



CERTIFICATE OF ANALYSIS

STATUS: **RELEASED** REVISION: 00

DATE: 09/20/2023

Analysis ID No. 232765
 TDA License No. 2020002
 ISO/IEC No. 1055838
 Purchase Order: 20230643
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CUSTOMER INFORMATION	SAMPLE INFORMATION
Company Name:	Submitted Sample Name:
	FR
Address:	Submitted Sample Lot:
	091223
Phone Number:	Submitted Sample Description:
	Green Powder in Black Mylar Bag; Stored at RT
Contact Name / Email:	Submitted Sample Product Type / Matrix:
	Kratom Extract / Powder

ALKALOIDS ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Mitragynine	UHPLC-DAD	0.01 w/w%	w/w%: Report Only mg/g: Report Only	1.510 w/w% 15.102 mg/g	Results Reported
Paynantheine	UHPLC-DAD	0.01 w/w%	w/w%: Report Only mg/g: Report Only	0.256 w/w% 2.559 mg/g	Results Reported
Speciogynine	UHPLC-DAD	0.01 w/w%	w/w%: Report Only mg/g: Report Only	0.252 w/w% 2.518 mg/g	Results Reported
Speciociliatine	UHPLC-DAD	0.01 w/w%	w/w%: Report Only mg/g: Report Only	0.447 w/w% 4.467 mg/g	Results Reported
7-OH-Mitragynine	UHPLC-DAD	0.01 w/w%	w/w%: Report Only mg/g: Report Only % of Total Alkaloids: NMT 2%	< 0.010 w/w%	PASS
Mitraphylline	UHPLC-DAD	0.01 w/w%	w/w%: Report Only mg/g: Report Only	< 0.010 w/w%	Results Reported
Isorhynchophylline	UHPLC-DAD	0.01 w/w%	w/w%: Report Only mg/g: Report Only	< 0.010 w/w%	Results Reported
Corynoxine	UHPLC-DAD	0.01 w/w%	w/w%: Report Only mg/g: Report Only	< 0.010 w/w%	Results Reported
Total Alkaloids	UHPLC-DAD	0.01 w/w%	w/w%: Report Only mg/g: Report Only	2.464 w/w% 24.645 mg/g	Results Reported

MICROBIOLOGICAL ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Total Aerobic Plate Count (TAPC)	Isolation Agar	20 CFU/gm	NMT 10,000,000 CFU/gm	3,500 CFU/gm	PASS
Total Yeast & Mold (TYM)	Isolation Agar	20 CFU/gm	NMT 100,000 CFU/gm	< LOQ	PASS
Coliforms	Isolation Agar	20 CFU/gm	NMT 10,000 CFU/gm	< LOQ	PASS
Escherichia coli (E.coli)	Isolation Agar	1 CFU/10 gm	Absent in 10 gm	Absent	PASS
Salmonella	Isolation Agar	1 CFU/25 gm	Absent in 25 gm	Absent	PASS



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HEAVY METALS ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Lead	USP <232> <233> by ICP-MS	10 ppb	NMT 1,000 ppb	700.4 ppb	PASS
Mercury	USP <232> <233> by ICP-MS	5 ppb	NMT 500 ppb	17.3 ppb	PASS
Arsenic	USP <232> <233> by ICP-MS	10 ppb	NMT 1,500 ppb	447.8 ppb	PASS
Cadmium	USP <232> <233> by ICP-MS	10 ppb	NMT 300 ppb	21.5 ppb	PASS
Nickel	USP <232> <233> by ICP-MS	50 ppb	NMT 20,000 ppb	2,162.0 ppb	PASS

RESIDUAL SOLVENTS ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
1,1-Dichloroethene	USP <467> by GC-MS	0.020 ppm	NMT 8 ppm	< LOQ	PASS
1,1,1-Trichloroethane	USP <467> by GC-MS	3.75 ppm	NMT 1,500 ppm	< LOQ	PASS
1,2-Dichloroethane	USP <467> by GC-MS	0.013 ppm	NMT 5 ppm	< LOQ	PASS
Benzene	USP <467> by GC-MS	0.005 ppm	NMT 2 ppm	< LOQ	PASS
Carbon tetrachloride	USP <467> by GC-MS	0.010 ppm	NMT 4 ppm	< LOQ	PASS
1,2-dichloroethene (E,Z)	USP <467> by GC-MS	4.675 ppm	NMT 1870 ppm	< LOQ	PASS
1,2-Dimethoxyethane	USP <467> by GC-MS	0.25 ppm	NMT 100 ppm	< LOQ	PASS
1,2,3,4- tetrahydronaphthalene	USP <467> by GC-MS	0.25 ppm	NMT 100 ppm	< LOQ	PASS
1,4-Dioxane	USP <467> by GC-MS	0.95 ppm	NMT 380 ppm	< LOQ	PASS
2-Hexanone	USP <467> by GC-MS	0.125 ppm	NMT 50 ppm	< LOQ	PASS
4-methyl-2- pentanone	USP <467> by GC-MS	12.5 ppm	NMT 4,500 ppm	< LOQ	PASS
Acetonitrile	USP <467> by GC-MS	1.025 ppm	NMT 410 ppm	< LOQ	PASS
Chlorobenzene	USP <467> by GC-MS	0.9 ppm	NMT 360 ppm	< LOQ	PASS
Chloroform	USP <467> by GC-MS	0.15 ppm	NMT 60 ppm	< LOQ	PASS
Cumene	USP <467> by GC-MS	0.175 ppm	NMT 70 ppm	< LOQ	PASS
Cyclohexane	USP <467> by GC-MS	9.7 ppm	NMT 3,880 ppm	< LOQ	PASS
Dichloromethane	USP <467> by GC-MS	1.5 ppm	NMT 600 ppm	< LOQ	PASS
Ethylbenzene	USP <467> by GC-MS	5.425 ppm	NMT 2,170 ppm	< LOQ	PASS
Hexane, n-	USP <467> by GC-MS	0.725 ppm	NMT 290 ppm	< LOQ	PASS

Santé Laboratories, LLC - 8201 East Riverside Drive, STE 650, Austin, Texas 78744 USA
Email: Testing@santelabs.com - Telephone: 512-309-5830 - Website: www.santelabs.com

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Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Methanol	USP <467> by GC-MS	7.5 ppm	NMT 3,000 ppm	< LOQ	PASS
Methylcyclohexane	USP <467> by GC-MS	2.95 ppm	NMT 1,180 ppm	< LOQ	PASS
Nitromethane	USP <467> by GC-MS	0.125 ppm	NMT 50 ppm	< LOQ	PASS
Pyridine	USP <467> by GC-MS	0.50 ppm	NMT 200 ppm	< LOQ	PASS
Tetrahydrofuran	USP <467> by GC-MS	1.8 ppm	NMT 720 ppm	< LOQ	PASS
Toluene	USP <467> by GC-MS	2.225 ppm	NMT 890 ppm	< LOQ	PASS
Trichloroethene	USP <467> by GC-MS	0.20 ppm	NMT 80 ppm	< LOQ	PASS
Xylene, m-	USP <467> by GC-MS	108.5 ppm	NMT 2,170 ppm	< LOQ	PASS
Xylene, o-	USP <467> by GC-MS	5.425 ppm	NMT 2,170 ppm	< LOQ	PASS
Xylene, p-	USP <467> by GC-MS	5.425 ppm	NMT 2,170 ppm	< LOQ	PASS
1-Butanol	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
1-Pentanol	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
1-Propanol	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
2-Butanol	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
2-Butanone	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
2-methyl-1-propanol	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
2-Propanol	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
3-methyl-1-butanol	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Acetone	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Anisole	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Butyl acetate	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Ethanol	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Ethyl acetate	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Ethyl ether	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Ethyl formate	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS

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Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Heptane, n-	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Isobutyl acetate	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Isopropyl acetate	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Methyl acetate	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
N,N-Dimethylsulfoxide	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Pentane, n-	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Propyl acetate	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
t-Butyl Methyl Ether	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Butane, iso-	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Butane, n-	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS
Propane	USP <467> by GC-MS	12.5 ppm	NMT 5,000 ppm	< LOQ	PASS

TESTING FACILITY INFORMATION	SAMPLE INFORMATION
Santé Laboratories 8201 East Riverside Drive, STE 650 Austin, Texas 78744 USA	Santé Sample ID: 232765 Receipt Date: 09/13/2023 / 9:30 AM CST / K. Faulkner Receipt Condition: Good Analysis Start Date: 09/13/2023

ADDITIONAL REPORT NOTES
The reported results presented in this document is only applicable to samples submitted to Santé Laboratories for testing and may not represent the entire lot and/or batch produced by the manufacturer. Heavy metal specifications according to limits defined by Texas DSHS for consumable hemp. Nickel specification according to oral drug products per USP <232>. Microbiological limits according to specifications defined by AHPA for botanical extracts. ©2020 Santé Laboratories, LLC – All Rights Reserved

VERSION HISTORY		
Version	Effective Date	Summary of Changes
00	09/20/2023	Initial Release



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PRODUCT SAMPLE / IMAGE



REVIEWED AND APPROVED BY

DocuSigned by:
Yvonne Rivera

Yvonne Rivera
Data Management Specialist
Santé Laboratories

20 September 2023 | 3:24:39 PM PDT

Date