



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794

Report Number: 22-013982/D002.R000
Report Date: 11/23/2022
Purchase Order:
Received: 11/14/22 04:07 PM



Customer: Top Tree Herbs
2000 S. Colorado Blvd.
Tower One, Suite 2000 #1046
Denver, CO 80222

Sample ID: TTHWRL01073, TTHWCS02073
Sample Matrix: Kratom Leaf
Laboratory ID: 22-013982-0002-00
Evidence of Cooling: No
Temp: 19.2 °C
Relinquished by: Courier

Sample Results

Metals

Heavy Metals Profile K

Analyte	Result	Units	LOQ	Analyzed	Method	Threshold	Pass/Fail	Notes
Arsenic	0.190	mg/kg	0.00879	11/22/22	AOAC 2013.06 (mod.) ^{p1}	2.08	pass	
Cadmium	0.0174	mg/kg	0.00879	11/21/22	AOAC 2013.06 (mod.) ^{p1}	0.850	pass	
Lead	0.668	mg/kg	0.00879	11/21/22	AOAC 2013.06 (mod.) ^{p1}	1.25	pass	
Mercury	0.0237	mg/kg	0.00439	11/21/22	AOAC 2013.06 (mod.) ^{p1}	0.410	pass	
Nickel	1.83	mg/kg	0.0176	11/21/22	AOAC 2013.06 (mod.) ^{p1}	20.0	pass	

1) trace metals in food by Inductively Coupled Mass Spectrometry

Microbiology

Microbiology Profile B

Analyte	Result	Units	LOQ	Analyzed	Method	Threshold	Pass/Fail	Notes
Aerobic Plate Count	18,000	cfu/g	1,000	11/17/22	AOAC 990.12 (Petrifilm) ^p	10,000,000	pass	
E.coli	< LOQ	cfu/g	100	11/17/22	AOAC 991.14 (Petrifilm) ^p	100	pass	
Enterobacteriaceae	400	cfu/g	100	11/16/22	AOAC 2003.01 ^p	10,000	pass	
Mold (RAPID Petrifilm)	300	cfu/g	100	11/18/22	AOAC 2014.05 (RAPID) ^p	50,000	pass	
Yeast (RAPID Petrifilm)	400	cfu/g	100	11/18/22	AOAC 2014.05 (RAPID) ^p	50,000	pass	
Salmonella, 375g, by PCR	Negative	/375g		11/16/22	AOAC 2020.02 ₂	Negative	pass	

2) GENE-UP® Assay

Mitragynine

Mitragynine Full Alkaloid Panel

Analyte	Result	Units	LOQ	Analyzed	Method	Threshold	Pass/Fail	Notes
7-Hydroxymitragynine	0.0101	%	0.0100	11/21/22	In house method by HPLC-DAD			
Isorhynchophylline	< LOQ	%	0.0500	11/21/22	In house method by HPLC-DAD			
Mitragynine	1.22	%	0.0500	11/21/22	In house method by HPLC-DAD			
Mitraphylline	<LOQ	%	0.0500	11/21/22	In house method by HPLC-DAD			
Paynantheine	0.264	%	0.0500	11/21/22	In house method by HPLC-DAD			



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Mitragynine

Mitragynine Full Alkaloid Panel

Analyte	Result	Units	LOQ	Analyzed	Method	Threshold	Pass/Fail	Notes
Speciociliatine	0.320	%	0.0500	11/21/22	In house method by HPLC-DAD			
Speciogynine	0.186	%	0.0500	11/21/22	In house method by HPLC-DAD			



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Microbiology

Analyte	Result	Units	LOQ	Analyzed	Method	Threshold	Pass/Fail	Notes
Salmonella, 375g, by PCR	Negative	/375g		11/16/22	AOAC 2020.02 ₁	Negative	pass	

1) GENE-UP® Assay

Abbreviations

Limit(s) of Quantitation (LOQ): The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

p = ISO/IEC 17025:2017 accredited method.

Units of Measure

cfu/g = Colony forming units per gram

mg/kg = Milligram per kilogram = parts per million (ppm)

/375g = Per 375 grams

% = Percentage of sample

Approved Signatory

Derrick Tanner
General Manager