

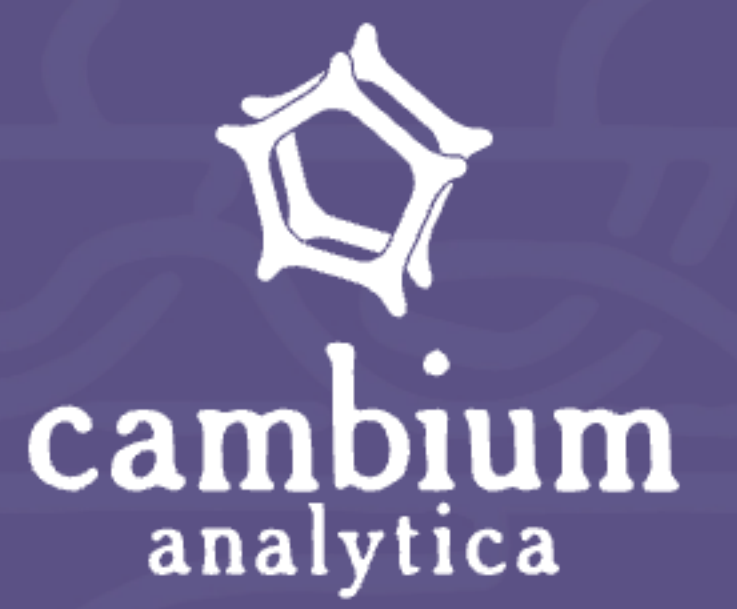
CERTIFICATE OF ANALYSIS

SAMPLE NAME: WHITE MALAYSIAN

SAMPLE CODE: KTM-230418-011

CLIENT: LEAD-BOTANICAL FAMILY

BATCH RESULT: N/A



1230 Woodmere Ave
Traverse City, MI 49686
231.252.3669

License #: AU-SC-000112



MATRIX NAME:

Kratom - Leaf Powder

SAMPLE TYPE:

Quality Assurance

RECEIVED DATE:

Tuesday, Apr 18, 2023

PUBLISHED DATE:

Friday, Apr 21, 2023

BATCH CODE:

N/A

BATCH SIZE:

30g

SAMPLE SIZE:

30g



LAB-TM-052

High Alkaloid Analysis
by UPLC



LAB-TM-047

Low Alkaloid Analysis
by LC-MS/MS



LAB-TM-005

Heavy Metals Analysis
by ICP-MS



LAB-TM-004

Residual Solvent
Analysis by GC-MS



LAB-TM-016

Determination of Color



LAB-TM-041

Total E. coli Analysis



LAB-TM-042

Total Aerobic Bacteria
Analysis



LAB-TM-015

Enumeration of Total
Yeast and Mold



LAB-TM-006

Salmonella and Shiga
Toxin Producing E. coli
Analysis by qPCR

RESULTS REVIEWED BY: Leslie Varela

Laboratory Director
Cambium Analytica
Friday, Apr 21, 2023

RESULTS REVIEWED BY: Douglas Smith

VP - Scientific Operations
Cambium Analytica
Friday, Apr 21, 2023

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LAB-TM-052 - DETERMINATION OF KRATOM ALKALOID CONTENT BY UPLC-DAD

ALKU-KTM-230418-011-03 - THURSDAY, APR 20, 2023

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Mitragynine	1.065 %		N/A	0.5 ug/g	N/A
Paynantheine	0.202 %		N/A	0.5 ug/g	N/A
Speciociliatine	0.459 %		N/A	0.5 ug/g	N/A
Speciogynine	0.152 %		N/A	0.5 ug/g	N/A
Total Major Alkaloids	1.878 %		N/A	N/A	N/A

LAB-TM-047 - DETERMINATION OF KRATOM ALKALOID CONTENT BY LC-TQ

ALKL-KTM-230418-011-02 - TUESDAY, APR 18, 2023

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
7-Hydroxymitragynine	0.002 %		N/A	N/A	N/A
Mitraphylline	0 %		N/A	N/A	N/A
Total Minor Alkaloids	0.002 %		N/A	N/A	N/A

LAB-TM-005 - DETERMINATION OF HEAVY METALS OF CANNABIS AND CANNABIS INFUSED PRODUCTS BY ICP-MS

MET-KTM-230418-011-01 - TUESDAY, APR 18, 2023

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Arsenic	0.1957 ug/g		0.1985 ug/kg	0.6616 ug/kg	N/A
Cadmium	0.0296 ug/g		0.0817 ug/kg	0.2724 ug/kg	N/A
Chromium	2.0535 ug/g		0.6272 ug/kg	2.0907 ug/kg	N/A
Copper	13.5 ug/g		0.1546 ug/kg	0.5152 ug/kg	N/A
Lead	0.6012 ug/g		0.0845 ug/kg	0.2817 ug/kg	N/A
Mercury	0.016 ug/g		0.0171 ug/kg	0.0571 ug/kg	N/A
Nickel	2.13 ug/g		0.3213 ug/kg	1.0709 ug/kg	N/A



LAB-TM-004 - DETERMINATION OF RESIDUAL SOLVENTS OF CANNABIS PRODUCTS

SOL-KTM-230418-011-01 - TUESDAY, APR 18, 2023

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
1,2-Dichloroethane	ND		0.4 ug/g	1.34 ug/g	N/A
2-Methylbutane	ND		1.54 ug/g	5.14 ug/g	N/A
2-Methylpentane	ND		0.0462 ug/g	0.154 ug/g	N/A
2,2-Dimethylbutane	ND		0.98 ug/g	3.27 ug/g	N/A
2,3-Dimethylbutane	ND		2.19 ug/g	7.32 ug/g	N/A
3-Methylpentane	ND		0.73 ug/g	2.44 ug/g	N/A
Acetone	ND		1.57 ug/g	5.23 ug/g	N/A
Acetonitrile	ND		1.85 ug/g	6.17 ug/g	N/A
Benzene	ND		0.18 ug/g	0.59 ug/g	N/A
Butane	ND		1.68 ug/g	5.59 ug/g	N/A
Butanes (Sum of Butane and Isobutane)	ND		N/A	N/A	N/A
Chloroform	ND		0.78 ug/g	2.59 ug/g	N/A
Ethanol	ND		6.02 ug/g	20.1 ug/g	N/A
Ethyl Acetate	ND		1.95 ug/g	6.49 ug/g	N/A
Ethyl Ether	ND		1.37 ug/g	4.55 ug/g	N/A
Ethylene Oxide	ND		0.15 ug/g	0.49 ug/g	N/A
Heptane	ND		1.31 ug/g	4.37 ug/g	N/A
Hexane	ND		1.42 ug/g	4.74 ug/g	N/A
Hexanes (Sum of Hexane, 2,2-Dimethylbutane, 2,3-Dimethylbutane, 2-Methylpentane, and 3-Methylpentane)	ND		N/A	N/A	N/A
Isobutane	ND		1.6 ug/g	5.34 ug/g	N/A
Isopropyl Alcohol	ND		4.9 ug/g	16.3 ug/g	N/A
Methanol	85.2763 ug/g		7.89 ug/g	26.4 ug/g	N/A
Methylene Chloride	ND		1.36 ug/g	4.53 ug/g	N/A
Neopentane	ND		1.49 ug/g	4.97 ug/g	N/A
Pentane	ND		1.46 ug/g	4.87 ug/g	N/A
Pentanes (Sum of Pentane, 2-Methylbutane, and Neopentane)	ND		N/A	N/A	N/A
Propane	ND		1.95 ug/g	6.51 ug/g	N/A
Toluene	ND		1.88 ug/g	6.26 ug/g	N/A
Total Xylenes	ND		2.02 ug/g	6.72 ug/g	N/A
Trichloroethylene	ND		0.29 ug/g	0.96 ug/g	N/A

LAB-TM-016 - DETERMINATION OF COLOR

CLR-KTM-230418-011-01 - TUESDAY, APR 18, 2023

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Lightness (L)	55.19	N/A	N/A	N/A	N/A
Red/Green (A)	2.56	N/A	N/A	N/A	N/A
Blue/Yellow (B)	26.38	N/A	N/A	N/A	N/A



LAB-TM-041 - ENUMERATION OF E. COLI AND TOTAL COLIFORMS ON 3M REC PLATES

ECOLI-KTM-230418-011-01 - TUESDAY, APR 18, 2023

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
E. coli	0 CFU/g	N/A	N/A	N/A	N/A
Total Coliforms	0 CFU/g	N/A	N/A	N/A	N/A

LAB-TM-042 - ENUMERATION OF TOTAL AEROBIC BACTERIA ON 3M RAC PLATES

TAMC-KTM-230418-011-01 - TUESDAY, APR 18, 2023

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Total Aerobic Count	400 CFU/g	N/A	N/A	N/A	N/A

LAB-TM-015 - ENUMERATION OF TOTAL YEAST AND MOLD ON 3M RYM PLATES

TYM-KTM-230418-011-01 - TUESDAY, APR 18, 2023

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Total Yeast and Mold	20 CFU/g	N/A	N/A	N/A	N/A

LAB-TM-006 - MICROBIAL ANALYSIS BY QPCR

SS-KTM-230418-011-01 - TUESDAY, APR 18, 2023

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Salmonella Spp	0 CFU/g	N/A	N/A	N/A	N/A
Shiga Toxin Producing E. coli	0 CFU/g	N/A	N/A	N/A	N/A

