvent	Results in ppm	LOQ	Action Level	Notes
Acetone	< LOQ	2500	5000	
Acetonitrile	< LOQ	205.0	400	
Benzene	< LOQ	1.000	2	
2-Butanol	< LOQ	2500	5000	
Cumene	< LOQ	35.00	70	
Cyclohexane	< LOQ	1940	3880	
Dichloromethane	< LOQ	300.0	600	
1,4-Dioxane	< LOQ	190.0	380	
2-Ethoxyethanol	< LOQ	80.00	160	
Ethyl acetate	< LOQ	2500	5000	
Ethylene glycol	< LOQ	310.0	620	
Ethylene oxide	< LOQ	25.00	50	
Ethyl ether	< LOQ	2500	5000	
Heptane	< LOQ	2500	5000	
Isopropyl acetate	< LOQ	2500	5000	
Methanol	< LOQ	1500	3000	
Propane	< LOQ	2500	5000	
2-Propanol (IPA)	< LOQ	2500	5000	
Tetrahydrofuran	< LOQ	360.0	720	
Toluene	< LOQ	445.0	890	
Butanes	< LOQ	2500	5000	
Hexanes	< LOQ	145.0	290	
Pentanes	< LOQ	2500	5000	
Xylenes	< LOQ	1085	2170	

Results above the Action Level fail state testing requirements and will be highlighted Red.

 **Erik Werstler**
Lab Director

A5721-01

FREE Laboratories

Laboratory ID: 2201211-01

Quality Control Pesticide Analysis

Batch: B22A122 - Pest/Myco

Blank(B22A122-BLK1)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Abamectin	< LOQ	0.2500	ppm		01/25/22 17:24	01/26/22 02:43	
Acephate	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Acequinocyl	< LOQ	1.000	ppm		01/25/22 17:24	01/26/22 02:43	
Acetamiprid	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Aldicarb	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Azoxystrobin	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Bifenazate	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Bifenthrin	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Boscalid	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Carbaryl	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Carbofuran	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Chlorantraniliprole	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Chlorfenapyr	< LOQ	0.5000	ppm		01/25/22 17:24	01/26/22 02:43	
Chlorpyrifos	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Clofentezine	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Cyfluthrin	< LOQ	0.5000	ppm		01/25/22 17:24	01/26/22 02:43	
Cypermethrin	< LOQ	0.5000	ppm		01/25/22 17:24	01/26/22 02:43	
Daminozide	< LOQ	0.5000	ppm		01/25/22 17:24	01/26/22 02:43	
DDVP (Dichlorvos)	< LOQ	0.5000	ppm		01/25/22 17:24	01/26/22 02:43	
Diazinon	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Dimethoate	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Ethoprophos	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Etofenprox	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Etoxazole	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Fenoxycarb	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Fenpyroximate	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Fipronil	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Flonicamid	< LOQ	0.5000	ppm		01/25/22 17:24	01/26/22 02:43	
Fludioxonil	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Hexythiazox	< LOQ	0.5000	ppm		01/25/22 17:24	01/26/22 02:43	
Imazalil	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Imidacloprid	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Kresoxim-methyl	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Malathion	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Metalaxyl	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	



Erik Werstler
Lab Director

A5721-01

PREE Laboratories

Laboratory ID: 2201211-01

Quality Control

Pesticide Analysis (Continued)

Batch: B22A122 - Pest/Myco (Continued)

Blank(B22A122-BLK1)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Methiocarb	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Methomyl	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Methyl parathion	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
MGK-264	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Myclobutanil	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Naled	< LOQ	0.2500	ppm		01/25/22 17:24	01/26/22 02:43	
Oxamyl	< LOQ	0.5000	ppm		01/25/22 17:24	01/26/22 02:43	
Paclobutrazol	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Permethrins	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Phosmet	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Piperonyl butoxide	< LOQ	1.000	ppm		01/25/22 17:24	01/26/22 02:43	
Prallethrin	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Propiconazole	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Propoxur	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Pyrethrins	< LOQ	0.5000	ppm		01/25/22 17:24	01/26/22 02:43	
Pyridaben	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Spinosad	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Spiromesifen	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Spirotetramat	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Spiroxamine	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Tebuconazole	< LOQ	0.2000	ppm		01/25/22 17:24	01/26/22 02:43	
Thiacloprid	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Thiamethoxam	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	
Trifloxystrobin	< LOQ	0.1000	ppm		01/25/22 17:24	01/26/22 02:43	

LCS(B22A122-BS1)

Analyte	% Recovery	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Abamectin	111	0.2500	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Acephate	98.2	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Acequinocyl	89.0	1.000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Acetamiprid	95.4	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Aldicarb	93.1	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Azoxystrobin	102	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Bifenazate	97.3	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Bifenthrin	65.2	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Boscalid	92.4	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	



Erik Werstler
Lab Director

A5721-01

FREE Laboratories

Laboratory ID: 2201211-01

Quality Control

Pesticide Analysis (Continued)

Batch: B22A122 - Pest/Myco (Continued)

LCS(B22A122-BS1)

Analyte	% Recovery	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Carbaryl	94.3	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Carbofuran	92.4	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Chlorantraniliprole	98.4	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Chlorfenapyr	82.6	0.5000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Chlorpyrifos	95.9	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Clofentezine	85.3	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Cyfluthrin	99.2	0.5000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Cypermethrin	102	0.5000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Daminozide	90.0	0.5000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
DDVP (Dichlorvos)	93.2	0.5000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Diazinon	90.0	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Dimethoate	95.6	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Ethoprophos	88.2	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Etofenprox	68.0	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Etoxazole	94.8	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Fenoxycarb	92.1	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Fenpyroximate	101	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Fipronil	85.9	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Flonicamid	96.8	0.5000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Fludioxonil	87.6	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Hexythiazox	89.9	0.5000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Imazalil	88.8	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Imidacloprid	93.8	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Kresoxim-methyl	91.1	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Malathion	98.1	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Metalaxyl	96.6	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Methiocarb	95.4	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Methomyl	96.7	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Methyl parathion	93.9	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
MGK-264	85.0	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Myclobutanil	96.2	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Naled	77.5	0.2500	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Oxamyl	98.4	0.5000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Paclobutrazol	98.2	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Permethrins	68.2	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	



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FREE Laboratories

Laboratory ID: 2201211-01

Quality Control

Pesticide Analysis (Continued)

Batch: B22A122 - Pest/Myco (Continued)

LCS(B22A122-BS1)

Analyte	% Recovery	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Phosmet	96.0	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Piperonyl butoxide	95.6	1.000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Prallethrin	90.9	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Propiconazole	80.3	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Propoxur	93.0	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Pyrethrins	103	0.5000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Pyridaben	78.4	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Spinosad	104	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Spiromesifen	92.0	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Spirotetramat	96.8	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Spiroxamine	91.5	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Tebuconazole	93.8	0.2000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Thiacloprid	97.6	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Thiamethoxam	95.4	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	
Trifloxystrobin	94.0	0.1000	ppm	50-150	01/25/22 17:24	01/26/22 02:27	

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Laboratory ID: 2201211-01

Quality Control Solvent Analysis

Batch: B22A113 - ResSolv

Blank(B22A113-BLK1)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Acetone	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 10:48	
Acetonitrile	< LOQ	205.0	ppm		01/24/22 07:33	01/24/22 10:48	
Benzene	< LOQ	1.000	ppm		01/24/22 07:33	01/24/22 10:48	
2-Butanol	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 10:48	
Cumene	< LOQ	35.00	ppm		01/24/22 07:33	01/24/22 10:48	
Cyclohexane	< LOQ	1940	ppm		01/24/22 07:33	01/24/22 10:48	
Dichloromethane	< LOQ	300.0	ppm		01/24/22 07:33	01/24/22 10:48	
1,4-Dioxane	< LOQ	190.0	ppm		01/24/22 07:33	01/24/22 10:48	
2-Ethoxyethanol	< LOQ	80.00	ppm		01/24/22 07:33	01/24/22 10:48	
Ethyl acetate	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 10:48	
Ethylene glycol	< LOQ	310.0	ppm		01/24/22 07:33	01/24/22 10:48	
Ethylene oxide	< LOQ	25.00	ppm		01/24/22 07:33	01/24/22 10:48	
Ethyl ether	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 10:48	
Heptane	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 10:48	
Isopropyl acetate	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 10:48	
Methanol	< LOQ	1500	ppm		01/24/22 07:33	01/24/22 10:48	
Propane	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 10:48	
2-Propanol (IPA)	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 10:48	
Tetrahydrofuran	< LOQ	360.0	ppm		01/24/22 07:33	01/24/22 10:48	
Toluene	< LOQ	445.0	ppm		01/24/22 07:33	01/24/22 10:48	
Butanes	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 10:48	
Hexanes	< LOQ	145.0	ppm		01/24/22 07:33	01/24/22 10:48	
Pentanes	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 10:48	
Xylenes	< LOQ	1085	ppm		01/24/22 07:33	01/24/22 10:48	

Blank(B22A113-BLK2)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Acetone	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:19	
Acetonitrile	< LOQ	205.0	ppm		01/24/22 07:33	01/24/22 11:19	
Benzene	< LOQ	1.000	ppm		01/24/22 07:33	01/24/22 11:19	
2-Butanol	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:19	
Cumene	< LOQ	35.00	ppm		01/24/22 07:33	01/24/22 11:19	
Cyclohexane	< LOQ	1940	ppm		01/24/22 07:33	01/24/22 11:19	
Dichloromethane	< LOQ	300.0	ppm		01/24/22 07:33	01/24/22 11:19	
1,4-Dioxane	< LOQ	190.0	ppm		01/24/22 07:33	01/24/22 11:19	
2-Ethoxyethanol	< LOQ	80.00	ppm		01/24/22 07:33	01/24/22 11:19	



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Laboratory ID: 2201211-01

Quality Control

Solvent Analysis (Continued)

Batch: B22A113 - ResSolv (Continued)

Blank(B22A113-BLK2)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Ethyl acetate	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:19	
Ethylene glycol	< LOQ	310.0	ppm		01/24/22 07:33	01/24/22 11:19	
Ethylene oxide	< LOQ	25.00	ppm		01/24/22 07:33	01/24/22 11:19	
Ethyl ether	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:19	
Heptane	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:19	
Isopropyl acetate	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:19	
Methanol	< LOQ	1500	ppm		01/24/22 07:33	01/24/22 11:19	
Propane	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:19	
2-Propanol (IPA)	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:19	
Tetrahydrofuran	< LOQ	360.0	ppm		01/24/22 07:33	01/24/22 11:19	
Toluene	< LOQ	445.0	ppm		01/24/22 07:33	01/24/22 11:19	
Butanes	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:19	
Hexanes	< LOQ	145.0	ppm		01/24/22 07:33	01/24/22 11:19	
Pentanes	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:19	
Xylenes	< LOQ	1085	ppm		01/24/22 07:33	01/24/22 11:19	

Blank(B22A113-BLK3)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Acetone	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:50	
Acetonitrile	< LOQ	205.0	ppm		01/24/22 07:33	01/24/22 11:50	
Benzene	< LOQ	1.000	ppm		01/24/22 07:33	01/24/22 11:50	
2-Butanol	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:50	
Cumene	< LOQ	35.00	ppm		01/24/22 07:33	01/24/22 11:50	
Cyclohexane	< LOQ	1940	ppm		01/24/22 07:33	01/24/22 11:50	
Dichloromethane	< LOQ	300.0	ppm		01/24/22 07:33	01/24/22 11:50	
1,4-Dioxane	< LOQ	190.0	ppm		01/24/22 07:33	01/24/22 11:50	
2-Ethoxyethanol	< LOQ	80.00	ppm		01/24/22 07:33	01/24/22 11:50	
Ethyl acetate	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:50	
Ethylene glycol	< LOQ	310.0	ppm		01/24/22 07:33	01/24/22 11:50	
Ethylene oxide	< LOQ	25.00	ppm		01/24/22 07:33	01/24/22 11:50	
Ethyl ether	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:50	
Heptane	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:50	
Isopropyl acetate	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:50	
Methanol	< LOQ	1500	ppm		01/24/22 07:33	01/24/22 11:50	
Propane	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:50	
2-Propanol (IPA)	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:50	



Erik Werstler
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Quality Control

Solvent Analysis (Continued)

Batch: B22A113 - ResSolv (Continued)

Blank(B22A113-BLK3)

Analyte	Result	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Tetrahydrofuran	< LOQ	360.0	ppm		01/24/22 07:33	01/24/22 11:50	
Toluene	< LOQ	445.0	ppm		01/24/22 07:33	01/24/22 11:50	
Butanes	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:50	
Hexanes	< LOQ	145.0	ppm		01/24/22 07:33	01/24/22 11:50	
Pentanes	< LOQ	2500	ppm		01/24/22 07:33	01/24/22 11:50	
Xylenes	< LOQ	1085	ppm		01/24/22 07:33	01/24/22 11:50	

LCS(B22A113-BS1)

Analyte	% Recovery	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
Acetone	85.1	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Acetonitrile	99.2	205.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Benzene	83.7	1.000	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
n-Butane	103	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
2-Butanol	98.8	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Cumene	90.8	35.00	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Cyclohexane	80.8	1940	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Dichloromethane	82.4	300.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
2,2-Dimethylbutane	82.6	145.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
2,3-Dimethylbutane 2-Methy	102	145.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
1,4-Dioxane	92.2	190.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
2-Ethoxyethanol	71.6	80.00	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Ethyl acetate	105	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Ethyl benzene	92.5	1085	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Ethylene glycol	105	310.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Ethylene oxide	85.6	25.00	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Ethyl ether	81.9	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Heptane	99.2	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
n-Hexane	80.4	145.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
iso-Butane	108	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Isopropyl acetate	109	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
iso-Pentane	105	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Methanol	75.0	1500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
3-Methylpentane	81.7	145.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
neo-Pentane	80.6	145.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
n-Pentane	103	145.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Propane	109	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	



Erik Werstler
Lab Director

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Laboratory ID: 2201211-01

Quality Control Solvent Analysis (Continued)

Batch: B22A113 - ResSolv (Continued)

LCS(B22A113-BS1)

Analyte	% Recovery	LOQ	Units	%Recovery Limits	Extracted	Analyzed	Notes
2-Propanol (IPA)	102	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Tetrahydrofuran	100	360.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Toluene	90.5	445.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
m,p Xylene	93.3	1085	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
o-Xylene	93.7	1085	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Butanes	106	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Hexanes	89.8	145.0	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Pentanes	96.2	2500	ppm	70-130	01/24/22 07:33	01/24/22 12:21	
Xylenes	93.2	1085	ppm	70-130	01/24/22 07:33	01/24/22 12:21	

Notes and Definitions

- B Analyte detected in method blank, but not associated samples.
 - B2 Analyte detected in sample and associated method blank.
 - C Interference due to co-elution.
 - D Initial result exceeded calibration range, reported data are based on analysis of a dilution.
 - H Non-homogenous sample matrix affecting RPD and/or QC.
 - I Manual Integration was performed.
 - L Duplicate sample relative percent difference (RPD) exceeds QC limits.
 - M Anomalous results due to matrix interference
 - P Peaks manually split.
 - Q1 QC out of limits but still OK
 - Q2 Quality Control outside QC limits. Data considered estimate.
 - Q3 CCV was above the acceptance criteria. Non-detect samples are considered acceptable.
 - Q4 CCV was below the acceptance criteria, however the sample still exceeds the regulatory limit.
 - R Marginal Exceedence.
 - U Reported result is an estimate. The analyte was detected above the calibration range.
 - X Problems with initial analysis, reported data are from reinjection of prepared sample.
- <LOQ - Results below the Limit of Quantitation - Compound not detected



Erik Werstler
Lab Director