



Test Certificate

Certificate ID: **62064**Received: **9/17/19**Scan QR Code
for authenticityClient Sample ID: **Isolate**Lot Number: **1**Matrix: **Concentrates/Extracts - Isolate**

Authorization:

Jon Podgorni, Lead Research Chemist

Signature:

Date:

9/24/2019



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: LG****Test Date: 9/23/2019**

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.

62064-CN

ID	Weight %	Concentration (mg/g)			
D9-THC	ND	ND			
THCV	ND	ND			
CBD	99.30	993.00			
CBDV	0.21	2.10			
CBG	ND	ND			
CBC	0.01	0.13			
CBN	ND	ND			
THCA	ND	ND			
CBDA	ND	ND			
CBGA	ND	ND			
D8-THC	ND	ND			
exo-THC	ND	ND			
Total	99.52	995.23	0%	Cannabinoids (wt%)	99.3%
Max THC	ND	ND			
Max CBD	99.30	993.00			

Limit of Quantitation (LOQ) = 0.005 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 half of LOQ.

HM: Heavy Metal Analysis [WI-10-13]

Analyst: JFD

Test Date: 9/19/2019

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.

62064-HM

Symbol	Metal	Conc. ¹ (µg/kg)	RL	Use Limits ² (µg/kg)		Status
				All	Ingestion	
As	Arsenic	ND	50	200	1500	PASS
Cd	Cadmium	ND	50	200	500	PASS
Hg	Mercury	ND	50	100	1500	PASS
Pb	Lead	ND	50	500	1000	PASS

1) ND = None detected to Lowest Limits of Detection (LLD)

2) MA Dept. of Public Health: Protocol for MMJ and MIPS, Exhibit 4(a) for all products.

3) USP exposure limits based on daily oral dosing of 1g of concentrate for a 110 lb person.

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

Analyst: CMA

Test Date: 9/18/2019

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.

62064-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	ND	3,000 ppm	100	PASS
Pentane	109-66-0	238 ppm	5,000 ppm	100	PASS
Ethanol	64-17-5	ND	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