

Certificate ID: **28497-45**

Received: **3/26/2018**



Client Sample ID: **1500 mg/oz 3/21/18**

Lot Number:

Matrix: **Tincture - MCT Oil**

Authorization: Matthew Silva, Chemical Engineer	Signature: 	Date: 5/18/2018
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The data contained within this report was collected in accordance with the requirements of ISO/IEC17025:2005. 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-10-04]

Analyst: **RAS**

Test Date: **4/4/2018**

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

28497-CN

ID	Weight %	Conc.		
Δ9-THC	0.20 wt %	1.91 mg/mL		
THCV	ND	ND		
CBD	5.35 wt %	50.94 mg/mL		
CBDV	0.07 wt %	0.69 mg/mL		
CBG	0.32 wt %	3.07 mg/mL		
CBC	0.44 wt %	4.15 mg/mL		
CBN	ND	ND		
THCA	ND	ND		
CBDA	ND	ND		
CBGA	ND	ND		
Total	6.38 wt%	60.76 mg/mL	0%	Cannabinoids (wt%) 5.4%
Max THC	0.20 wt%	1.91 mg/mL		
Max CBD	5.35 wt%	50.94 mg/mL		

Ratio of Total CBD to THC 26.8:1

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: $\text{Max THC} = (0.877 \times \text{THCA}) + \text{THC}$. ND = None detected above the limits of detection (LLD)

EA: Elemental Analysis [WI-10-13]

Analyst: JFD

Test Date: 4/2/2018

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28497-EA

Symbol	Metal	Conc. ¹	MDL	Limits ²	Status
Al	Aluminum	852 ug/kg	5 ug/kg	-	
As	Arsenic	ND	4 ug/kg	1500 ug/kg	PASS
Cd	Cadmium	1 ug/kg	1 ug/kg	1500 ug/kg	PASS
Ca	Calcium	4,434 ug/kg	500 ug/kg	-	
Cr	Chromium	189 ug/kg	5 ug/kg	25000 ug/kg	PASS
Co	Cobalt	ND	10 ug/kg	-	
Cu	Copper	642 ug/kg	500 ug/kg	100000 ug/kg	PASS
Fe	Iron	1,500 ug/kg	5 ug/kg	-	
Pb	Lead	8 ug/kg	2 ug/kg	5000 ug/kg	PASS
Mg	Magnesium	10,713 ug/kg	500 ug/kg	-	
Mn	Manganese	ND	500 ug/kg	-	
Hg	Mercury	ND	2 ug/kg	1500 ug/kg	PASS
Mo	Molybdenum	ND	5000 ug/kg	10000 ug/kg	PASS
Ni	Nickel	ND	500 ug/kg	1500 ug/kg	PASS
P	Phosphorus	ND	500 ug/kg	-	
K	Potassium	64,828 ug/kg	5 ug/kg	-	
Se	Selenium	ND	10 ug/kg	-	
Ag	Silver	ND	10 ug/kg	-	
S	Sulfur	980 ug/kg	5 ug/kg	-	
Sn	Tin	ND	5000 ug/kg	-	
Zn	Zinc	35 ug/kg	5 ug/kg	-	

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

2) USP recommended limits for Elemental Analysis.

MB1: Microbiological Contaminants [WI-10-09]

Analyst: MS

Test Date: 3/27/2018

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28497-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

Note: All recorded Microbiological tests are within the established limits.

MB2: Pathogenic Bacterial Contaminants [WI-10-10]*Analyst: matt**Test Date: 3/28/2018*

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28497-MB2

Test ID	Analysis	Results	Units	Limits*	Status
28497-ECPT	E. coli (O157)	Negative	NA	Non Detected	PASS
28497-SPT	Salmonella	Negative	NA	Non Detected	PASS

Note: All recorded pathogenic bacteria tests passed.

MY: Mycotoxin Testing [WI-10-05]*Analyst: AR**Test Date: 3/29/2018*

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.

28497-MY

Test ID	Date	Results	MDL	Limits	Status*
Total Aflatoxin	3/29/2018	< MDL	3 ppb	< 20 ppb	PASS
Total Ochratoxin	3/29/2018	< MDL	2 ppb	< 20 ppb	PASS

VC: Analysis of Volatile Organic Compounds [WI-10-07]

Analyst: CJH

Test Date: 3/29/2018

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.

28497-VC

Compound	CAS	Amount ¹	Limit ²	Status
Methanol	67-56-1	ND	3,000 ppm	PASS
Ethanol	64-17-5	686 ppm	5,000 ppm	PASS
Acetone	67-64-1	14 ppm	5,000 ppm	PASS
Isopropanol	67-63-0	9 ppm	5,000 ppm	PASS
Acetonitrile	75-05-8	ND	410 ppm	PASS

1) ND = None detected above 5 ppm.

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

END OF REPORT