

SAMPLE NAME: Zone

Concentrate, Product Inhalable

CULTIVATOR / MANUFACTURER

Business Name:

License Number:

Address:

DISTRIBUTOR / TESTED FOR

Business Name: Tonic CBD

License Number:

Address: 2466 Pennsylvania Ave
Sayre PA 18840



SAMPLE DETAIL

Batch Number: Z-0117

Sample ID: 210408T016

Date Collected: 04/08/2021

Date Received: 04/08/2021

Batch Size:

Sample Size: 1.0 units

Unit Mass: 1 grams per Unit

Serving Size:



Scan QR code to verify authenticity of results.

CANNABINOID ANALYSIS - SUMMARY

Total THC: 0.195%

Total CBD: 60.661%

Sum of Cannabinoids: 64.677%

Total Cannabinoids: 64.429%

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 = $\Delta 9\text{THC} + (\text{THCa} \cdot 0.877)$
 Total CBD = $\text{CBD} + (\text{CBDa} \cdot 0.877)$
 Sum of Cannabinoids = $\Delta 9\text{THC} + \text{THCa} + \text{CBD} + \text{CBDa} + \text{CBG} + \text{CBGa} + \text{THCV} + \text{THCVa} + \text{CBC} + \text{CBCa} + \text{CBDV} + \text{CBDVa} + \Delta 8\text{THC} + \text{CBL} + \text{CBN}$
 Total Cannabinoids = $(\Delta 9\text{THC} + 0.877 \cdot \text{THCa}) + (\text{CBD} + 0.877 \cdot \text{CBDa}) + (\text{CBG} + 0.877 \cdot \text{CBGa}) + (\text{THCV} + 0.877 \cdot \text{THCVa}) + (\text{CBC} + 0.877 \cdot \text{CBCa}) + (\text{CBDV} + 0.877 \cdot \text{CBDVa}) + \Delta 8\text{THC} + \text{CBL} + \text{CBN}$

Moisture: NT

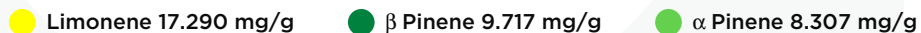
Density: NT

Viscosity: NT

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 3.9759%



SAFETY ANALYSIS - SUMMARY

$\Delta 9\text{THC}$ per Unit: ✔ PASS

Pesticides: NT

Heavy Metals: ✔ PASS

Foreign Material: NT

Mycotoxins: NT

Microbial Impurities (PCR): NT

Water Activity: NT

Residual Solvents: ✔ PASS

Microbial Impurities (Plating): NT

Vitamin E: NT

For quality assurance purposes. Not a Pre-Harvest 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 approval of the laboratory.

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)

Ali Bradford *Josh Wurzer*
 LQC verified by: Alexandria Bradford Approved by: Josh Wurzer, President
 Date: 04/12/2021 Date: 04/12/2021



Cannabinoid Analysis

CANNABINOID TEST RESULTS - 04/11/2021

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

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

TOTAL THC: 0.195%

Total THC ($\Delta^9\text{THC} + 0.877 \cdot \text{THCa}$)

TOTAL CBD: 60.661%

Total CBD ($\text{CBD} + 0.877 \cdot \text{CBDa}$)

TOTAL CANNABINOIDS: 64.429%

Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) + $\Delta^8\text{THC}$ + CBL + CBN

TOTAL CBG: 0.569%

Total CBG ($\text{CBG} + 0.877 \cdot \text{CBGa}$)

TOTAL THCV: ND

Total THCV ($\text{THCV} + 0.877 \cdot \text{THCVa}$)

TOTAL CBC: 1.88%

Total CBC ($\text{CBC} + 0.877 \cdot \text{CBCa}$)

TOTAL CBDV: 0.334%

Total CBDV ($\text{CBDV} + 0.877 \cdot \text{CBDVa}$)

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
CBD	0.07 / 0.29	±27.267	588.92	58.892
CBDa	0.02 / 0.19	±0.589	20.17	2.017
CBC	0.2 / 0.5	±0.55	18.8	1.88
CBG	0.06 / 0.19	±0.224	5.69	0.569
CBN	0.1 / 0.3	±0.35	5.3	0.53
CBDV	0.04 / 0.15	±0.146	3.34	0.334
CBL	0.06 / 0.24	±0.090	2.60	0.260
$\Delta^9\text{THC}$	0.06 / 0.26	±0.067	1.95	0.195
$\Delta^8\text{THC}$	0.1 / 0.4	N/A	ND	ND
THCa	0.05 / 0.14	N/A	ND	ND
THCV	0.1 / 0.2	N/A	ND	ND
THCVa	0.07 / 0.20	N/A	ND	ND
CBDVa	0.03 / 0.53	N/A	ND	ND
CBGa	0.1 / 0.2	N/A	ND	ND
CBCa	0.07 / 0.28	N/A	ND	ND
SUM OF CANNABINOIDS			646.77 mg/g	64.677%

Unit Mass: 1 grams per Unit

$\Delta^9\text{THC}$ per Unit	1120 per-package limit	1.95 mg/unit	PASS
Total THC per Unit		1.95 mg/unit	
CBD per Unit		588.92 mg/unit	
Total CBD per Unit		606.61 mg/unit	
Sum of Cannabinoids per Unit		646.77 mg/unit	
Total Cannabinoids per Unit		644.29 mg/unit	

MOISTURE TEST RESULT

Not Tested

DENSITY TEST RESULT

Not Tested

VISCOSITY TEST RESULT

Not Tested





Terpenoid Analysis

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

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

1 Limonene

A monoterpene with a fragrance that can be described as orangey, citrusy, sweet and tart. It is most commonly found in nature as D-Limonene and is a primary contributor to the distinct scent of orange peels, from which it is commonly derived. Found in numerous pines, red maple, silver maple, aspens, cottonwoods, hemlocks, sumac, cedar, junipers...etc.

2 β Pinene

One of two isomers of the monoterpene Pinene, the most abundant terpene in the natural world. It is responsible for the distinct aroma of many coniferous trees, particularly pines, from which it derives its name. It is a primary constituent of turpentine. Found in pines, parsley, celery, nutmeg, hyssop, black currant, rosemary, black pepper, spearmint...etc.

3 α Pinene

One of two isomers of the monoterpene Pinene, the most abundant terpene in the natural world. It is responsible for the distinct aroma of many coniferous trees, particularly pines, from which it derives its name. It is a primary constituent of turpentine. Found in pines, rose gun, parsley, frankincense, guava, juniper, rosemary, nutmeg, blue gum, valerian...etc.

TERPENOID TEST RESULTS - 04/12/2021


COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Limonene	0.005 / 0.016	±0.2472	17.290	1.7290
β Pinene	0.004 / 0.014	±0.1117	9.717	0.9717
α Pinene	0.005 / 0.017	±0.0714	8.307	0.8307
α Bisabolol	0.008 / 0.026	±0.1001	1.874	0.1874
Guaiol	0.009 / 0.030	±0.0379	0.803	0.0803
β Caryophyllene	0.004 / 0.012	±0.0125	0.350	0.0350
Caryophyllene Oxide	0.010 / 0.033	±0.0157	0.341	0.0341
α Humulene	0.009 / 0.029	±0.0066	0.205	0.0205
Nerolidol	0.009 / 0.028	±0.0104	0.165	0.0165
Nerol	0.003 / 0.011	±0.0066	0.149	0.0149
Myrcene	0.008 / 0.025	±0.0016	0.122	0.0122
Linalool	0.009 / 0.032	±0.0034	0.090	0.0090
Terpineol	0.016 / 0.055	±0.0052	0.085	0.0085
Camphene	0.005 / 0.015	±0.0006	0.050	0.0050
trans-β-Farnesene	0.008 / 0.025	±0.0017	0.048	0.0048
Fenchol	0.010 / 0.034	±0.0017	0.045	0.0045
p-Cymene	0.005 / 0.016	±0.0011	0.040	0.0040
Valencene	0.009 / 0.030	±0.0021	0.031	0.0031
Borneol	0.005 / 0.016	±0.0009	0.022	0.0022
Geranyl Acetate	0.004 / 0.014	±0.0007	0.016	0.0016
Geraniol	0.002 / 0.007	±0.0004	0.009	0.0009
Sabinene	0.004 / 0.014	N/A	<LOQ	<LOQ
3 Carene	0.005 / 0.018	N/A	<LOQ	<LOQ
Citronellol	0.003 / 0.010	N/A	<LOQ	<LOQ
Cedrol	0.008 / 0.027	N/A	<LOQ	<LOQ
α Phellandrene	0.006 / 0.020	N/A	ND	ND
α Terpinene	0.005 / 0.017	N/A	ND	ND
Eucalyptol	0.006 / 0.018	N/A	ND	ND
Ocimene	0.011 / 0.038	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
Isborneol	0.004 / 0.012	N/A	ND	ND
Menthol	0.008 / 0.025	N/A	ND	ND
R-(+)-Pulegone	0.003 / 0.011	N/A	ND	ND
α Cedrene	0.005 / 0.016	N/A	ND	ND
TOTAL TERPENOIDS			39.759 mg/g	3.9759%



 **Residual Solvents Analysis**


CATEGORY 1 RESIDUAL SOLVENTS TEST RESULTS - 04/11/2021  **PASS**

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
1,2-Dichloroethane				NT	
Benzene				NT	
Chloroform				NT	
Ethylene Oxide				NT	
Methylene chloride				NT	
Trichloroethylene				NT	

CATEGORY 2 RESIDUAL SOLVENTS TEST RESULTS - 04/11/2021  **PASS**

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Acetone	20 / 50	5000	±3.3	78	PASS
Acetonitrile	2 / 7	410	N/A	ND	PASS
Butane	10 / 50	5000	N/A	ND	PASS
Ethanol	20 / 50	5000	N/A	<LOQ	PASS
Ethyl acetate	20 / 60	5000	N/A	ND	PASS
Ethyl ether	20 / 50	5000	N/A	ND	PASS
Heptane	20 / 60	5000	N/A	ND	PASS
Hexane	2 / 5	290	N/A	ND	PASS
Isopropyl Alcohol	10 / 40	5000	N/A	ND	PASS
Methanol	50 / 200	3000	N/A	ND	PASS
Pentane	20 / 50	5000	N/A	ND	PASS
Propane	10 / 20	5000	N/A	ND	PASS
Toluene	7 / 21	890	N/A	ND	PASS
Total Xylenes	50 / 160	2170	N/A	ND	PASS

 **Heavy Metals Analysis**

HEAVY METALS TEST RESULTS - 04/10/2021  **PASS**

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Cadmium	0.02 / 0.05	0.2	N/A	ND	PASS
Lead	0.04 / 0.1	0.5	N/A	ND	PASS
Arsenic	0.02 / 0.1	0.2	N/A	ND	PASS
Mercury	0.002 / 0.01	0.1	N/A	ND	PASS

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

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

