

Certificate of Analysis

(Ref. SOP LAB-06-01)

Certificate Number:	AC000059	Supplier:	Powder Solutions
Product Code:	N/A	Manufacturers Batch Number:	Pseudo mix PSEB
Product Name:	Pseudo mix PSEB	Lab Batch Number:	00000157
Date of receipt:	15FEB2025	Expiry Date:	25AUG2025

The undersigned hereby certifies the following data to be true specification of the obtained results of tests and assays.

TEST RESULTS

Mitragyna Alkaloids (UPLC-MS/MS)

Tested: 23FEB2025

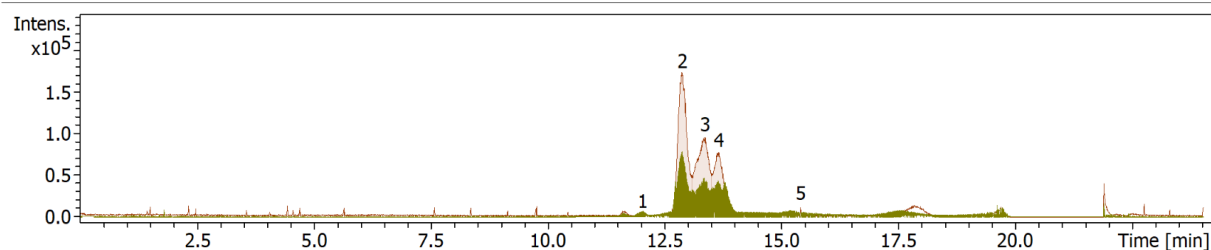
Compound	MW(g/mol)	Specification	Result	Unit
Mitragynine	398.45	Report Results	< 0.1%	w/w%
7-Hydroxymitragynine	414.45	Report Results	~ 0.6%	w/w%
Paynantheine	396.45	Report Results	< 0.1%	w/w%
Speciogynine	398.45	Report Results	< 0.1%	w/w%
Speciociliatine	398.45	Report Results	< 0.1%	w/w%
Mitraciliatine	398.45	Report Results	< 0.1%	w/w%
Corynantheidine	368.45	Report Results	< 0.1%	w/w%
Mitragynine Pseudoindoxyl	414.45	Report Results	~ 45.1%	w/w%
Mitragynine-N(4)-Oxide	414.45	Report Results	< 0.1%	w/w%
7-Hydroxypaynantheine	412.45	Report Results	< 0.1%	w/w%
Speciogynine Pseudoindoxyl	414.45	Report Results	~ 31.4%	w/w%
Speciocilliatine Pseudoindoxyl	414.45	Report Results	~ 22.1%	w/w%

Date of release: 25FEB2025

Contact: **Ahmed Alford, PharmD.** ; AlfordAh@musc.edu +1 (843) 704-7044

Testing Item	Specification	Result
Appearance	Uniform Powder	Conforms
Water content	< 3.0%	< 0.1%
Storage	2-8 C	
Heavy Metals	TESTED	PASSED
Residual Solvents	TESTED	PASSED

Liquid Chromatography-Mass Spectrometry Chromatogram:



Notes:

HEAVY METALS	Action Level	Result
Lead (Pb)	15 ppb	Not Detected
Mercury (Hg)	2 ppb	Not Detected
Cadmium (Cd)	5 ppb	Not Detected
Arsenic (As)	10 ppb	Not Detected
Chromium (Cr)	100 ppb	Not Detected
Nickel (Ni)	100 ppb	Not Detected
Cobalt (Co)	100 ppb	Not Detected
Copper (Cu)	1300 ppb	Not Detected
Zinc (Zn)	5000 ppb	Not Detected
Iron (Fe)	300 ppb	Not Detected
Thallium (Tl)	2 ppb	Not Detected
Aluminum (Al)	200 ppb	Not Detected

* Based on South Carolina Action Limits

Residual Solvents	Action Level	Quantitative Result
Benzene	2 ppm	Not Detected
Carbon Tetrachloride	4 ppm	Not Detected
Chloroform	80 ppm	Not Detected
Methanol	3000 ppm	Not Detected
Acetonitrile	410 ppm	Not Detected
Tetrahydrofuran	720 ppm	Not Detected
N-Hexane	290 ppm	Not Detected
Ethyl Acetate	5000 ppm	Not Detected
Ethanol	5000 ppm	Not Detected
Acetone	5000 ppm	Not Detected
Isopropyl Alcohol	5000 ppm	Not Detected
Dichloromethane	600 ppm	Not Detected
Toluene	500 ppm	17 ppm
Methylcyclohexane	500 ppm	Not Detected

Residual Solvents analysis is performed using Gas Chromatography / Mass Spectrometry. *Based on SC Action Limits.