



Certificate ID: **90100**      Received: **11/19/20**  
 Client Sample ID: **CBD Ops Heroes Choice 750mg Tincture**  
 Lot Number: **1898**  
 Matrix: **Tincture/Infused Oil - MCT Oil**

Scan QR Code for authenticity



**Can-Tek Labs LLC.**  
**8107 South I-35 Service Rd**  
**Oklahoma City, OK 73149**  
**Attn: Kara Swihart**

Authorization: Chris Hudalla, Chief Science Officer	Signature: 	Date: 12/15/2020
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The data contained within this report was collected in accordance with the requirements of ISO/IEC17025:2017. I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

**CN: Cannabinoid Profile & Potency [WI-10-17 & WI-10-17-01]**

Analyst: *JFD*

Test Date: *12/7/2020*

The client sample was analyzed for plant-based cannabinoids by Liquid Chromatography (LC). The collected data was compared to data collected for certified reference standards at known concentrations.

**90100-CN**

ID	Weight %	Concentration (mg/mL)			
D9-THC	ND	ND			
THCV	ND	ND			
CBD	2.96	27.6			
CBDV	<LOQ	<LOQ			
CBG	0.0798	0.745			
CBC	ND	ND			
CBN	ND	ND			
THCA	ND	ND			
CBDA	ND	ND			
CBGA	ND	ND			
D8-THC	ND	ND			
exo-THC	ND	ND			
Total	3.05	28.5	0%	Cannabinoids (wt%)	3.0%
Max THC	ND	ND		Limit of Quantitation (LOQ) = 0.0112 wt%	
Max CBD	2.96	27.6		Limit of Detection (LOD) = 0.0038 wt%	

Max THC (and Max CBD) are calculated values for total cannabinoids after heating, assuming complete decarboxylation of the acid to the neutral form. It is calculated based on the weight loss of the acid group during decarboxylation:  $\text{Max THC} = (0.877 \times \text{THCA}) + \text{THC}$ . This calculation does not include other cannabinoid isomers (eg. D8-THC and exo-THC). ND = None detected above the limits of detection (LOD), which is one third of LOQ.

**MA: Moisture Analysis [WI-10-16]**

Analyst: JA

Test Date: 11/24/2020

**90100-MA**Weight loss on drying: **0.0%**

The moisture content of the client sample was evaluated based on weight loss observed on heating. The recorded weight loss is due to the loss of water and volatiles (terpenes) observed upon sample drying.

**EA: Elemental Analysis [WI-10-13]**

Analyst: CJS

Test Date: 12/8/2020

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**90100-EA**

Symbol	Metal	Conc. <sup>1</sup> (µg/kg)	RL (µg/kg)	Limits <sup>2</sup> (µg/kg)	Status
Al	Aluminum	534	50	-	
As	Arsenic	ND	50	1,500	PASS
Cd	Cadmium	ND	50	500	PASS
Ca	Calcium	2,940	500	-	
Cr	Chromium	ND	50	1,100,000	PASS
Co	Cobalt	ND	50	5,000	PASS
Cu	Copper	175	50	300,000	PASS
Fe	Iron	736	50	-	
Pb	Lead	ND	50	500	PASS
Mg	Magnesium	16,600	50	-	
Mn	Manganese	285	50	-	
Hg	Mercury	ND	50	3,000	PASS
Mo	Molybdenum	ND	50	300,000	PASS
Ni	Nickel	ND	50	20,000	PASS
P	Phosphorus	81,000	500	-	
K	Potassium	55,200	500	-	
Se	Selenium	ND	50	-	
Ag	Silver	ND	50	15,000	PASS
S	Sulfur	2,520	500	-	
Sn	Tin	554	500	600,000	PASS
Zn	Zinc	ND	50	-	

1) ND = None detected to the Method Detection Limit (MDL)

2) USP recommended maximum daily limits for oral drug product.

**MB1: Microbiological Contaminants [WI-10-09]**

Analyst: DCR

Test Date: 11/19/2020

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**90100-MB1**

Symbol	Analysis	Results	Units	Limits*	Status
AC	Total Aerobic Bacterial Count	=100	CFU/g	100,000 CFU/g	PASS
CC	Total Coliform Bacterial Count	<100	CFU/g	1,000 CFU/g	PASS
EB	Total Bile Tolerant Gram Negative Count	<100	CFU/g	1,000 CFU/g	PASS
YM	Total Yeast & Mold	<100	CFU/g	10,000 CFU/g	PASS

Recommended limits established by the American Herbal Pharmacopoeia (AHP) monograph for Cannabis Inflorescence [2013], for consumable botanical products, including processed and unprocessed cannabis materials, and solvent-based extracts. Note: All recorded Microbiological tests are within the established limits.

**MB2: Pathogenic Bacterial Contaminants [WI-10-10]**

Analyst: DCR

Test Date: 11/20/2020

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

**90100-MB2**

Test ID	Analysis	Results	Units	Limits*	Status
90100-ECPT	E. coli (O157)	Negative	NA	Non Detected	PASS
90100-SPT	Salmonella	Negative	NA	Non Detected	PASS

Note: All recorded pathogenic bacteria tests passed.

**MY: Mycotoxin Testing [WI-10-05]**

Analyst: CJB

Test Date: 12/4/2020

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

**90100-MY**

Test ID	Date	Results	MDL	Limits	Status*
Total Aflatoxin	12/4/2020	< MDL	2 ppb	< 20 ppb	PASS
Total Ochratoxin	12/4/2020	< MDL	3 ppb	< 20 ppb	PASS

**PST: Pesticide Analysis [WI-10-11]**

Analyst: CJR

Test Date: 12/13/2020

The client sample was analyzed for pesticides using Liquid Chromatography with Mass Spectrometric detection (LC/MS/MS). The method used for sample prep was based on the European method for pesticide analysis (EN 15662).

**90100-PST**

Analyte	CAS	Result	Units	LLD	Limits (ppb)	Status
Abamectin	71751-41-2	ND	ppb	0.20	10	PASS
Spinosad	168316-95-8	ND	ppb	0.10	10	PASS
Pyrethrin	8003-34-7	ND	ppb	0.10	10	PASS
Trifloxystrobin	141517-21-7	ND	ppb	0.10	100	PASS
Spirotetramat	203313-25-1	ND	ppb	0.10	100	PASS
Spiromesifen	283594-90-1	ND	ppb	0.10	100	PASS
Piperonyl butoxide	51-03-6	ND	ppb	0.10	3000	PASS
Paclobotrazol	76738-62-0	ND	ppb	0.10	10	PASS
Myclobutanil	88671-89-0	ND	ppb	0.10	100	PASS
Imidacloprid	138261-41-3	ND	ppb	0.10	5000	PASS
Imazalil	35554-44-0	ND	ppb	0.10	10	PASS
Fenoxycarb	72490-01-8	ND	ppb	0.10	10	PASS
Etoazole	153233-91-1	ND	ppb	0.10	100	PASS
Dichlorvos	62-73-7	ND	ppb	3.00	10	PASS
Cyfluthrin	68359-37-5	ND	ppb	0.50	2000	PASS
Bifenthrin	82657-04-3	ND	ppb	0.20	3000	PASS
Bifenazate	149877-41-8	ND	ppb	0.10	100	PASS
Azoxystrobin	131860-33-8	ND	ppb	0.10	100	PASS

\* Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 5. ND indicates "none detected" above the lower limit of detection (LLD). Analytes marked with (\*) indicate analytes for which no recovery was observed for a pre-spiked matrix sample due to matrix interference.



**TP: Terpenes Profile [WI-10-27]**

Analyst: AEG

Test Date: 12/11/2020

Client sample analysis was performed using full evaporative technique (FET) headspace sample delivery and gas chromatographic (GC) compound separation. A combination of flame ionization detection (FID) and/or mass spectrometric (MS) detection with mass spectral confirmation against the National Institute of Standards and Technology (NIST) Mass Spectral Database, Revision 2017 were used. Chromatographic and/or mass spectral data were processed by quantitatively comparing the analytical peak areas against calibration curves prepared from certified reference standards.

**90100-TP**

Compound	CAS	Conc. (wt%)	Conc. (ppm)	Qualitative Profile
alpha-pinene	80-56-8	0.0057	56.5	
camphene	79-92-5	<RL	<RL	
sabinene*	3387-41-5	ND	ND	
beta-myrcene	123-35-3	0.0007	6.70	
beta-pinene	127-91-3	0.0036	35.7	
alpha-phellandrene	99-83-2	ND	ND	
delta-3-carene	13466-78-9	ND	ND	
alpha-terpinene	99-86-5	ND	ND	
alpha-ocimene	502-99-8	ND	ND	
D-limonene	138-86-3	0.0103	103	
p-cymene	99-87-6	ND	ND	
cis-beta-ocimene	3338-55-4	ND	ND	
eucalyptol	470-82-6	ND	ND	
gamma-terpinene	99-85-4	ND	ND	
terpinolene	586-62-9	<RL	<RL	
linalool	78-70-6	0.0029	28.8	
L-fenchone*	7787-20-4	ND	ND	
isopulegol	89-79-2	ND	ND	
menthol*	89-78-1	ND	ND	
geraniol	106-24-1	ND	ND	
beta-caryophyllene	87-44-5	0.0068	67.9	
alpha-humulene	6753-98-6	0.0032	31.7	
cis-nerolidol	3790-78-1	ND	ND	
trans-nerolidol	40716-66-3	ND	ND	
guaiol	489-86-1	ND	ND	
caryophyllene oxide	1139-30-6	ND	ND	
alpha-bisabolol	23089-26-1	ND	ND	

Total Terpene: <0.1 wt%

\* Certified reference standard not available for this compound. Concentration is estimated using the response factor from alpha-pinene. ND = None Detected. RL = Reporting Limit of 5 ppm.

**VC: Analysis of Volatile Organic Compounds [WI-10-28]**

Analyst: AEG

Test Date: 12/7/2020

The client sample was analyzed by Head-Space Gas Chromatography (HS-GC). The collected data was compared to data collected for certified reference standards at known concentrations.

**90100-VC**

Compound	CAS	Amount <sup>1</sup>	Limit <sup>2</sup>	RL	Status
Propane	74-98-6	ND	1,000 ppm	100	PASS
Isobutane	75-28-5	ND	1,000 ppm	100	PASS
Butane	106-97-8	ND	1,000 ppm	100	PASS
Methanol	67-56-1	ND	3,000 ppm	100	PASS
Pentane	109-66-0	ND	5,000 ppm	100	PASS
Ethanol	64-17-5	ND	5,000 ppm	100	PASS
Acetone	67-64-1	ND	5,000 ppm	100	PASS
Isopropanol	67-63-0	ND	5,000 ppm	100	PASS
Acetonitrile	75-05-8	ND	410 ppm	100	PASS
Hexane	110-54-3	ND	290 ppm	100	PASS
Heptane	142-82-5	ND	5,000 ppm	100	PASS

1) ND = Not detected at a level greater than the Reporting Limit (RL).

2) In ppm, based on USP recommended limits for residual solvents, adopted by the Massachusetts Department of Public Health for cannabis concentrates and extracts on 3/31/16. Butane/Propane limits are based on limits established for state of Colorado.

(\*) For ethanol, as many formulations contain flavorings based on ethanol extracts of natural products, no status has been assigned.

**END OF REPORT**