



Analytical Resource Laboratories

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Certificate of Analysis

Client Information

Evolve Contract Manufacturing

909 W 500 N Suite A
Lindon, UT 84042
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Sample Information

ARL ID: 643256
Date Received: 11/17/2022
Description: MBN/ Mitragyna Speciosa - RM
Lot#: 110822-INV-IDI134/VIII/223

Results

Analysis	Method	†MDL / LOQ	Specification	Results	UOM	Lab ID
<u>K4A Actives</u>	HPLC 2.046					1
Mitragynine	HPLC 2.046	0.03	≤ 2.25	1.48	%	1
7-Hydroxy-Mitragynine	HPLC 2.046	0.04	≤ 0.02	<0.02	%	1
Speciogynine	HPLC 2.046	0.03	Record Only	0.22	%	1
Paynantheine	HPLC 2.046	0.04	Record Only	0.34	%	1
7OH-MIT % of 4 Alkaloids	ARL 2.046 Calculation	0.1	< 2	0.5	%	1

†Method Detection Limit (MDL):

In microbiological testing, this is the minimum level of growth that can be detected with confidence. If a result is reported as "None Detected", it means any visible growth was below this limit.

†Limit of Quantitation (LOQ):

In analytical chemistry testing, this is the minimum level of the desired analyte that can be quantified with confidence. If a result is reported as less than LOQ, it means any detected amount was too small to report an exact number.

Under accreditation number 77504, ARL is an ISO/IEC 17025:2017 Accredited Laboratory. Uncertainty data for ISO-scoped methods is available upon request. Certificate and scope are also available upon request.

CTLA ID: 62433
 Date Received: 11/17/2022
 Sample Name: MBN/ Kratom 00Gel
 Lot Number: 220322
 Customer: Evolve Contract Manufacturing

Analysis	Method	MDL	Specification	Result	Units
ID, Rapid Complete Micro Combo					
ID	FTIR		≥95	97.9	%
Total Plate Count	USP <2021>	100	≤10,000,000	200	cfu/g
Total Coliforms	USP <2021>	10	≤10,000	<10	cfu/g
<i>E. coli</i>	USP <2022>		negative	Negative	
<i>Salmonella</i>	USP <2022>		Negative	Negative	
<i>Staphylococcus aureus</i> <2022>	USP <2022>		Negative	Negative	
Rapid Yeast and Mold	AOAC 2014.05	10	≤100,000	<10	cfu/g
Enterobacteriaceae (AOAC)	AOAC 2003.01	10	<10,000	<10	cfu/g
Capsule Weight Panel					
Average Gross Weight	USP <2091> mod	963		986 *	mg
Gross Weight Variance	USP <2091> mod	923-1003		925.1-1,080.7 *	mg
Average Net Fill Weight	USP <2091> mod	800		824.1 *	mg
Net Fill Weight Variance	USP <2091> mod	760-840		760.1-919.4 *	mg

11/22/2022
DATE



Quality Manager

Specifications provided by the Customer. Results with an asterisk (*) denote Specifications should be reviewed by the Customer. This Certificate of Analysis represents data for the sample submitted and does not constitute a guarantee of quality for the entire product from which it was taken. These results are provided for the benefit of the Customer. MDL = Method Detection Limit.

CTLA ID: 62432
 Date Received: 11/17/2022
 Sample Name: MBN/ Mitragyna Speciosa RM
 Lot Number: 110822-INV-IDI134/VIII/223
 Customer: Evolve Contract Manufacturing

Analysis	Method	MDL	Specification	Result	Units
Heavy Metals					
Arsenic	USP <233>	.001	<2	0.099	ppm
Cadmium	USP <233>	.001	<0.82	0.016	ppm
Mercury	USP <233>	.001	<0.40	0.004	ppm
Lead	USP <233>	.001	<1.2	0.121	ppm
ID, Rapid Complete Micro Combo					
ID	FTIR		Report	97.2	%
Total Plate Count	USP <2021>	100	≤10,000,000	<100	cfu/g
Total Coliforms	USP <2021>	10	≤10,000	<10	cfu/g
<i>E. coli</i>	USP <2022>		Negative	Negative	
<i>Salmonella</i>	USP <2022>		Negative	Negative	
<i>Staphylococcus aureus</i> <2022>	USP <2022>		Negative	Negative	
Rapid Yeast and Mold	AOAC 2014.05	10	≤100,000	<10	cfu/g
Enterobacteriaceae (AOAC)	AOAC 2003.01	10	<10,000	<10	cfu/g

11/23/2022
DATE



Quality Manager

Specifications provided by the Customer. Results with an asterisk (*) denote Specifications should be reviewed by the Customer. This Certificate of Analysis represents data for the sample submitted and does not constitute a guarantee of quality for the entire product from which it was taken. These results are provided for the benefit of the Customer. MDL = Method Detection Limit.