Botany Evolution LLC

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CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Report Date	1/13/2025	**Country of Origin**	Vanuatu
Sample Number	S2206	**Country of Processing**	USA
Product Name	Ceremonial	**Manufacture Date**	Dec-24
Lot Number	VPS2412-C1	**Best By Date**	Dec-27

ITEM	SPECIFICATION	TEST RESULTS	METHOD
PHYSICAL & CHEMICAL			
Identification	**Piper methysticum**	**Complies**	**HPLC**
Appearance	**Beige to Yellow Powder**	**Complies**	**Organoleptic**
Kavalactone Standard	**2-17 % Kavalactones**	10.11%	**HPLC**
Kavalactone Profile	**Noble**	Pass	**HPLC**
Chemotype	**If # 5 is in 1st or 2nd in Abundance**	423516	**HPLC**
K/DHM	**> 1.2 for Noble**	4.1	**Calculation**
HEAVY METALS		**Results**	
Arsenic (As)	**NMT 1,000 (ppb)***	94.6 ppb	**FDA EAM 4.7**
Cadmium (Cd)	**NMT 1,000 (ppb)***	488 ppb	**FDA EAM 4.7**
Lead (Pb)	**NMT 1,000 (ppb)***	509 ppb	**FDA EAM 4.7**
Mercury (Hg)	**NMT 1,000 (ppb)***	< 10 ppb	**FDA EAM 4.7**
MICROBIOLOGICAL		**Results**	
AEROBIC PLATE COUNT	**NMT 10,000,000 cfu**	700,000 cfu / 10 g	**USP 61**
E. COLI	**ABSENT (cfu/10g)**	Negative cfu / 10 g	**USP 62**
PSEUDOMONAS AERUGINOSA	**ABSENT (cfu/10g)**	Negative cfu / 10 g	**USP 62**
SALMONELLA	**ABSENT (cfu/10g)**	Negative cfu / 10 g	**USP 62**
STAPHYLOCOCCUS AUREUS	**ABSENT (cfu/10g)**	Negative cfu / 10 g	**USP 62**
YEAST	**NMT 100,000 cfu (Combined)**	3620 cfu / 10 g	
MOLD		274 cfu / 10 g	**USP 2021**
TOTAL YEAST & MOLD	**NMT 100,000 cfu (Combined)**	3894 cfu / 10 g	

***Heavy Metals Action Limits Based on Maximum PDE at 5% Kavalactones. Results May Exceed 1,000 ppb action limit with higher kavalactone contents.**

cfu/g = Colony Forming Units Per Gram NMT = No More Than PDE = Permitted Daily Exposure PPB = Parts Per Billion

Analysis Performed by a Third-Party Laboratory

We are dedicated to offer the best quality of botanical products on the market. We test and stand behind our products.

Disclaimer * The test results are accurate to the best of our knowledge and are based upon reputable laboratory and industry standard testing methods.

These results should not be used as a final determination for use in a finished product. It is recommended that you verify these test results with an in-house quality control department or obtain an additional independent third-party lab to verify that this material meets specifications.

Botany Evolution, its board of directors, contract laboratories, employees, and affiliates are held harmless from any loss or damages resulting from the use or misuse of this document. The appropriate use of this product is the sole responsibility of the user of the purchasing party.

Authorized By (Name / Title): Tony Sabeh Manager Signature: Tony Sabeh

Botany Evolution LLC
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Certificate Of Analysis

Sample Identification Information

Date of Analysis 1/13/2025
Sample: S2206
Product Name CEREMONIAL
Lot# VPS2412-C1

Country of Origin VANUATU
Country of Processing USA
Manufacture Date Dec-24
Best By Date Dec-27

General Product Specifications

Product Species Piper Methysticum
Part Used Root

Common Names Kava kava, Awa, Yagona
Appearance Yellow, Brown, beige powder

Analyzed Characteristics	Specification	Result	Test Method
Standardization	2-17% Kavalactones	10.11%	HPLC
Identification	Complies by HPLC	Conform	HPLC
Kavalactone Profile	Noble	PASS	HPLC
Mesh Size	60-30	60	Sieve
Color	Beige to Yellow	Pass	Visual
Odor		Pass	Organoleptic
Taste		Pass	Organoleptic
Chemotype		423516	HPLC
K/DHM	TUDEI < 1.2 > NOBLE	**4.1**	Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2458.841			
Methysticin	M	1	2.21	546.933	5.61%	0.69%	6
Dihydromethysticin	DHM	2	3.38	427.744	4.39%	0.822%	5
Kavain	K	3	1	5894.344	60.44%	3.35%	4
Dihydrokavain	DHK	4	3.48	1592.679	16.33%	3.15%	2
Desmethoxyyangonin	DMY	5	2.52	572.217	5.87%	0.820%	1
Yangonin	Y	6	3.12	719.231	7.37%	1.28%	3
Kavalactones			**Total:**	**9753.148**	**100.00%**	**10.11%**	**423516**

*See data in attachment HPLC1100 Agilent Certificate with Chromatogram graph.

This result are in house tested and the best of our knowledge and experience. Using calibrated equipment.
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Chemist Kristi Youngs Date 1/14/25

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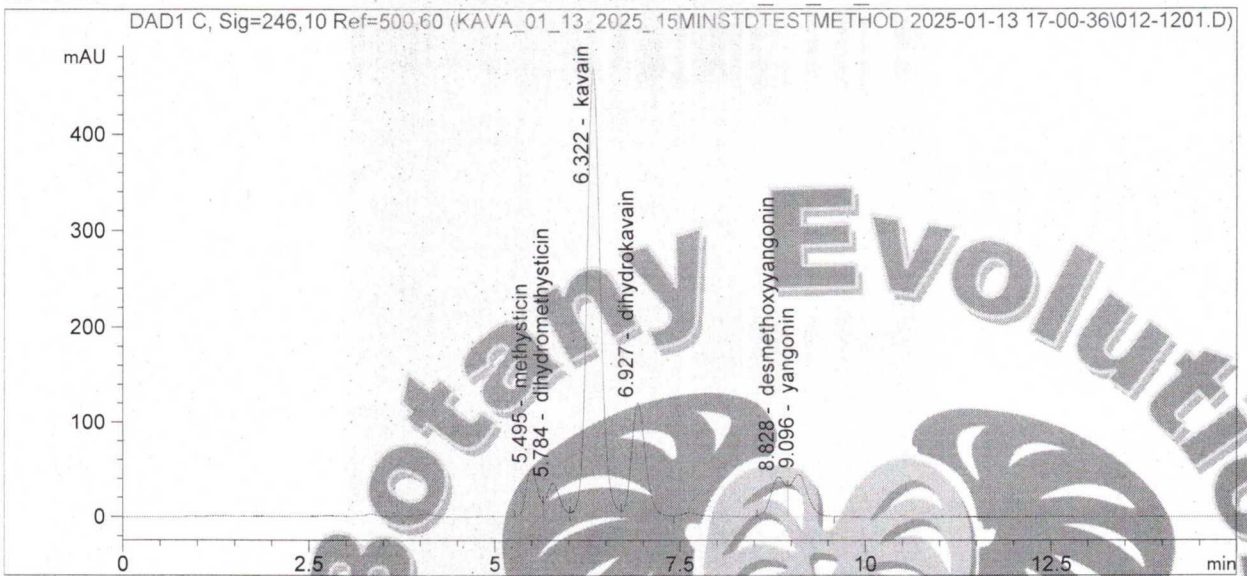
Kavalactone Analysis

SAMPLE S2206
Vial 12

0.74922g/50mL

wavelength 246 nm
C:\CHEM32\1\DATA\KAVA_01_13_2025_15MINSTDTESTMETHOD 2025-01-13 17-00-36\01->
SEQUENCE C:\CHEM32\1\DATA\KAVA_01_13_2025_ ->
Injection date 1/13/2025
Injection time 9:03:37 PM
Acq. operator KRISTL
Method C:\CHEM32\1\DATA\KAVA_01_13_202->



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.495	546.933	5.61	0.000
2	dihydromethysticin	5.784	427.744	4.39	0.000
3	kavain	6.322	5894.344	60.44	0.000
4	dihydrokavain	6.927	1592.679	16.33	0.000
5	desmethoxyyangonin	8.828	572.217	5.87	0.000
6	yangonin	9.096	719.231	7.37	0.000

1/14/25