

**SAMPLE NAME: Purple Hippo Tincture 2000mg**

Infused, Non-Inhalable

**CULTIVATOR / MANUFACTURER**

**Business Name:**

**License Number:**

**Address:**

**DISTRIBUTOR**

**Business Name:** Purple Hippo CBD

**License Number:**

**Address:**

**SAMPLE DETAIL**

**Batch Number:** 25026

**Sample ID:** 200609V005

**Date Collected:** 06/09/2020

**Date Received:** 06/09/2020

**Batch Size:**

**Sample Size:** 30.0 Unit(s)

**Unit Mass:** 30 Milliliters per Unit

**Serving Size:**



Scan QR code to verify authenticity of results.

**CANNABINOID ANALYSIS - SUMMARY**

**Total THC:** 28.620 mg/unit

**Total CBD:** 1917.690 mg/unit

**Sum of Cannabinoids:** 2121.540 mg/unit

**Total Cannabinoids:** 2121.540 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 =  $\Delta 9\text{THC} + (\text{THCa} \cdot 0.877)$   
 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:** 0.9401 g/mL

**Viscosity:** NT

**SAFETY ANALYSIS - SUMMARY**

**$\Delta 9\text{THC}$  per Unit:** ✔ PASS

**Foreign Material:** NT

**Water Activity:** NT

**Vitamin E Acetate:** NT

**Pesticides:** ✔ PASS

**Mycotoxins:** NT

**Residual Solvents:** ✔ PASS

**Heavy Metals:** ✔ PASS

**Microbial Impurities (PCR):** ✔ PASS

**Microbial Impurities (Plating):** NT

**TERPENOID ANALYSIS - SUMMARY**

35 TESTED, TOP 3 HIGHLIGHTED

● **Limonene** 93.26 mg/g

● **Myrcene** 2.45 mg/g

● **Sabinene** 0.62 mg/g

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)

  
 LQC verified by: Josh Antunovich  
 Date: 10/06/2020

  
 Approved by: Josh Wurzer, President  
 Date: 10/06/2020



## 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: 28.620 mg/unit**

Total THC ( $\Delta 9$ THC+0.877\*THCa)

**TOTAL CBD: 1917.690 mg/unit**

Total CBD (CBD+0.877\*CBDA)

**TOTAL CANNABINOIDS: 2121.540 mg/unit**

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

**TOTAL CBG: 135.270 mg/unit**

Total CBG (CBG+0.877\*CBGa)

**TOTAL THCV: ND**

Total THCV (THCV+0.877\*THCVa)

**TOTAL CBC: 20.640 mg/unit**

Total CBC (CBC+0.877\*CBCa)

**TOTAL CBDV: 17.640 mg/unit**

Total CBDV (CBDV+0.877\*CBDVa)

### CANNABINOID TEST RESULTS - 06/12/2020

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	0.004 / 0.011	$\pm 3.0619$	63.923	6.7996
CBG	0.002 / 0.005	$\pm 0.2805$	4.509	0.4796
$\Delta 9$ THC	0.002 / 0.005	$\pm 0.0673$	0.954	0.1015
CBC	0.003 / 0.010	$\pm 0.0285$	0.688	0.0732
CBDV	0.002 / 0.007	$\pm 0.0308$	0.588	0.0625
CBL	0.003 / 0.008	$\pm 0.0026$	0.056	0.0060
$\Delta 8$ THC	0.01 / 0.02	N/A	ND	ND
THCa	0.001 / 0.002	N/A	ND	ND
THCV	0.002 / 0.008	N/A	ND	ND
THCVa	0.002 / 0.005	N/A	ND	ND
CBDA	0.001 / 0.003	N/A	ND	ND
CBDVa	0.001 / 0.003	N/A	ND	ND
CBGa	0.002 / 0.006	N/A	ND	ND
CBN	0.001 / 0.004	N/A	ND	ND
CBCa	0.001 / 0.004	N/A	ND	ND
<b>SUM OF CANNABINOIDS</b>			<b>70.718 mg/mL</b>	<b>7.5224%</b>

### Unit Mass: 30 Milliliters per Unit

$\Delta 9$ THC per Unit	1100 per-package limit	28.620 mg/unit	PASS
Total THC per Unit		28.620 mg/unit	
CBD per Unit		1917.690 mg/unit	
Total CBD per Unit		1917.690 mg/unit	
Sum of Cannabinoids per Unit		2121.540 mg/unit	
Total Cannabinoids per Unit		2121.540 mg/unit	

### MOISTURE TEST RESULT

Not Tested

### DENSITY TEST RESULT

0.9401 g/mL

Tested 06/12/2020

Method: QSP - (7870) Sample Preparation

### VISCOSITY TEST RESULT

Not Tested





## Terpenoid Analysis

Terpene analysis utilizing gas chromatography-flame ionization detection (GC-FID). Terpenes are the aromatic compounds that endow cannabis with their unique scent and effect. Following are the primary terpenes detected.

**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 Myrcene

A monoterpene with a fragrance that can be described as peppery, spicy, herbal, floral and woody. Although it has a pleasant odor, it is typically used by the perfume industry as precursor for developing other fragrances. Found in hops, houttuynia, bay, thyme, lemon grass, mango, verbena, cardamom, citrus...etc.

### 3 Sabinene

A monoterpene with a fragrance that can be described as woody, citrusy, piney and spicy. Found in Norway spruce, holm oak, black pepper, carrot seed, nutmeg, bay laurel, horsewood...etc.

## TERPENOID TEST RESULTS - 06/17/2020

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Limonene	0.02 / 0.05	±3.423	93.26	9.326
Myrcene	0.04 / 0.11	±0.197	2.45	0.245
Sabinene	0.04 / 0.11	±0.049	0.62	0.062
α Bisabolol	0.02 / 0.07	±0.025	0.56	0.056
α Pinene	0.03 / 0.09	±0.036	0.55	0.055
3 Carene	0.04 / 0.1	±0.03	0.4	0.04
Linalool	0.03 / 0.08	±0.014	0.27	0.027
Guaiol	0.03 / 0.09	±0.014	0.24	0.024
Valencene	0.01 / 0.03	±0.002	0.08	0.008
β Pinene	0.04 / 0.11	N/A	<LOQ	<LOQ
α Phellandrene	0.05 / 0.1	N/A	<LOQ	<LOQ
Ocimene	0.03 / 0.09	N/A	<LOQ	<LOQ
γ Terpinene	0.04 / 0.1	N/A	<LOQ	<LOQ
Terpinolene	0.03 / 0.09	N/A	<LOQ	<LOQ
Terpineol	0.02 / 0.07	N/A	<LOQ	<LOQ
β Caryophyllene	0.02 / 0.07	N/A	<LOQ	<LOQ
α Humulene	0.02 / 0.05	N/A	<LOQ	<LOQ
Caryophyllene Oxide	0.04 / 0.11	N/A	<LOQ	<LOQ
Camphene	0.04 / 0.11	N/A	ND	ND
α Terpinene	0.04 / 0.1	N/A	ND	ND
Eucalyptol	0.03 / 0.08	N/A	ND	ND
Sabinene Hydrate	0.02 / 0.07	N/A	ND	ND
Fenchone	0.04 / 0.12	N/A	ND	ND
Fenchol	0.03 / 0.09	N/A	ND	ND
(-)-Isopulegol	0.02 / 0.05	N/A	ND	ND
Camphor	0.1 / 0.2	N/A	ND	ND
Isoborneol	0.04 / 0.1	N/A	ND	ND
Borneol	0.1 / 0.2	N/A	ND	ND
Menthol	0.03 / 0.09	N/A	ND	ND
Nerol	0.03 / 0.09	N/A	ND	ND
R-(+)-Pulegone	0.03 / 0.09	N/A	ND	ND
Geraniol	0.02 / 0.07	N/A	ND	ND
Geranyl Acetate	0.02 / 0.06	N/A	ND	ND
α Cedrene	0.02 / 0.07	N/A	ND	ND
Nerolidol	0.3 / 0.8	N/A	ND	ND
Cedrol	0.04 / 0.11	N/A	ND	ND
<b>TOTAL TERPENOIDS</b>			<b>98.43 mg/g</b>	<b>9.843%</b>



 **Pesticide Analysis**

**CATEGORY 1 PESTICIDE TEST RESULTS - 06/11/2020**  **PASS**

**CATEGORY 1 AND 2 PESTICIDES**

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

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Aldicarb	0.03 / 0.09	≥ LOD	N/A	ND	PASS
Carbofuran	0.01 / 0.04	≥ LOD	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		N/A	<LOQ	
Coumaphos	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Daminozide	0.03 / 0.10	≥ LOD	N/A	ND	PASS
DDVP (Dichlorvos)	0.02 / 0.07	≥ LOD	N/A	ND	PASS
Dimethoate	0.02 / 0.07	≥ LOD	N/A	ND	PASS
Ethoprop(hos)	0.03 / 0.08	≥ LOD	N/A	ND	PASS
Etofenprox	0.02 / 0.05	≥ LOD	N/A	ND	PASS
Fenoxycarb	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Fipronil	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Imazalil	0.02 / 0.06		±0.068	2.08	
Methiocarb	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Methyl parathion	0.03 / 0.10	≥ LOD	N/A	ND	PASS
Mevinphos	0.03 / 0.09	≥ LOD	N/A	ND	PASS
Paclobutrazol	0.02 / 0.05	≥ LOD	N/A	ND	PASS
Propoxur	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Spiroxamine	0.02 / 0.05	≥ LOD	N/A	ND	PASS
Thiacloprid	0.03 / 0.07	≥ LOD	N/A	ND	PASS

**CATEGORY 2 PESTICIDE TEST RESULTS - 06/11/2020**  **PASS**

Abamectin	0.03 / 0.10	0.3	N/A	ND	PASS
Acephate	0.01 / 0.04	5	N/A	ND	PASS
Acequinocyl	0.02 / 0.05	4	N/A	ND	PASS
Acetamiprid	0.02 / 0.05	5	N/A	ND	PASS
Azoxystrobin	0.01 / 0.04	40	±0.002	0.06	PASS
Bifenazate	0.01 / 0.02	5	N/A	ND	PASS
Bifenthrin	0.01 / 0.02	0.5	N/A	ND	PASS
Boscalid	0.02 / 0.06	10	N/A	ND	PASS
Captan	0.2 / 0.5	5	N/A	ND	PASS
Carbaryl	0.01 / 0.02	0.5	±0.000	0.02	PASS
Chlorantraniliprole	0.01 / 0.03	40	N/A	ND	PASS

Continued on next page



 **Pesticide Analysis** *Continued*

**CATEGORY 2 PESTICIDE TEST RESULTS - 06/11/2020** *continued* ✔ PASS

**CATEGORY 1 AND 2 PESTICIDES**

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

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Clofentezine	0.02 / 0.06	0.5	N/A	ND	PASS
Cyfluthrin	0.1 / 0.4	1	N/A	ND	PASS
Cypermethrin	0.1 / 0.3	1	N/A	ND	PASS
Diazinon	0.01 / 0.04	0.2	N/A	ND	PASS
Dimethomorph	0.01 / 0.03	20	N/A	ND	PASS
Etoxazole	0.010 / 0.028	1.5	N/A	ND	PASS
Fenhexamid	0.02 / 0.1	10	N/A	ND	PASS
Fenpyroximate	0.03 / 0.08	2	N/A	ND	PASS
Flonicamid	0.01 / 0.04	2	N/A	ND	PASS
Fludioxonil	0.03 / 0.08	30	N/A	<LOQ	PASS
Hexythiazox	0.01 / 0.04	2	N/A	ND	PASS
Imidacloprid	0.01 / 0.04	3	N/A	ND	PASS
Kresoxim-methyl	0.02 / 0.07	1	N/A	ND	PASS
Malathion	0.02 / 0.05	5	N/A	ND	PASS
Metalaxyl	0.02 / 0.06	15	N/A	ND	PASS
Methomyl	0.03 / 0.1	0.1	N/A	ND	PASS
Myclobutanil	0.03 / 0.1	9	N/A	ND	PASS
Naled	0.03 / 0.1	0.5	N/A	ND	PASS
Oxamyl	0.02 / 0.06	0.2	N/A	ND	PASS
Pentachloronitrobenzene*	0.03 / 0.09	0.2	N/A	ND	PASS
Permethrin	0.03 / 0.09	20	N/A	ND	PASS
Phosmet	0.03 / 0.10	0.2	N/A	ND	PASS
Piperonylbutoxide	0.003 / 0.009	8	±0.0002	0.009	PASS
Prallethrin	0.03 / 0.08	0.4	N/A	ND	PASS
Propiconazole	0.01 / 0.03	20	N/A	ND	PASS
Pyrethrins	0.03 / 0.08	1	N/A	ND	PASS
Pyridaben	0.006 / 0.019	3	N/A	ND	PASS
Spinetoram	0.02 / 0.07	3	N/A	ND	PASS
Spinosad	0.02 / 0.06	3	N/A	ND	PASS
Spiromesifen	0.02 / 0.05	12	N/A	ND	PASS
Spirotetramat	0.01 / 0.02	13	N/A	ND	PASS
Tebuconazole	0.02 / 0.07	2	N/A	ND	PASS
Thiamethoxam	0.03 / 0.08	4.5	N/A	ND	PASS
Trifloxystrobin	0.01 / 0.03	30	N/A	ND	PASS



 **Residual Solvents Analysis**

**CATEGORY 1 RESIDUAL SOLVENTS TEST RESULTS - 06/11/2020 ✔ PASS**

**CATEGORY 1 AND 2 RESIDUAL SOLVENTS**  
 Residual Solvent analysis utilizing gas chromatography-mass spectrometry (GC-MS).

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

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
1,2-Dichloroethane	0.05 / 0.1	1	N/A	ND	PASS
Benzene	0.03 / 0.09	1	N/A	ND	PASS
Chloroform	0.1 / 0.2	1	N/A	ND	PASS
Ethylene Oxide	0.1 / 0.4	1	N/A	ND	PASS
Methylene chloride	0.3 / 0.9	1	N/A	ND	PASS
Trichloroethylene	0.1 / 0.3	1	N/A	ND	PASS

**CATEGORY 2 RESIDUAL SOLVENTS TEST RESULTS - 06/11/2020 ✔ PASS**

Acetone	20 / 50	5000	N/A	ND	PASS
Acetonitrile	2 / 7	410	N/A	ND	PASS
Butane	10 / 50	5000	N/A	ND	PASS
Ethanol	20 / 50	5000	N/A	ND	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 - 06/11/2020 ✔ PASS**

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

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

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



 **Microbial Impurities Analysis**  
 PCR AND PLATING

Analysis conducted by polymerase chain reaction (PCR) and fluorescence detection of microbial impurities.

**Method:** QSP - (1221) Analysis of Microbial Impurities

**MICROBIAL IMPURITIES TEST RESULTS (PCR) - 06/12/2020** ✔ PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing <i>Escherichia coli</i>	Detect	ND	PASS
<i>Salmonella</i> spp.	Detect	ND	PASS
<i>Aspergillus fumigatus</i>		NT	
<i>Aspergillus flavus</i>		NT	
<i>Aspergillus niger</i>		NT	
<i>Aspergillus terreus</i>		NT	

Analysis conducted by 3M™ Petrifilm™ and plate counts of microbial impurities.

**Method:** QSP - (6794) Plating with 3M™ Petrifilm™

**MICROBIAL IMPURITIES TEST RESULTS (PLATING)**

COMPOUND	RESULT (cfu/g)
Aerobic Plate Count	NT
Total Yeast and Mold	NT

**NOTES**

BCC action limits not applied to hemp products. CoA amended, update to order detail information.

