

Certificate of Analysis



Customer Information

Client: CWL Brands
Attention: (208) 577-7668
Address: 11193 W Emerald St, STE 140
 Boise, ID 83713

Testing Facility

Lab: Cora Science, LLC
Address: 8000 Anderson Square, STE 113
 Austin, Texas 78757
Contact: info@corascience.com
 (512) 856-5007

Sample Image(s)



Sample Information

Name: F+F 4
Lot Number: CWLFF4 231304
Description: Liquid botanical extract
Condition: Good
Job ID: ISO01389
Sample ID: I02322
Received: 30AUG2023
Completed: 11SEP2023
Issued: 12SEP2023

Test Results

Mitragyna Alkaloids (UHPLC-DAD)

Method Code: T102

Tested: 31AUG2023 | 0026

PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Mitragynine	Report Results	1.28	mg/mL	0.09	N/A
7-Hydroxymitragynine	Report Results	<LOQ	mg/mL	0.04	N/A
Paynantheine	Report Results	0.195	mg/mL	0.10	N/A
Speciogynine	Report Results	0.109	mg/mL	0.09	N/A
Speciociliatine	Report Results	<LOQ	mg/mL	0.09	N/A
Total Mitragyna Alkaloids	Report Results	1.58	mg/mL	0.09	N/A

Mitragyna Alkaloids (UHPLC-DAD)

Method Code: T102

Tested: 31AUG2023 | 0026

PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Mitragynine	Report Results	0.124	w/w%	0.009	N/A
7-Hydroxymitragynine	Report Results	<LOQ	w/w%	0.004	N/A
Paynantheine	Report Results	0.019	w/w%	0.009	N/A
Speciogynine	Report Results	0.011	w/w%	0.009	N/A
Speciociliatine	Report Results	<LOQ	w/w%	0.009	N/A
Total Mitragyna Alkaloids	Report Results	0.154	w/w%	0.009	N/A

Kavalactones (UHPLC-DAD)

Method Code: T104

Tested: 30AUG2023 | 1845

PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Kavain	Report Results	2.20	mg/mL	0.09	N/A
Dihydrokavain	Report Results	1.84	mg/mL	0.09	N/A
Methysticin	Report Results	0.698	mg/mL	0.09	N/A
Dihydromethysticin	Report Results	0.651	mg/mL	0.09	N/A
Yangonin	Report Results	0.366	mg/mL	0.16	N/A
Desmethoxyyangonin	Report Results	0.686	mg/mL	0.09	N/A
Total Kavalactones	Report Results	6.43	mg/mL	0.09	N/A

Kavalactones (UHPLC-DAD)

Method Code: T104

Tested: 30AUG2023 | 1845

PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Kavain	Report Results	0.214	w/w%	0.009	N/A
Dihydrokavain	Report Results	0.179	w/w%	0.009	N/A
Methysticin	Report Results	0.068	w/w%	0.009	N/A
Dihydromethysticin	Report Results	0.063	w/w%	0.009	N/A
Yangonin	Report Results	0.036	w/w%	0.015	N/A
Desmethoxyyangonin	Report Results	0.067	w/w%	0.009	N/A
Total Kavalactones	Report Results	0.627	w/w%	0.009	N/A

Microbiological Examination

Method Code: T005

Tested: 05SEP2023 | 1402

PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Total Aerobic Plate Count	10,000,000 CFU/gram	Not Detected	CFU/gram	10 CFU/gram	PASS
Total Yeast & Mold	100,000 CFU/gram	Not Detected	CFU/gram	10 CFU/gram	PASS
Total Coliforms	10,000 CFU/gram	Not Detected	CFU/gram	10 CFU/gram	PASS
Escherichia coli	Not Detected in 10 grams	Not Detected	N/A	1 CFU/10 grams	PASS
Staphylococcus aureus	Not Detected in 10 grams	Not Detected	N/A	1 CFU/10 grams	PASS
Salmonella	Not Detected in 25 grams	Not Detected	N/A	1 CFU/25 grams	PASS

Elemental Impurities (ICP-MS)

Method Code: T301

Tested: 11SEP2023 | 1609

PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
Arsenic	NMT 1.5	<LOQ	ug/g	0.047	PASS
Cadmium	NMT 0.5	<LOQ	ug/g	0.0093	PASS
Lead	NMT 0.5	0.093	ug/g	0.0093	PASS
Mercury	NMT 3.0	<LOQ	ug/g	0.0093	PASS

Residual Solvents (GC-MS)

Method Code: T201

Tested: 05SEP2023 | 1843

PARAMETER	SPECIFICATION	RESULT	UNIT	LOQ	NOTES
1,1-Dichloroethene	NMT 8	<LOQ	ug/g	0.400	PASS
1,1,1-Trichloroethane	NMT 1500	<LOQ	ug/g	75.00	PASS
Tetrachloromethane	NMT 4	<LOQ	ug/g	0.200	PASS
Benzene	NMT 2	<LOQ	ug/g	0.100	PASS
1,2-Dichloroethane	NMT 5	<LOQ	ug/g	0.250	PASS
Methanol	NMT 3000	<LOQ	ug/g	150.0	PASS
Acetonitrile	NMT 410	<LOQ	ug/g	20.5	PASS
Dichloromethane	NMT 600	<LOQ	ug/g	30.0	PASS
1,2-Dichloroethene, (E)	NMT 1870	<LOQ	ug/g	93.5	PASS
1,2-Dichloroethene, (Z)	NMT 1870	<LOQ	ug/g	93.5	PASS
Tetrahydrofuran	NMT 720	<LOQ	ug/g	36.0	PASS
Cyclohexane	NMT 3880	<LOQ	ug/g	194	PASS
Methylcyclohexane	NMT 1180	<LOQ	ug/g	59.0	PASS
1,4-Dioxane	NMT 380	<LOQ	ug/g	19.0	PASS
Toluene	NMT 890	<LOQ	ug/g	44.5	PASS
Chlorobenzene	NMT 360	<LOQ	ug/g	18.0	PASS
Ethylbenzene	NMT 2170	<LOQ	ug/g	109	PASS
o/p-Xylene	NMT 2170	<LOQ	ug/g	109	PASS
m-Xylene	NMT 2170	<LOQ	ug/g	109	PASS
Isopropylbenzene	NMT 70	<LOQ	ug/g	3.50	PASS
Hexane	NMT 290	<LOQ	ug/g	14.5	PASS
Nitromethane	NMT 50	<LOQ	ug/g	2.50	PASS
Chloroform	NMT 60	<LOQ	ug/g	3.00	PASS
1,2-Dimethoxyethane	NMT 100	<LOQ	ug/g	5.00	PASS
Trichloroethene	NMT 80	<LOQ	ug/g	4.00	PASS
Pyridine	NMT 200	<LOQ	ug/g	10.0	PASS
2-Hexanone	NMT 50	<LOQ	ug/g	2.50	PASS
Tetralin	NMT 100	<LOQ	ug/g	5.00	PASS
Dimethylformamide	NMT 880	<LOQ	ug/g	44.0	PASS
Pentane	NMT 5000	<LOQ	ug/g	250	PASS
Ethanol	NMT 5000	<LOQ	ug/g	250	PASS
Diethyl Ether	NMT 5000	<LOQ	ug/g	250	PASS
Acetone	NMT 5000	<LOQ	ug/g	250	PASS
Ethyl Formate	NMT 5000	<LOQ	ug/g	250	PASS
Isopropanol	NMT 5000	<LOQ	ug/g	250	PASS
Methyl Acetate	NMT 5000	<LOQ	ug/g	250	PASS
Methyl tert-Butyl Ether	NMT 5000	<LOQ	ug/g	250	PASS
1-Propanol	NMT 5000	<LOQ	ug/g	250	PASS
2-Butanone	NMT 5000	<LOQ	ug/g	250	PASS
Ethyl Acetate	NMT 5000	<LOQ	ug/g	250	PASS
2-Butanol	NMT 5000	<LOQ	ug/g	250	PASS
2-Methyl-1-Propanol	NMT 5000	<LOQ	ug/g	250	PASS
Isopropyl Acetate	NMT 5000	<LOQ	ug/g	250	PASS
Heptane	NMT 5000	<LOQ	ug/g	250	PASS
1-Butanol	NMT 5000	<LOQ	ug/g	250	PASS
Propyl Acetate	NMT 5000	<LOQ	ug/g	250	PASS
4-Methyl-2-Pentanone	NMT 5000	<LOQ	ug/g	250	PASS
Isoamyl Alcohol	NMT 5000	<LOQ	ug/g	250	PASS
Isobutyl Acetate	NMT 5000	<LOQ	ug/g	250	PASS
1-Pentanol	NMT 5000	<LOQ	ug/g	250	PASS
Butyl Acetate	NMT 5000	<LOQ	ug/g	250	PASS
Dimethylsulfoxide	NMT 5000	<LOQ	ug/g	250	PASS
Anisole	NMT 5000	<LOQ	ug/g	250	PASS

Additional Report Notes

T102 and T104 result, LOQ and unit converted from w/w% to mg/mL using a laboratory measured density of 1.026 g/mL. T301 performed by a registered outsourcing facility.

Revision History

rev 00 - Initial release.

rev 01 - Added T201, T301, and T005 results.

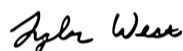
Abbreviations

ID: identification, **N/A:** not applicable, **LOQ:** limit of quantitation, **CFU:** colony forming units, **w/w%:** weight by weight percent, **mg:** milligrams, **g:** grams, **ug:** micrograms, **mL:** milliliters, **ND:** not detected, **<LOQ:** below limit of quantitation, **NMT:** no more than, **NLT:** no less than, **UHPLC:** ultra-high performance liquid chromatography, **GC:** gas chromatography, **DAD:** diode array detection/detector, **MS:** mass spectroscopy/spectrometer, **ICP:** inductively coupled plasma, **ISO:** International Organization for Standardization, **USP:** United States Pharmacopeia

Authorization

This report has been authorized for release from Cora Science by:

Signature:



Position:

Laboratory Director

Department:

Management

Name:

Tyler West

Date:

12SEP2023