

CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Report Date	4/10/2025	Country of Origin	Vanuatu
Sample Number	S2240	Country of Processing	USA
Product Name	Premium Instant	Manufacture Date	Apr-25
Lot Number	VPS2412-PI4	Best By Date	Apr-28

ITEM	SPECIFICATION	TEST RESULTS	METHOD
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PHYSICAL & CHEMICAL

Identification	Piper methysticum	Complies	HPLC
Appearance	Beige to Yellow Powder	Complies	Organoleptic
Kavalactone Standard	2-17 % Kavalactones	8.79%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	243516	HPLC
K/DHM	> 1.2 for Noble	3.3	Calculation

HEAVY METALS

		Results		
Arsenic (As)	NMT 1,000 (ppb)*	12.4	ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	461	ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	138	ppb	FDA EAM 4.7
Mercury (Hg)	NMT 1,000 (ppb)*	< 10	ppb	FDA EAM 4.7

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

MICROBIOLOGICAL

		Results		
AEROBIC PLATE COUNT	NMT 10,000,000 cfu	50,000	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)	100	cfu / 10 g	
MOLD		10	cfu / 10 g	USP 2021
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	110	cfu / 10 g	

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
2510 Kirby Circle NE
Palm Bay, FL 32945
321-802-4583

Certificate Of Analysis

Sample Identification Information

<u>Date of Analysis</u> 4/10/2025	<u>Country of Origin</u> VANUATU
<u>Sample:</u> S2240	<u>Country of Processing</u> USA
<u>Product Name</u> PREMIUM INSTANT	<u>Manufacture Date</u> Apr-25
<u>Lot#</u> VPS2412-PI4	<u>Best By Date</u> Apr-28

General Product Specifications

<u>Product Species</u> Piper Methysticum	<u>Common Names</u> Kava kava, Awa, Yagona
<u>Part Used</u> Root	<u>Appearance</u> Yellow, Brown, beige powder

Analyzed Characteristics	Specification	Result	Test Method
<u>Standardization</u>	2-17% Kavalactones	8.79%	HPLC
<u>Identification</u>	Complies by HPLC	Conform	HPLC
<u>Kavalactone Profile</u>	Noble	PASS	HPLC
<u>Mesh Size</u>	60-30	60	Sieve
<u>Color</u>	Beige to Yellow	Pass	Visual
<u>Odor</u>		Pass	Organoleptic
<u>Taste</u>		Pass	Organoleptic
<u>Chemotype</u>		243516	HPLC
<u>K/DHM</u>	TUDEI < 1.2 > NOBLE	3.3	Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2258.332			
Methysticin	M	1	2.21	405.411	5.38%	0.55%	6
Dihydromethysticin	DHM	2	3.38	387.915	5.15%	0.81%	5
Kavain	K	3	1	4331.227	57.46%	2.67%	4
Dihydrokavain	DHK	4	3.48	1304.882	17.31%	2.79%	2
Desmethoxyyangonin	DMY	5	2.52	408.43	5.42%	0.63%	1
Yangonin	Y	6	3.12	700.059	9.29%	1.34%	3
Kavalactones			Total:	7537.924	100.00%	8.79%	243516

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

This result is in house tested and the best of our knowledge and experience. Using calibrated equipment.

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Chemist Hust Younger Date 4/14/25

SAMPLE S2240
Vial 11

0.75419g/50mL

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA_04_10_2025_15MINSTDTESTMETHOD 2025-04-10 17-41-41\01->
SEQUENCE C:\CHEM32\1\DATA\KAVA_04_10_2025_ ->

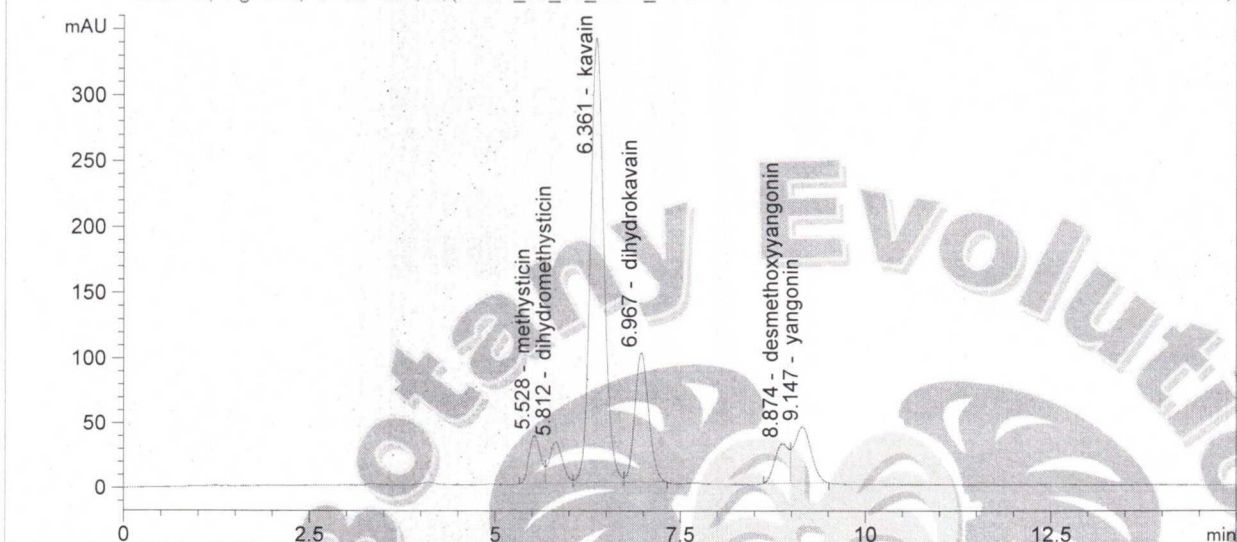
Injection date 4/10/2025

Injection time 9:28:43 PM

Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA_04_10_202->

DAD1 C, Sig=246,10 Ref=500,60 (KAVA_04_10_2025_15MINSTDTESTMETHOD 2025-04-10 17-41-41\011-1101.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.528	405.411	5.38	0.000
2	dihydromethysticin	5.812	387.915	5.15	0.000
3	kavain	6.361	4331.227	57.46	0.000
4	dihydrokavain	6.967	1304.882	17.31	0.000
5	desmethoxyyangonin	8.874	408.430	5.42	0.000
6	yangonin	9.147	700.059	9.29	0.000

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