

## **Hemp Quality Assurance Testing**

## **CERTIFICATE OF ANALYSIS**

**DATE ISSUED 06/19/2022** 

SAMPLE NAME: 1500mg/30ml Oil Vial

Infused, Non-Inhalable

**CULTIVATOR / MANUFACTURER** 

**Business Name:** License Number:

Address:

SAMPLE DETAIL

Batch Number: 545226 Sample ID: 220616Y006 **DISTRIBUTOR / TESTED FOR** 

Business Name: Ontogen Botanicals

License Number:

Address:

**Date Collected:** 06/16/2022 Date Received: 06/16/2022

Batch Size:

Sample Size: 1.0 units

Unit Mass: 30 grams per Unit

Serving Size:







Scan QR code to verify authenticity of results.

#### **CANNABINOID ANALYSIS - SUMMARY**

Total THC: 57.120 mg/unit

Total CBD: 1765.740 mg/unit

Total Cannabinoids: 1987.890 mg/unit

Total THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during the decarboxylation step: Total THC =  $\Delta^9$ -THC + (THCa (0.877))

Total CBD = CBD + (CBDa (0.877))

Sum of Cannabinoids =  $\Delta^9$ -THC + THCa + CBD + CBDa + CBG + CBGa + Sum of Cannabinoids: 1987.890 mg/unit THCV + THCVa + CBC + CBCa + CBDV + CBDVa +  $\Delta^8$ -THC + CBL + CBN Total Cannabinoids =  $(\Delta^9$ -THC+0.877\*THCa) + (CBD+0.877\*CBDa) +

(CBG+0.877\*CBGa) + (THCV+0.877\*THCVa) + (CBC+0.877\*CBCa) +

 $(CBDV+0.877*CBDVa) + \Delta^{8}-THC + CBL + CBN$ 

Density: 0.9513 g/mL

### **TERPENOID ANALYSIS - SUMMARY**

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.1655%

 $\beta$ -Caryophyllene 0.546 mg/g

α-Bisabolol 0.314 mg/g

 $\alpha$ -Humulene 0.222 mg/g

### **SAFETY ANALYSIS - SUMMARY**

 $\Delta^9$ -THC per Unit:  $\bigcirc$  PASS

Residual Solvents: PASS Foreign Material: PASS

Pesticides: PASS

Heavy Metals: PASS

Mycotoxins: PASS

Microbiology (PCR): PASS

For quality assurance purposes. Not a Regulatory Hemp Lab Test Report. These results relate only to the sample included on this report. This report shall not be reproduced, except in full, without written

Sample Certification: California Code of Regulations Title 16 Effect Date January 16, 2019. Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

Decision Rule: Statements of conformity (e.g. Pass/Fail) to specifications are made in this report without taking measurement uncertainty into account. Where statements of conformity are made in this report, the following decision rules are applied: PASS - Results within limits/specifications, FAIL - Results exceed limits/specifications.

References: limit of detection (LOD), limit of quantification (LOQ), not detected (ND), not tested (NT)

oved by: Josh Wurzer, President

SC Laboratories California LLC. | 100 Pioneer Street, Suite E, Santa Cruz, CA 95060 | 866-435-0709 | sclabs.com | C8-0000013-LIC | ISO/IES 17025:2017 PJLA Accreditation Number 87168 © 2022 SC Labs all rights reserved. Trademarks referenced are trademarks of either SC Labs or their respective owners. MKT0002 REV9 2/22 CoA ID: 220616Y006-001 Summary Page



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# Cannabinoid Analysis

Tested by high-performance liquid chromatography with diode-array detection (HPLC-DAD).

Method: QSP 1157 - Analysis of Cannabinoids by HPLC-DAD

TOTAL THC: 57.120 mg/unit Total THC ( $\Delta^9$ -THC+0.877\*THCa)

**TOTAL CBD: 1765.740 mg/unit** 

Total CBD (CBD+0.877\*CBDa)

TOTAL CANNABINOIDS: 1987.890 mg/unit

 $\begin{array}{l} Total\ Cannabinoids\ (Total\ THC)+(Total\ CBD)+(Total\ CBG)+(Total\ THCV)+(Total\ CBC)+(Total\ CBDV)+\Delta^8-THC+CBL+CBN \end{array}$ 

TOTAL CBG: 62.820 mg/unit

Total CBG (CBG+0.877\*CBGa)

**TOTAL THCV: ND** 

Total THCV (THCV+0.877\*THCVa)

TOTAL CBC: 87.720 mg/unit

Total CBC (CBC+0.877\*CBCa)

TOTAL CBDV: 6.270 mg/unit

Total CBDV (CBDV+0.877\*CBDVa)

#### **CANNABINOID TEST RESULTS - 06/18/2022**

	COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Ī	CBD	0.004 / 0.011	±2.1954	58.858	5.8858
	CBC	0.003 / 0.010	±0.0942	2.924	0.2924
	CBG	0.002 / 0.006	±0.1016	2.094	0.2094
	Δ <sup>9</sup> -THC	0.002 / 0.014	±0.1045	1.904	0.1904
	CBDV	0.002 / 0.012	±0.0085	0.209	0.0209
	CBL	0.003 / 0.010	±0.0065	0.175	0.0175
	CBN	0.001 / 0.007	±0.0028	0.099	0.0099
	$\Delta^8$ -THC	0.01 / 0.02	N/A	ND	ND
it -	THCa	0.001 / 0.005	N/A	ND	ND
	THCV	0.002 / 0.012	N/A	ND	ND
	THCVa	0.002 / 0.019	N/A	ND	ND
	CBDa	0.001 / 0.026	N/A	ND	ND
	CBDVa	0.001 / 0.018	N/A	ND	ND
	CBGa	0.002 / 0.007	N/A	ND	ND
	CBCa	0.001 / 0.015	N/A	ND	ND
	SUM OF CANNA	BINOIDS		66.263 mg/g	6.6263%

## Unit Mass: 30 grams per Unit

$\Delta^9$ -THC per Unit	1100 per-package limit	57.120 mg/unit	PASS
Total THC per Unit		57.120 mg/unit	
CBD per Unit		1765.740 mg/unit	
Total CBD per Unit		1765.740 mg/unit	
Sum of Cannabinoids per Unit		1987.890 mg/unit	
Total Cannabinoids per Unit		1987.890 mg/unit	

#### **DENSITY TEST RESULT**

0.9513 g/mL

Tested 06/18/2022

Method: QSP 7870 - Sample

Preparatio



# Hemp Quality Assurance Testing

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# **Terpenoid Analysis**

Terpene analysis utilizing gas chromatographyflame ionization detection (GC-FID).

Method: QSP 1192 - Analysis of Terpenoids by GC-FID



### **β-Caryophyllene**

A sesquiterpene with a fragrance that can be described as spicy, woody, dry, dusty and mildly sweet. It was one of the first organic compounds to fully synthesized in a laboratory and plays a role in the endocannabinoid system as it is a functional CB<sub>2</sub> receptor agonist. Found in black pepper, clove, hops, rosemary, black-jack, perilla, spicebush, Indian pennywort, celery, frankincense, vitex, parsley, marigold, tamarind...etc.



## $\alpha$ -Bisabolol

A sesquiterpene alcohol with a fragrance that can be described as floral, peppery, sweet and clean. Found in chamomile, figwort, yarrow, skullcaps, lavender, ironwort, germander...etc.



#### $\alpha$ -Humulene

Also known as  $\alpha$ -caryophyllene, it is an isomer of the sesquiterpene  $\beta$ -Caryophyllene which frequently occurs in nature with many aromatic plants across the globe. It has a fragrance that can be described as earthy or musky with spicy undertones. Found in hops, forskohlii, skullcaps, basil, nutmeg, cloves, sage, cotton, tamarind, black pepper, guava, Scotch pine...etc.

#### TERPENOID TEST RESULTS - 06/19/2022

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
β-Caryophyllene	0.004 / 0.012	±0.0151	0.546	0.0546
$\alpha$ -Bisabolol	0.008 / 0.026	±0.0130	0.314	0.0314
$\alpha$ -Humulene	0.009 / 0.029	±0.0056	0.222	0.0222
Guaiol	0.009/0.030	±0.0068	0.186	0.0186
Caryophyllene Oxide	0.010 / 0.033	±0.0056	0.156	0.0156
trans-β-Farnesene	0.008 / 0.025	±0.0018	0.066	0.0066
Linalool	0.009 / 0.032	±0.0012	0.041	0.0041
Eucalyptol	0.006 / 0.018	±0.0008	0.040	0.0040
Fenchol	0.010 / 0.034	±0.0012	0.039	0.0039
Myrcene	0.008 / 0.025	±0.0003	0.027	0.0027
Limonene	0.005 / 0.016	±0.0002	0.018	0.0018
Borneol	0.005 / 0.016	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Terpineol	0.009 / 0.031	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Nerolidol	0.006/0.019	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
α-Pinene	0.005 / 0.017	N/A	ND	ND
Camphene	0.005 / 0.015	N/A	ND	ND
Sabinene	0.004 / 0.014	N/A	ND	ND
β-Pinene	0.004 / 0.014	N/A	ND	ND
α-Phellandrene	0.006 / 0.020	N/A	ND	ND
$\Delta^3$ -Carene	0.005 / 0.018	N/A	ND	ND
α-Terpinene	0.005 / 0.017	N/A	ND	ND
p-Cymene	0.005 / 0.016	N/A	ND	ND
β-Ocimene	0.006 / 0.020	N/A	ND	ND
γ-Terpinene	0.006 / 0.018	N/A	ND	ND
Sabinene Hydrate	0.006 / 0.022	N/A	ND	ND
Fenchone	0.009 / 0.028	N/A	ND	ND
Terpinolene	0.008 / 0.026	N/A	ND	ND
Isopulegol	0.005 / 0.016	N/A	ND	ND
Camphor	0.006/0.019	N/A	ND	ND
Isoborneol	0.004 / 0.012	N/A	ND	ND
Menthol	0.008 / 0.025	N/A	ND	ND
Nerol	0.003 / 0.011	N/A	ND	ND
Citronellol	0.003 / 0.010	N/A	ND	ND
Pulegone	0.003 / 0.011	N/A	ND	ND
Geraniol	0.002 / 0.007	N/A	ND	ND
Geranyl Acetate	0.004 / 0.014	N/A	ND	ND
α-Cedrene	0.005 / 0.016	N/A	ND	ND
Valencene	0.009 / 0.030	N/A	ND	ND
Cedrol	0.008 / 0.027	N/A	ND	ND
TOTAL TERPENOIDS			1.655 mg/g	0.1655%



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## **Pesticide Analysis**

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS).

\*GC-MS utilized where indicated.

**Method:** QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS or QSP 1213 - Analysis of Pesticides by GC-MS

## PESTICIDE TEST RESULTS - 06/18/2022 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (μg/g)	RESULT
Abamectin	0.03 / 0.10	0.3	N/A	ND	PASS
Acephate	0.02 / 0.07	5	N/A	ND	PASS
Acequinocyl	0.02 / 0.07	4	N/A	ND	PASS
Acetamiprid	0.02 / 0.05	5	N/A	ND	PASS
Aldicarb	0.03 / 0.08	≥LOD	N/A	ND	PASS
Azoxystrobin	0.02 / 0.07	40	N/A	ND	PASS
Bifenazate	0.01 / 0.04	5	N/A	ND	PASS
Bifenthrin	0.02 / 0.05	0.5	N/A	ND	PASS
Boscalid	0.03 / 0.09	10	N/A	ND	PASS
Captan	0.19 / 0.57	5	N/A	ND	PASS
Carbaryl	0.02 / 0.06	0.5	N/A	ND	PASS
Carbofuran	0.02 / 0.05	≥LOD	N/A	ND	PASS
Chlorantraniliprole	0.04 / 0.12	40	N/A	ND	PASS
Chlordane*	0.03 / 0.08	≥LOD	N/A	ND	PASS
Chlorfenapyr*	0.03 / 0.10	≥LOD	N/A	ND	PASS
Chlorpyrifos	0.02 / 0.06	≥LOD	N/A	ND	PASS
Clofentezine	0.03 / 0.09	0.5	N/A	ND	PASS
Coumaphos	0.02 / 0.07	≥LOD	N/A	ND	PASS
Cyfluthrin	0.12 / 0.38	1	N/A	ND	PASS
Cypermethrin	0.11/0.32	1	N/A	ND	PASS
Daminozide	0.02 / 0.07	≥LOD	N/A	ND	PASS
Diazinon	0.02 / 0.05	0.2	N/A	ND	PASS
Dichlorvos (DDVP)	0.03 / 0.09	≥LOD	N/A	ND	PASS
Dimethoate	0.03 / 0.08	≥LOD	N/A	ND	PASS
Dimethomorph	0.03 / 0.09	20	N/A	ND	PASS
Ethoprophos	0.03 / 0.10	≥LOD	N/A	ND	PASS
Etofenprox	0.02 / 0.06	≥LOD	N/A	ND	PASS
Etoxazole	0.02 / 0.06	1.5	N/A	ND	PASS
Fenhexamid	0.03 / 0.09	10	N/A	ND	PASS
Fenoxycarb	0.03 / 0.08	≥LOD	N/A	ND	PASS
Fenpyroximate	0.02 / 0.06	2	N/A	ND	PASS
Fipronil	0.03 / 0.08	≥LOD	N/A	ND	PASS
Flonicamid	0.03 / 0.10	2	N/A	ND	PASS
Fludioxonil	0.03 / 0.10	30	N/A	ND	PASS
Hexythiazox	0.02 / 0.07	2	N/A	ND	PASS
Imazalil	0.02 / 0.06	≥LOD	N/A	ND	PASS
Imidacloprid	0.04 / 0.11	3	N/A	ND	PASS
Kresoxim-methyl	0.02 / 0.07	1	N/A	ND	PASS
Malathion	0.03 / 0.09	5	N/A	ND	PASS
Metalaxyl	0.02 / 0.07	15	N/A	ND	PASS
Methiocarb	0.02 / 0.07	≥LOD	N/A	ND	PASS

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## Pesticide Analysis Continued

## PESTICIDE TEST RESULTS - 06/18/2022 continued **⊘** PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Methomyl	0.03 / 0.10	0.1	N/A	ND	PASS
Mevinphos	0.03 / 0.09	≥LOD	N/A	ND	PASS
Myclobutanil	0.03/0.09	9	N/A	ND	PASS
Naled	0.02 / 0.07	0.5	N/A	ND	PASS
Oxamyl	0.04 / 0.11	0.2	N/A	ND	PASS
Paclobutrazol	0.02 / 0.05	≥LOD	N/A	ND	PASS
Parathion-methyl	0.03 / 0.10	≥LOD	N/A	ND	PASS
Pentachloronitrobenzene*	0.03 / 0.09	0.2	N/A	ND	PASS
Permethrin	0.04 / 0.12	20	N/A	ND	PASS
Phosmet	0.03 / 0.10	0.2	N/A	ND	PASS
Piperonyl Butoxide	0.02 / 0.07	8	N/A	ND	PASS
Prallethrin	0.03 / 0.08	0.4	N/A	ND	PASS
Propiconazole	0.02 / 0.07	20	N/A	ND	PASS
Propoxur	0.03 / 0.09	≥LOD	N/A	ND	PASS
Pyrethrins	0.04 / 0.12	1	N/A	ND	PASS
Pyridaben	0.02 / 0.07	3	N/A	ND	PASS
Spinetoram	0.02 / 0.07	3	N/A	ND	PASS
Spinosad	0.02 / 0.07	3	N/A	ND	PASS
Spiromesifen	0.02 / 0.05	12	N/A	ND	PASS
Spirotetramat	0.02 / 0.06	13	N/A	ND	PASS
Spiroxamine	0.03 / 0.08	≥LOD	N/A	ND	PASS
Tebuconazole	0.02 / 0.07	2	N/A	ND	PASS
Thiacloprid	0.03 / 0.10	≥LOD	N/A	ND	PASS
Thiamethoxam	0.03 / 0.10	4.5	N/A	ND	PASS
Trifloxystrobin	0.03 / 0.08	30	N/A	ND	PASS



# Mycotoxin Analysis

Mycotoxin analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS).

**Method:** QSP 1212 - Analysis of Pesticides and Mycotoxins by I.C.-MS

## MYCOTOXIN TEST RESULTS - 06/18/2022 **⊘ PASS**

	COMPOUND	LOD/LOQ (μg/kg)	ACTION LIMIT (µg/kg)	MEASUREMENT UNCERTAINTY (μg/kg)	RESULT (µg/kg)	RESULT
	Aflatoxin B1	2.0 / 6.0		N/A	ND	
	Aflatoxin B2	1.8 / 5.6		N/A	ND	
	Aflatoxin G1	1.0 / 3.1		N/A	ND	
	Aflatoxin G2	1.2 / 3.5		N/A	ND	
	Total Aflatoxin		20		ND	PASS
	Ochratoxin A	6.3 / 19.2	20	N/A	ND	PASS









# **Residual Solvents Analysis**

Residual Solvent analysis utilizing gas chromatography-mass spectrometry (GC-MS).

Method: QSP 1204 - Analysis of Residual Solvents by GC-MS

### RESIDUAL SOLVENTS TEST RESULTS - 06/18/2022 **⊘** PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Propane	10/20	5000	N/A	ND	PASS
n-Butane	10/50	5000	N/A	ND	PASS
n-Pentane	20/50	5000	N/A	ND	PASS
n-Hexane	2/5	290	N/A	ND	PASS
n-Heptane	20/60	5000	N/A	ND	PASS
Benzene	0.03 / 0.09	1	N/A	ND	PASS
Toluene	7/21	890	N/A	ND	PASS
Total Xylenes	50 / 160	2170	N/A	ND	PASS
Methanol	50/200	3000	N/A	ND	PASS
Ethanol	20/50	5000	N/A	<loq< th=""><th>PASS</th></loq<>	PASS
2-Propanol (Isopropyl Alcohol)	10/40	5000	N/A	ND	PASS
Acetone	20/50	5000	N/A	ND	PASS
Ethyl Ether	20/50	5000	N/A	ND	PASS
Ethylene Oxide	0.3 / 0.8	1	N/A	ND	PASS
Ethyl Acetate	20/60	5000	N/A	ND	PASS
Chloroform	0.1 / 0.2	1	N/A	ND	PASS
Dichloromethane (Methylene Chloride)	0.3/0.9	1	N/A	ND	PASS
Trichloroethylene	0.1 / 0.3	1	N/A	ND	PASS
1,2-Dichloroethane	0.05 / 0.1	1	N/A	ND	PASS
Acetonitrile	2/7	410	N/A	ND	PASS



# **Heavy Metals Analysis**

Heavy metal analysis utilizing inductively coupled plasma-mass spectrometry (ICP-MS).

Method: QSP 1160 - Analysis of Heavy Metals by ICP-MS

## HEAVY METALS TEST RESULTS - 06/17/2022 **⊘** PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (μg/g)	RESULT
Arsenic	0.02 / 0.1	1.5	N/A	ND	PASS
Cadmium	0.02 / 0.05	0.5	N/A	ND	PASS
Lead	0.04 / 0.1	0.5	N/A	<loq< th=""><th>PASS</th></loq<>	PASS
Mercury	0.002 / 0.01	3	N/A	ND	PASS



## Microbiology Analysis

PCF

Analysis conducted by polymerase chain reaction (PCR) and fluorescence detection of microbiological contaminants.

Method: QSP 1221 - Analysis of Microbiological Contaminants

### MICROBIOLOGY TEST RESULTS (PCR) - 06/18/2022 PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing Escherichia coli	Not Detected in 1g	ND	PASS
Salmonella spp.	Not Detected in 1g	ND	PASS



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Visual analysis includes, but is not limited to, sand, soil, cinders, dirt, mold, hair, insect fragments, and mammalian excreta.

**Method:** QSP 1226 - Analysis of Foreign Material in Cannabis and Cannabis Products

## FOREIGN MATERIAL TEST RESULTS - 06/17/2022 PASS

COMPOUND	ACTION LIMIT	RESULT
Total Sample Area Covered by Sand, Soil, Cinders, or Dirt	>25%	PASS
Total Sample Area Covered by Mold	>25%	PASS
Total Sample Area Covered by an Imbedded Foreign Material	>25%	PASS
Insect Fragment Count	> 1 per 3 grams	PASS
Hair Count	> 1 per 3 grams	PASS
Mammalian Excreta Count	> 1 per 3 grams	PASS