

Test Certificate

Certificate ID: **73894**

Received: **12/18/19**

Scan QR Code for authenticity

Client Sample ID: **Batch62018**

Lot Number: **2019MBHCCBDbatch6**

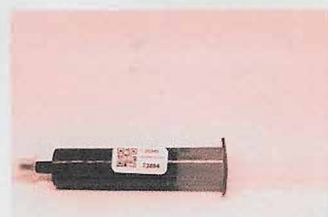
Matrix: **Concentrates/Extracts - Alcohol**



Signature:

Date:

1/10/2020



The data contained within this report was collected in accordance with the requirements of ISO/IEC 17025:2017. 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: **SJE**

Test Date: **12/21/2019**

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.

73894-CN

ID	Weight %	Concentration (mg/g)	
D9-THC	2.97	29.66	
THCV	ND	ND	
CBD	66.72	667.17	
CBDV	ND	ND	
CBG	1.05	10.51	
CBC	2.92	29.23	
CBN	ND	ND	
THCA	ND	ND	
CBDA	0.73	7.32	
CBGA	ND	ND	
D8-THC	ND	ND	
exo-THC	ND	ND	
Total	74.39	743.88	0% Cannabinoids (wt%) 66.7%
Max THC	2.97	29.66	
Max CBD	67.36	673.59	

Ratio of Total CBD to THC 22.7:1

Limit of Quantitation (LOQ) = 0.11 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: Max THC = (0.877 x THCA) + 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 half of LOQ.

EA: Elemental Analysis [WI-10-13]

Analyst: CJS

Test Date: 12/23/2019

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.

73894-EA

Symbol	Metal	Conc. ¹ (µg/kg)	RL (µg/kg)	Limits ² (µg/kg)	Status
Al	Aluminum	4,874	50	-	
As	Arsenic	ND	50	200	PASS
Cd	Cadmium	ND	50	200	PASS
Ca	Calcium	51,701	500	-	
Cr	Chromium	114	50	300	PASS
Co	Cobalt	ND	50	300	PASS
Cu	Copper	319	50	3,000	PASS
Fe	Iron	1,311	50	-	
Pb	Lead	ND	50	500	PASS
Mg	Magnesium	54,789	50	-	
Mn	Manganese	1,275	50	-	
Hg	Mercury	ND	50	100	PASS
Mo	Molybdenum	ND	50	1,000	PASS
Ni	Nickel	ND	50	500	PASS
P	Phosphorus	ND	500	-	
K	Potassium	1,934,354	500	-	
Se	Selenium	ND	50	-	
Ag	Silver	ND	50	700	PASS
S	Sulfur	ND	500	-	
Sn	Tin	2,412	500	6,000	PASS
Zn	Zinc	2,487	50	-	

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

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

MB1: Microbiological Contaminants [WI-10-26]

Analyst: RPF

Test Date: 12/22/2019

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.

73894-MB1

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

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

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

Analyst: MM

Test Date: 12/24/2019

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.

73894-MB2

Test ID	Analysis	Results	Units	Limits*	Status
73894-ECPT	E. coli (O157)	Negative	NA	Non Detected	PASS
73894-SPT	Salmonella	Negative	NA	Non Detected	PASS

Note: All recorded pathogenic bacteria tests passed.

MY: Mycotoxin Testing [WI-10-05]

Analyst: CJB

Test Date: 12/22/2019

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.

73894-MY

Test ID	Date	Results	MDL	Limits	Status*
Total Aflatoxin	12/22/2019	< MDL	2 ppb	< 20 ppb	PASS
Total Ochratoxin	12/22/2019	< MDL	3 ppb	< 20 ppb	PASS

PST: Pesticide Analysis [WI-10-11]

Analyst: LCH

Test Date: 1/10/2020

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).

73894-PST

Analyte	CAS	Result	Units	LLD	Limits (ppb)	Status
Abamectin	71751-41-2	ND	ppb	0.2	300	PASS
Azoxystrobin	131860-33-8	ND	ppb	0.10	40000	PASS
Bifenazate	149877-41-8	ND	ppb	0.10	5000	PASS
Bifenthrin	82657-04-3	ND	ppb	0.20	500	PASS
Cyfluthrin	68359-37-5	ND	ppb	0.50	1000	PASS
Dichlorvos	62-73-7	ND	ppb	3.00	10	PASS
Etoxazole	153233-91-1	ND	ppb	0.10	1500	PASS
Fenoxycarb	72490-01-8	ND	ppb	0.10	10	PASS
Imazalil	35554-44-0	ND	ppb	0.10	10	PASS
Imidacloprid	138261-41-3	ND	ppb	0.10	3000	PASS
Myclobutanil	88671-89-0	ND	ppb	0.10	9000	PASS
Paclobutrazol	76738-62-0	ND	ppb	0.10	10	PASS
Piperonyl butoxide	51-03-6	ND	ppb	0.10	8000	PASS
Pyrethrin	8003-34-7	ND	ppb	0.1	1000	PASS
Spinosad	168316-95-8	ND	ppb	0.1	3000	PASS
Spiromesifen	283594-90-1	ND	ppb	0.10	12000	*
Spirotetramat	203313-25-1	ND	ppb	0.10	13000	PASS
Trifloxystrobin	141517-21-7	ND	ppb	0.10	30000	PASS

* Testing limits for ingestion established by the State of California: CCR, Title 16, Division 42, Chapter 5, Section 5313. 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.

TP: Terpenes Profile [WI-10-08]

Analyst: SJE

Test Date: 12/19/2019

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. All values are semiquantitative estimates based on recorded peak areas relative to terpene calibration data.

73894-TP

Compound	wt%	Terpene Profile	Compound	wt%	Terpene Profile
Myrcene	0.01		A-terpinene		
Isopulegol			3-carene	0.01	
Linalool	0.06		A-pinene		
B-caryophyllene	0.38		Limonene	0.01	
Humulene	0.14		Geraniol		
P-cymene			Ocimene-2		
Camphene			Ocimene-1		
B-pinene			Terpinolene		
Eucalyptol			G-terpinene		

Total Terpene: 0.6 wt%

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

Analyst: SJE

Test Date: 12/20/2019

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.

73894-VC

Compound	CAS	Amount ¹	Limit ²	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	101 ppm	3,000 ppm	100	PASS
Ethanol	64-17-5	979 ppm	5,000 ppm	100	*
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