



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

**Report Number:** 22-010974/D002.R000  
**Report Date:** 09/19/2022  
**Purchase Order:**  
**Received:** 09/14/22 12:12 PM



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

**Sample ID:** TTHRRL05073, TTHRCH06073  
**Sample Matrix:** Kratom Leaf  
**Laboratory ID:** 22-010974-0001  
**Evidence of Cooling:** No  
**Temp:** 22.3 °C  
**Relinquished by:** Courier

### Sample Results

#### Metals

##### Heavy Metals Profile K

Analyte	Result	Units	LOQ	Analyzed	Method	Threshold	Pass/Fail	Notes
Arsenic	0.166	mg/kg	0.00868	09/16/22	AOAC 2013.06 (mod.) <sup>p</sup> <sub>1</sub>	2.08	pass	
Cadmium	0.00982	mg/kg	0.00868	09/16/22	AOAC 2013.06 (mod.) <sup>p</sup> <sub>1</sub>	0.850	pass	
Lead	0.485	mg/kg	0.00868	09/16/22	AOAC 2013.06 (mod.) <sup>p</sup> <sub>1</sub>	1.25	pass	
Mercury	0.0165	mg/kg	0.00434	09/16/22	AOAC 2013.06 (mod.) <sup>p</sup> <sub>1</sub>	0.410	pass	
Nickel	1.52	mg/kg	0.0174	09/16/22	AOAC 2013.06 (mod.) <sup>p</sup> <sub>1</sub>	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	33,000	cfu/g	1,000	09/17/22	AOAC 990.12 (Petrifilm) <sup>p</sup>	10,000,000	pass	
E.coli	< LOQ	cfu/g	100	09/17/22	AOAC 991.14 (Petrifilm) <sup>p</sup>	100	pass	
Enterobacteriaceae	100	cfu/g	100	09/16/22	AOAC 2003.01 <sup>p</sup>	10,000	pass	
Mold (RAPID Petrifilm)	400	cfu/g	100	09/18/22	AOAC 2014.05 (RAPID) <sup>p</sup>	50,000	pass	
Yeast (RAPID Petrifilm)	<LOQ	cfu/g	100	09/18/22	AOAC 2014.05 (RAPID) <sup>p</sup>	50,000	pass	
Salmonella, 375g, by PCR	Negative	/375g	-	09/16/22	AOAC 2020.02 <sub>2</sub>	Negative	pass	

2) GENE-UP® Assay

#### Mitragynine

##### Mitragynine Full Alkaloid Panel

Analyte	Result	Unit	LOQ	Analyzed	Method	Threshold	Pass/Fail	Notes
7-Hydroxymitragynine	< LOQ	%	0.0100	09/15/22	In house method by HPLC-DAD			
Isorhynchophylline	< LOQ	%	0.0500	09/15/22	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
Mitragynine	0.823	%	0.0500	09/15/22	In house method by HPLC-DAD			
Mitraphylline	< LOQ	%	0.0500	09/15/22	In house method by HPLC-DAD			
Paynantheine	0.175	%	0.0500	09/15/22	In house method by HPLC-DAD			
Speciociliatine	0.210	%	0.0500	09/15/22	In house method by HPLC-DAD			
Speciogynine	0.126	%	0.0500	09/15/22	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	-	09/16/22 AOAC 2020.02 <sub>1</sub>	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.

**Threshold Note:** limits based on AHPA recommended limits for unprocessed herbs and supplements and ingredients and 4.8 g daily c

#### 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