



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

Report Number: 21-013094/D002.R000
Report Date: 11/12/2021
Purchase Order:
Received: 11/05/21 03:50 PM



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

Sample ID: 2212012, 2301019P, 2301019L
Sample Matrix: Kratom Leaf
Laboratory ID: 21-013094-0002
Evidence of Cooling: No
Temp: 19 °C
Relinquished by: Courier

Sample Results

Metals

Heavy Metals Profile K

Analyte	Result	Units	LOQ	Analyzed	Method	Threshold	Pass/Fail	Notes
Arsenic	0.227	mg/kg	0.01083	11/10/21	AOAC 2013.06 (mod.) ₁	2.08	pass	
Cadmium	0.0306	mg/kg	0.01083	11/10/21	AOAC 2013.06 (mod.) ₁	0.850	pass	
Lead	0.261	mg/kg	0.01083	11/10/21	AOAC 2013.06 (mod.) ₁	1.25	pass	
Mercury	0.0174	mg/kg	0.00914	11/10/21	AOAC 2013.06 (mod.) ₁	0.410	pass	
Nickel	2.11	mg/kg	0.0366	11/10/21	AOAC 2013.06 (mod.) ₁	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	330,000	cfu/g	1,000	11/09/22	AOAC 990.12 (Petrifilm)	10,000,000	pass	
E.coli	< LOQ	cfu/g	100	11/09/22	AOAC 991.14 (Petrifilm)	100	pass	
Enterobacteriaceae	800	cfu/g	100	11/08/22	AOAC 2003.01	10,000	pass	
Mold (RAPID Petrifilm)	<LOQ	cfu/g	1,000	11/09/22	AOAC 2014.05 (RAPID)	50,000	pass	
Yeast (RAPID Petrifilm)	1,100	cfu/g	1,000	11/09/22	AOAC 2014.05 (RAPID)	50,000	pass	
Salmonella, 375g, by PCR	Negative	/375g	-	11/08/22	AOAC 2020.02 ₂	Negative	pass	

2) GENE-UP® Assay

Mitragynine

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Mitragynine

Mitragynine Full Alkaloid Panel

Analyte	Result	Units	LOQ	Analyzed	Method	Notes
7-Hydroxymitragynine [†]	0.0241	%	0.0100	11/11/21	In house method by HPLC-DAD	
Isorhynchophylline	<LOQ	%	0.0500	11/11/21	In house method by HPLC-DAD	
Mitragynine [†]	0.851	%	0.0500	11/11/21	In house method by HPLC-DAD	
Mitraphylline	< LOQ	%	0.0500	11/11/21	In house method by HPLC-DAD	
Paynantheine	0.127	%	0.0500	11/11/21	In house method by HPLC-DAD	
Speciociliatine	0.465	%	0.0500	11/11/21	In house method by HPLC-DAD	
Speciogynine	0.124	%	0.0500	11/11/21	In house method by HPLC-DAD	

Nutrition

Analyte	Result	Units	LOQ	Analyzed	Method	Notes
Water Activity	0.677	Aw	0.030	11/09/21	AOAC 978.18	

Test results relate only to the parameters tested and to the samples as received by the laboratory. Test results meet all requirements of Columbia Laboratories quality assurance plan unless otherwise noted. This report shall not be reproduced, except in full, without the written consent of this laboratory. Samples will be retained for a maximum of 30 days from the receipt date unless prior arrangements have been made.