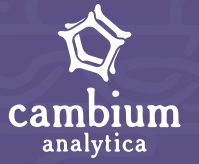


# CERTIFICATE OF ANALYSIS



**SAMPLE NAME:** TABLET

**SAMPLE CODE:** DTS-241009-021

**CLIENT:** KR8OM

**BATCH RESULT:** PASS

1230 Woodmere Ave  
Traverse City, MI 49686  
231.252.3669  
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License #:



**MATRIX NAME:** Pill - Tablet  
**SAMPLE TYPE:** Quality Assurance  
**RECEIVED DATE:** Mon, Oct 14, 2024  
**PUBLISHED DATE:** Mon, Oct 21, 2024  
**BATCH/LOT CODE:** C20W006  
**BATCH SIZE:** 20000g  
**SAMPLE SIZE:** 32g  
**AVERAGE UNIT WEIGHT:** 0.9563g (1 tablet)

|                       |                 |
|-----------------------|-----------------|
| MITRAGYNINE           | 16.46 mg / serv |
| TOTAL MAJOR ALKALOIDS | 29.81 mg / serv |
| TOTAL MINOR ALKALOIDS | 0.00 mg / serv  |

|  |   |   |   |                                      |
|--|---|---|---|--------------------------------------|
| ALKU<br>Kratom Alkaloids<br>High Level | ALKL<br>Kratom Alkaloids<br>Low Level     | ECOLI<br>Total E. Coli & Coliforms<br>Plate | MOS<br>Moisture Content<br>Loss on Drying | PGUSP<br>Pesticides<br>USP <561>     |
| PLUSP<br>Pesticides<br>USP <561>       | TAMC<br>Total Aerobic Bacteria<br>Plate   | SS<br>Salmonella & STEC<br>qPCR             | AWA<br>Water Activity                     | TYMFD<br>Total Yeast & Mold<br>Plate |
| HPMET<br>Heavy Metals<br>7             | FTIRR<br>Identification by FTIR<br>Report |   |   |                                      |

**RESULTS REVIEWED BY:** Leslie Varela  
Laboratory Director  
Cambium Analytica  
Monday, Oct 21, 2024

**RESULTS CERTIFIED BY:** Douglas Smith  
VP - Scientific Operations  
Cambium Analytica  
Monday, Oct 21, 2024

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ALKU

**KRATOM ALKALOIDS - HIGH LEVEL**LAB-TM-052 - DETERMINATION OF KRATOM ALKALOID CONTENT BY UPLC-DAD  
ALKU-DTS-241009-021-01 - THU, OCT 17, 2024

| ANALYTE               | VALUE   | VALUE (MG/G) | PER SERVING | PER PACKAGE | ACTION LIMIT | LOD      | LOQ      | STATUS |
|-----------------------|---------|--------------|-------------|-------------|--------------|----------|----------|--------|
| Mitragynine           | 1.721 % | 17.209 mg/g  | 16.46 mg    | 16.46 mg    | N/A          | 0.3 ug/g | 0.5 ug/g | N/A    |
| Speciociliatine       | 0.730 % | 7.297 mg/g   | 6.98 mg     | 6.98 mg     | N/A          | 0.3 ug/g | 0.5 ug/g | N/A    |
| Paynantheine          | 0.416 % | 4.163 mg/g   | 3.98 mg     | 3.98 mg     | N/A          | 0.3 ug/g | 0.5 ug/g | N/A    |
| Speciogyneine         | 0.250 % | 2.505 mg/g   | 2.40 mg     | 2.40 mg     | N/A          | 0.3 ug/g | 0.5 ug/g | N/A    |
| Total Major Alkaloids | 3.117 % | 31.174 mg/g  | 29.81 mg    | 29.81 mg    | N/A          | N/A      | N/A      | N/A    |

ALKL

**KRATOM ALKALOIDS - LOW LEVEL**LAB-TM-047 - DETERMINATION OF KRATOM ALKALOID CONTENT BY LC-TQ  
ALKL-DTS-241009-021-01 - SUN, OCT 20, 2024

| ANALYTE               | VALUE     | VALUE (MG/G) | PER SERVING | PER PACKAGE | ACTION LIMIT | LOD        | LOQ        | STATUS |
|-----------------------|-----------|--------------|-------------|-------------|--------------|------------|------------|--------|
| 7-Hydroxymitragynine  | 0.00051 % | 0.00511 mg/g | 0.00 mg     | 0.00 mg     | N/A          | 0.002 ug/g | 0.011 ug/g | N/A    |
| Mitraphylline         | 0.00001 % | 0.00010 mg/g | 0.00 mg     | 0.00 mg     | N/A          | 0.004 ug/g | 0.019 ug/g | N/A    |
| Total Minor Alkaloids | 0.00052 % | 0.00521 mg/g | 0.00 mg     | 0.00 mg     | N/A          | 0.006 ug/g | 0.03 ug/g  | N/A    |

ECOLI

**TOTAL E. COLI & COLIFORMS - PLATE**LAB-TM-059 - ENUMERATION OF ESCHERICHIA COLI AND TOTAL COLIFORM IN FOODS AND DIETARY SUPPLEMENTS  
ECOLI-DTS-241009-021-01 - WED, OCT 16, 2024

| ANALYTE         | VALUE | ACTION LIMIT | LOD      | LOQ      | STATUS |
|-----------------|-------|--------------|----------|----------|--------|
| E. coli         | ND    | N/A          | 10 CFU/g | 10 CFU/g | N/A    |
| Total Coliforms | ND    | N/A          | 10 CFU/g | 10 CFU/g | N/A    |

MOS

**MOISTURE CONTENT - LOSS ON DRYING**LAB-TM-008 - LOSS ON DRYING  
MOS-DTS-241009-021-01 - WED, OCT 16, 2024

| ANALYTE  | VALUE  | ACTION LIMIT | LOD | LOQ | STATUS |
|----------|--------|--------------|-----|-----|--------|
| Moisture | 2.02 % | N/A          |     |     | N/A    |



PGUSP

## PESTICIDES - USP &lt;561&gt; - GC/TQ

LAB-TM-039 - USP 561 PESTICIDES ANALYSIS IN ARTICLES OF BOTANICAL ORIGIN BY GC/TQ  
PGUSP-DTS-241009-021-01 - FRI, OCT 18, 2024

| ANALYTE  | VALUE | ACTION LIMIT | LOD       | LOQ       | STATUS |
|--|-------|--------------|-----------|-----------|--------|
| Aldrin + Dieldrin  | ND    | 0.05 ug/g    | 0.1 ng/g  | 0.2 ng/g  | PASS   |
| Bromophos Ethyl  | ND    | 0.05 ug/g    | 0.1 ng/g  | 0.2 ng/g  | PASS   |
| Bromophos Methyl   | ND    | 0.05 ug/g    | 0.1 ng/g  | 0.2 ng/g  | PASS   |
| Bromopropylate   | ND    | 3 ug/g       | 6 ng/g    | 12 ng/g   | PASS   |
| Chlordane (Sum of -Cis, -Trans, Oxychlordane)  | ND    | 0.05 ug/g    | 0.1 ng/g  | 0.2 ng/g  | PASS   |
| Chlorthal-Dimethyl   | ND    | 0.01 ug/g    | 0.02 ng/g | 0.04 ng/g | PASS   |
| DDT (Sum of O,P-DDE, P,P-DDE, O,P-DDT, P,P-DDT, O,P-TDE, and P,P-TDE)                    | ND    | 1 ug/g       | 2 ng/g    | 4 ng/g    | PASS   |
| Dicofol  | ND    | 0.5 ug/g     | 1 ng/g    | 2 ng/g    | PASS   |
| Endosulfan (Sum of Isomers and Sulphate)   | ND    | 3 ug/g       | 6 ng/g    | 12 ng/g   | PASS   |
| Endrin   | ND    | 0.05 ug/g    | 0.1 ng/g  | 0.2 ng/g  | PASS   |
| Fenchlorophos (Sum of Fenchlorophos and Fenchlorophos-Oxon)                              | ND    | 0.1 ug/g     | 0.2 ng/g  | 0.4 ng/g  | PASS   |
| Fenitrothion   | ND    | 0.5 ug/g     | 1 ng/g    | 2 ng/g    | PASS   |
| Fenvalerate  | ND    | 1.5 ug/g     | 3 ng/g    | 6 ng/g    | PASS   |
| Fluvalinate-Tau  | ND    | 0.05 ug/g    | 0.1 ng/g  | 0.2 ng/g  | PASS   |
| Heptachlor (Sum of Heptachlor, Cis-Heptachlorepoxyde, and Trans-Heptachlorepoxyde)       | ND    | 0.05 ug/g    | 0.1 ng/g  | 0.2 ng/g  | PASS   |
| Hexachlorobenzene  | ND    | 0.1 ug/g     | 0.2 ng/g  | 0.4 ng/g  | PASS   |
| Hexachlorocyclohexane (Sum of Isomers Alpha-, Beta-, Delta-, and Epsilon-)               | ND    | 0.3 ug/g     | 0.6 ng/g  | 1.2 ng/g  | PASS   |
| Lindane (Gamma-Hexachlorocyclohexane)  | ND    | 0.6 ug/g     | 1.2 ng/g  | 2.4 ng/g  | PASS   |
| Methacrifos  | ND    | 0.05 ug/g    | 0.1 ng/g  | 0.2 ng/g  | PASS   |
| Methoxychlor   | ND    | 0.05 ug/g    | 0.1 ng/g  | 0.2 ng/g  | PASS   |
| Mirex  | ND    | 0.01 ug/g    | 0.02 ng/g | 0.04 ng/g | PASS   |
| Parathion Ethyl + Paraoxon Ethyl   | ND    | 0.5 ug/g     | 1 ng/g    | 2 ng/g    | PASS   |
| Pentachloroanisole   | ND    | 0.01 ug/g    | 0.02 ng/g | 0.04 ng/g | PASS   |
| Procymidone  | ND    | 0.1 ug/g     | 0.2 ng/g  | 0.4 ng/g  | PASS   |
| Quintozene (Sum of Quintozene, Pentachloroaniline, and Methyl-Pentachlorophenyl Sulfide) | ND    | 1 ug/g       | 2 ng/g    | 4 ng/g    | PASS   |



PGUSP

**PESTICIDES - USP <561> - GC/TQ**LAB-TM-039 - USP 561 PESTICIDES ANALYSIS IN ARTICLES OF BOTANICAL ORIGIN BY GC/TQ  
PGUSP-DTS-241009-021-01 - FRI, OCT 18, 2024

| ANALYTE     | VALUE | ACTION LIMIT | LOD       | LOQ       | STATUS |
|-------------|-------|--------------|-----------|-----------|--------|
| S-421       | ND    | 0.02 ug/g    | 0.04 ng/g | 0.08 ng/g | PASS   |
| Tecnazene   | ND    | 0.05 ug/g    | 0.1 ng/g  | 0.2 ng/g  | PASS   |
| Tetradifon  | ND    | 0.3 ug/g     | 0.6 ng/g  | 1.2 ng/g  | PASS   |
| Vinclozolin | ND    | 0.4 ug/g     | 0.8 ng/g  | 1.6 ng/g  | PASS   |



PLUSP

## PESTICIDES - USP &lt;561&gt; - LC/TQ

LAB-TM-038 - USP 561 PESTICIDE ANALYSIS IN ARTICLES OF BOTANICAL ORIGIN BY LC/TQ  
PLUSP-DTS-241009-021-01 - WED, OCT 16, 2024

| ANALYTE   | VALUE | ACTION LIMIT | LOD       | LOQ     | STATUS |
|---|-------|--------------|-----------|---------|--------|
| Acephate  | ND    | 0.4 ug/g     | 12.5 ng/g | 25 ng/g | PASS   |
| Alachlor  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Azinphos Ethyl  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Azinphos Methyl   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Chlorfenvinphos   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Chlorpyrifos Ethyl  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Cyfluthrin  | ND    | 1 ug/g       | 12.5 ng/g | 25 ng/g | PASS   |
| Cypermethrin  | ND    | 1 ug/g       | 12.5 ng/g | 25 ng/g | PASS   |
| Deltamethrin  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Diazinon  | ND    | 0.2 ug/g     | 12.5 ng/g | 25 ng/g | PASS   |
| Dichlorvos  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Dimethoate + Omethoate  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Ethion  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Etrimphos   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Fenpropathrin   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Fensulfothion (Sum of Fensulfothion, Fensulfothion-Oxon, Fensulfothion-Oxon-Sulfone, and Fensulfothion-Sulfone)                     | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Fenthion (Sum of Fenthion, Fenthion-Oxon, Fenthion-Oxon-Sulfone, Fenthion-Oxon-Sulfoxide, Fenthion-Sulfone, and Fenthion-Sulfoxide) | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Flucythrinate   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Fonophos  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Lambda-Cyhalothrin  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Malathion + Malaaxon  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Mecarbam  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Methamidophos   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Methidathion  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Monocrotophos   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Pendimethalin   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Permethrins (Sum of Cis- and Trans-Permethrin)  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Phosalone   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Phosmet   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |



PLUSP

## PESTICIDES - USP &lt;561&gt; - LC/TQ

LAB-TM-038 - USP 561 PESTICIDE ANALYSIS IN ARTICLES OF BOTANICAL ORIGIN BY LC/TQ  
PLUSP-DTS-241009-021-01 - WED, OCT 16, 2024

| ANALYTE  | VALUE | ACTION LIMIT | LOD       | LOQ     | STATUS |
|--|-------|--------------|-----------|---------|--------|
| Piperonyl Butoxide   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Pirimiphos Ethyl   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Pirimiphos Methyl (Sum of<br>Pirimiphos-Methyl and n-<br>Desethyl-Pirimiphos-Methyl) | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Profenophos  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Prothiophos  | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Pyrethrins (Sum of Cinerin 1,<br>Jasmolin 1, and Pyrethrin 1)                        | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |
| Quinalphos   | ND    | N/A          | 12.5 ng/g | 25 ng/g | N/A    |



**TAMC** **TOTAL AEROBIC BACTERIA - PLATE**  
 LAB-TM-060 - ENUMERATION OF TOTAL AEROBIC COUNT IN FOODS AND DIETARY SUPPLEMENTS  
 TAMC-DTS-241009-021-01 - WED, OCT 16, 2024



| ANALYTE             | VALUE | ACTION LIMIT | LOD       | LOQ       | STATUS |
|---------------------|-------|--------------|-----------|-----------|--------|
| Total Aerobic Count | ND    | N/A          | 100 CFU/g | 100 CFU/g | N/A    |

**SS** **SALMONELLA & STEC- QPCR**  
 LAB-TM-006 - MICROBIAL ANALYSIS BY QPCR  
 SS-DTS-241009-021-01 - WED, OCT 16, 2024



| ANALYTE                       | VALUE | ACTION LIMIT | LOD | LOQ | STATUS |
|-------------------------------|-------|--------------|-----|-----|--------|
| Salmonella Spp                | ND    | N/A          | N/A | N/A | N/A    |
| Shiga Toxin Producing E. coli | ND    | N/A          | N/A | N/A | N/A    |

**AWA** **WATER ACTIVITY**  
 LAB-TM-009 - DETERMINATION OF WATER ACTIVITY  
 AWA-DTS-241009-021-01 - WED, OCT 16, 2024



| ANALYTE        | VALUE    | ACTION LIMIT | LOD | LOQ | STATUS |
|----------------|----------|--------------|-----|-----|--------|
| Water Activity | 0.408 aw | N/A          | N/A | N/A | N/A    |

**TYMFD** **TOTAL YEAST & MOLD - PLATE**  
 LAB-TM-061 - ENUMERATION OF YEAST AND MOLD IN FOODS AND DIETARY SUPPLEMENTS  
 TYMFD-DTS-241009-021-01 - THU, OCT 17, 2024

| ANALYTE              | VALUE | ACTION LIMIT | LOD      | LOQ      | STATUS |
|----------------------|-------|--------------|----------|----------|--------|
| Total Yeast and Mold | ND    | N/A          | 10 CFU/g | 10 CFU/g | N/A    |

**HPMET** **HEAVY METALS - 7**  
 LAB-TM-044 - DETERMINATION OF HEAVY METALS BY ICP-MS  
 HPMET-DTS-241009-021-01 - WED, OCT 16, 2024



| ANALYTE  | VALUE      | VALUE (MG/G) | PER SERVING | PER PACKAGE | ACTION LIMIT | LOD         | LOQ         | STATUS |
|----------|------------|--------------|-------------|-------------|--------------|-------------|-------------|--------|
| Arsenic  | 0.051 ug/g | N/A          | 0.05 ug     | 0.05 ug     | N/A          | 0.198 ug/kg | 0.662 ug/kg | N/A    |
| Cadmium  | 0.008 ug/g | N/A          | 0.01 ug     | 0.01 ug     | N/A          | 0.082 ug/kg | 0.272 ug/kg | N/A    |
| Chromium | 0.187 ug/g | N/A          | 0.18 ug     | 0.18 ug     | N/A          | 0.627 ug/kg | 2.091 ug/kg | N/A    |
| Copper   | 2.640 ug/g | N/A          | 2.52 ug     | 2.52 ug     | N/A          | 0.155 ug/kg | 0.515 ug/kg | N/A    |
| Lead     | 0.042 ug/g | N/A          | 0.04 ug     | 0.04 ug     | N/A          | 0.155 ug/kg | 0.515 ug/kg | N/A    |
| Mercury  | 0.002 ug/g | N/A          | 0.00 ug     | 0.00 ug     | N/A          | 0.017 ug/kg | 0.057 ug/kg | N/A    |
| Nickel   | 0.144 ug/g | N/A          | 0.14 ug     | 0.14 ug     | N/A          | 0.321 ug/kg | 1.071 ug/kg | N/A    |

**FTIRR** **IDENTIFICATION BY FTIR - REPORT**  
 NULL IDENTIFICATION BY FTIR  
 FTIRR-DTS-241009-021-01 - WED, OCT 16, 2024

| ANALYTE             | VALUE    | ACTION LIMIT | LOD | LOQ | STATUS |
|---------------------|----------|--------------|-----|-----|--------|
| Quality Index Score | 98.464 % | N/A          |     |     | N/A    |

