

Certificate of Analysis

GenCanna Global

4274 Colby Rd
Winchester KY 40391 United States

| | | | |
|----------------------------|--------------------------------|--------------------------|----------------------------------|
| Sample Name: | Crystalline Cannabidiol | Eurofins Sample: | 9704079 |
| Project ID | GENCANNA-20200723-0036 | Receipt Date | 27-Jul-2020 |
| PO Number | CVD | Receipt Condition | Ambient temperature |
| Lot Number | 200016CC | Login Date | 23-Jul-2020 |
| Sample Serving Size | | Date Started | 27-Jul-2020 |
| | | Sampled | Sample results apply as received |
| | | Online Order | 13719-13DC3DF8 |

| Analysis | Result |
|--|--------------|
| Industrial Hemp Cannabinoid Profile | |
| CBDVA | <0.0250 % |
| CBDV | 0.368 % |
| CBDA | <0.0250 % |
| CBGA | <0.0250 % |
| CBG | <0.0250 % |
| CBD | 99.0 % |
| THCV | <0.0250 % |
| CBN | <0.0250 % |
| Delta 9-THC | <0.0250 % |
| Delta 8-THC | <0.0500 % |
| THCA | <0.0250 % |
| CBC | <0.0250 % |
| THCVA | <0.0250 % |
| CBNA | <0.0250 % |
| CBCA | <0.0250 % |
| CBL | <0.0250 % |
| Total Cannabinoids | 99.4 % |
| Total THC (THC + (THCA x 0.877)) | <0.0250 % |
| Total CBD (CBD + (CBDA x 0.877)) | 99.0 % |
| Aerobic Plate Count * | |
| Aerobic Plate Count | <100 CFU/g |
| E. coli * | |
| Escherichia Coli | Absent /10 g |
| Salmonella USP * | |
| Salmonella | Absent /10 g |
| Staphylococcus * | |
| Staphylococcus Aureus | Absent /10 g |
| Yeast and Mold Count * | |
| Yeast Count | <10 CFU/g |
| Mold Count | <10 CFU/g |

* This analysis or component is not ISO accredited.

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| Analysis | Result |
|---|---|
| Preparatory Testing of Nutritional and Dietary Supplements * | |
| Salmonella Suitability Result | Pass** |
| Staphylococcus Suitability Result | Neutralization of the product is not applicable, due to the microbicidal activity of the product, it is not likely to contain specified microorganism |

Elements by ICP Mass Spectrometry

| | |
|---------|-----------|
| Arsenic | <10.0 ppb |
| Cadmium | <5.00 ppb |
| Lead | <5.00 ppb |
| Mercury | <5.00 ppb |

| Analysis | Limit | Result | Pass/Fail |
|--|----------|-----------|-----------|
| BCC - Residual Solvent Analysis in Cannabis and Hemp Matrices * | | | |
| Category I Residual Solvent or Processing Chemical | | | |
| 1,2-Dichloroethane | 1.0 ppm | <1.0 ppm | Pass |
| Benzene | 1.0 ppm | <1.0 ppm | Pass |
| Chloroform | 1.0 ppm | <1.0 ppm | Pass |
| Ethylene Oxide | 25.0 ppm | <25.0 ppm | Pass |
| Methylene Chloride | 1.0 ppm | <1.0 ppm | Pass |
| Trichloroethylene | 1.0 ppm | <1.0 ppm | Pass |
| The BCC limit of 1 ppm for Ethylene Oxide is not achieved by this method. Reporting limit of 25 ppm is the limit recommended by the AOAC CASP. | | | |
| Category II Residual Solvent or Processing Chemical | | | |
| Isopropal Alcohol | 5000 ppm | <500 ppm | Pass |
| Acetone | 5000 ppm | <200 ppm | Pass |
| Acetonitrile | 410 ppm | <200 ppm | Pass |
| Ethanol | 5000 ppm | <1000 ppm | Pass |

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| Analysis | Limit | Result | Pass/Fail |
|----------|-------|--------|-----------|
|----------|-------|--------|-----------|

BCC - Residual Solvent Analysis in Cannabis and Hemp Matrices *

| Analysis | Limit | Result | Pass/Fail |
|--------------------------------|----------|-----------|-----------|
| Ethyl Acetate | 5000 ppm | <500 ppm | Pass |
| Ethyl Ether | 5000 ppm | <500 ppm | Pass |
| Methanol | 3000 ppm | <500 ppm | Pass |
| Butane | 5000 ppm | <500 ppm | Pass |
| Heptane | 5000 ppm | <50.0 ppm | Pass |
| Hexane | 290 ppm | <30.0 ppm | Pass |
| Pentane | 5000 ppm | 181 ppm | Pass |
| Propane | 5000 ppm | <1000 ppm | Pass |
| Toluene | 890 ppm | <90.0 ppm | Pass |
| Xylenes (ortho-, meta-, para-) | 2170 ppm | <160 ppm | Pass |

The Pass/Fail reporting designations are relative to the limits set forth by the Bureau of Cannabis Control, Title 16, Division 42.

Multi-Residue Analysis for hemp products - EP 2.8.13/USP <561> regulations

| Analysis | Limit | Result | Pass/Fail |
|---|------------|----------------|-----------|
| Acephate | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Alachlor | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Aldrin and dieldrin (sum of) | 0.05 mg/kg | Non-analyzable | |
| Azinphos-ethyl | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Azinphos-methyl | 1 mg/kg | <1 mg/kg | Pass |
| Bromophos-ethyl | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Bromophos-methyl | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Bromopropylate | 3 mg/kg | Non-analyzable | |
| Chlordane (sum of cis- and trans- isomers and oxychlordane) | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Chlorfenvinphos | 0.5 mg/kg | <0.5 mg/kg | Pass |
| Chlorpyrifos-ethyl | 0.2 mg/kg | <0.2 mg/kg | Pass |
| Chlorpyrifos-methyl | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Chlorthal-dimethyl | 0.01 mg/kg | <0.01 mg/kg | Pass |
| Cyfluthrin (sum of isomers) | 0.1 mg/kg | <0.1 mg/kg | Pass |

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| Analysis | Limit | Result | Pass/Fail |
|--|------------|----------------|-----------|
| Multi-Residue Analysis for hemp products - EP 2.8.13/USP <561> regulations | | | |
| Cyhalothrin, lambda- | 1 mg/kg | <1 mg/kg | Pass |
| Cypermethrin (sum of isomers) | 1 mg/kg | <1 mg/kg | Pass |
| DDT (sum of o,p'-DDT, p,p'-DDT, o,p'-DDE, p,p'-DDE, o,p'-DDD, and p,p'-DDD) | 1 mg/kg | <1 mg/kg | Pass |
| Deltamethrin | 0.5 mg/kg | <0.5 mg/kg | Pass |
| Diazinon | 0.5 mg/kg | <0.5 mg/kg | Pass |
| Dichlofluanid | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Dichlorvos | 1 mg/kg | <1 mg/kg | Pass |
| Dicofol | 0.5 mg/kg | Non-analyzable | |
| Dimethoate and omethoate (sum of) | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Endosulfan (sum of isomers and endosulfan sulfate) | 3 mg/kg | <3 mg/kg | Pass |
| Endrin | 0.05 mg/kg | Non-analyzable | |
| Ethion | 2 mg/kg | <2 mg/kg | Pass |
| Etrimphos | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Fenchlorphos (sum of fenchlorphos and fenchlorphos-oxon) | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Fenitrothion | 0.5 mg/kg | Non-analyzable | |
| Fenpropathrin | 0.03 mg/kg | Non-analyzable | |
| Fensulfothion (sum of fensulfothion, fensulfothion-oxon, fensulfothion-oxonsulfon and fensulfothion-sulfon) | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Fenthion (sum of fenthion, fenthion-oxon, fenthion-oxon-sulfon, fenthion-oxon-sulfoxid, fenthion-sulfon and fenthion-sulfoxid) | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Fenvalerate | 1.5 mg/kg | <1.5 mg/kg | Pass |
| Flucythrinate | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Fluvalinate, tau- | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Fonofos | 0.05 mg/kg | <0.05 mg/kg | Pass |

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| Analysis | Limit | Result | Pass/Fail |
|--|------------|----------------|-----------|
| Multi-Residue Analysis for hemp products - EP 2.8.13/USP <561> regulations | | | |
| Heptachlor (sum of heptachlor, cis-heptachlorepoxyde and trans-heptachlorepoxyde) | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Hexachlorobenzene | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Hexachlorocyclohexane isomers (other than gamma) | 0.3 mg/kg | <0.3 mg/kg | Pass |
| Lindane (gamma-hexachlorocyclohexane) | 0.6 mg/kg | <0.6 mg/kg | Pass |
| Malathion and malaoxon (sum of) | 1 mg/kg | <1 mg/kg | Pass |
| Mecarbam | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Methacriphos | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Methamidophos | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Methidathion | 0.2 mg/kg | <0.2 mg/kg | Pass |
| Methoxychlor | 0.05 mg/kg | Non-analyzable | |
| Mirex | 0.01 mg/kg | Non-analyzable | |
| Monocrotophos | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Parathion-ethyl and paraoxon-ethyl (sum of) | 0.5 mg/kg | <0.5 mg/kg | Pass |
| Parathion-methyl and paraoxon-methyl (sum of) | 0.2 mg/kg | <0.2 mg/kg | Pass |
| Pendimethalin | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Pentachloranisol | 0.01 mg/kg | <0.01 mg/kg | Pass |
| Permethrin (sum of isomers) | 1 mg/kg | <1 mg/kg | Pass |
| Phosalone | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Phosmet | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Piperonyl butoxide | 3 mg/kg | <3 mg/kg | Pass |
| Pirimiphos-ethyl | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Pirimiphos-methyl (sum of pirimiphos-methyl and N-desethyl-pirimiphos-methyl) | 4 mg/kg | <4 mg/kg | Pass |
| Procymidone | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Profenophos | 0.1 mg/kg | <0.1 mg/kg | Pass |
| Prothiophos | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Pyrethrum (sum of cinerin I, cinerin II, jasmolin I, jasmolin II, pyrethrin I, and pyrethrin II) | 3 mg/kg | <3 mg/kg | Pass |

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| Analysis | Limit | Result | Pass/Fail |
|---|------------|-------------|-----------|
| Multi-Residue Analysis for hemp products - EP 2.8.13/USP <561> regulations | | | |
| Quinalphos | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Quintozene (sum of quintozene, pentachloraniline and methyl pentachlorophenyl sulfide) | 1 mg/kg | <1 mg/kg | Pass |
| S-421 | 0.02 mg/kg | <0.02 mg/kg | Pass |
| Tecnazene | 0.05 mg/kg | <0.05 mg/kg | Pass |
| Tetradifon | 0.3 mg/kg | <0.3 mg/kg | Pass |
| Vinclozolin | 0.4 mg/kg | <0.4 mg/kg | Pass |

| Method References | Testing Location |
|-------------------|------------------|
|-------------------|------------------|

Aerobic Plate Count (USPC2021)

Food Integ. Innovation-Madison NE
2102 Wright Street Madison, WI 53704 USA

USP Current revision, Chapter 2021.

To satisfy the requirements of the USP, the Preparatory Test must be completed on each matrix.

**Based on the results of the preparatory test, the detection limit stipulated is adequate for the enumeration of the specified microorganisms.

BCC - Residual Solvent Analysis in Cannabis and Hemp Matrices (CANN_SOL_S)

Internally Developed Method

Food Integrity Innovation-Madison
3301 Kinsman Blvd Madison, WI 53704 USA

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Winchester KY 40391 United States

Method References

Testing Location

E. coli (USPE2022)

Food Integ. Innovation-Madison NE

2102 Wright Street Madison, WI 53704 USA

USP Current revision, Chapter 2022.

To satisfy the requirements of the USP, the Preparatory Test must be completed on each matrix.

**Based on the results of the preparatory test, conditions stipulated are adequate for detecting the presence of the specified microorganism.

Elements by ICP Mass Spectrometry (ICP_MS_S)

Food Integrity Innovation-Madison

3301 Kinsman Blvd Madison, WI 53704 USA

Official Methods of Analysis, Method 2011.19 and 993.14, AOAC INTERNATIONAL, (Modified).

Paquette, L.H., Szabo, A., Thompson, J.J., "Simultaneous Determination of Chromium, Selenium, and Molybdenum in Nutritional Products by Inductively Coupled Plasma/Mass Spectrometry: Single-Laboratory Validation," Journal of AOAC International, 94(4): 1240 - 1252 (2011).

Industrial Hemp Cannabinoid Profile (IHCBD_S)

Food Integrity Innovation-Madison

3301 Kinsman Blvd Madison, WI 53704 USA

Official Methods of Analysis, Method 2018.11, AOAC INTERNATIONAL, (Modified). Lukas Vaclavik, Frantisek Benes, Alex Krmela, Veronika Svobodova, Jana Hajsolva and Katerina Mastovska, "Quantification of Cannabinoids in Cannabis Dried Plant Materials, Concentrates, and Oils Liquid Chromatography-Diode Array Detection Technique with Optional Mass Spectrometric Detection," First Action Method, Journal of AOAC International, Future Issue

Multi-Residue Analysis for hemp products - EP 2.8.13/USP <561> regulations (PEST_HEMP)

Food Integrity Innovation-Madison

3301 Kinsman Blvd Madison, WI 53704 USA

Official Methods of Analysis, AOAC Official Method 2007.01, Pesticide Residues in Foods by Acetonitrile Extraction and Partitioning with Magnesium Sulfate, AOAC INTERNATIONAL (modified).

CEN Standard Method EN 15662: Food of plant origin - Determination of pesticide residues using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE - QuEChERS method.

List of the tested pesticides and their limits of quantification (LOQs) are available upon request.

Preparatory Testing of Nutritional and Dietary Supplements (USPA_PT)

Food Integ. Innovation-Madison NE

2102 Wright Street Madison, WI 53704 USA

Preparatory Testing of Nutritional and Dietary Supplements (USPS_PT)

Food Integ. Innovation-Madison NE

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Method References

Testing Location

Salmonella USP (USPS2022)

Food Integ. Innovation-Madison NE

2102 Wright Street Madison, WI 53704 USA

USP Current revision, Chapter 2022.

To satisfy the requirements of the USP, the Preparatory Test must be completed on each matrix.

**Based on the results of the preparatory test, conditions stipulated are adequate for detecting the presence of the specified microorganism.

Staphylococcus (USPA2022)

Food Integ. Innovation-Madison NE

2102 Wright Street Madison, WI 53704 USA

USP Current revision, Chapter 2022.

To satisfy the requirements of the USP, the Preparatory Test must be completed on each matrix.

**Based on the results of the preparatory test, conditions stipulated are adequate for detecting the presence of the specified microorganism.

Yeast and Mold Count (USPM2021)

Food Integ. Innovation-Madison NE

2102 Wright Street Madison, WI 53704 USA

USP Current revision, Chapter 2021.

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**Based on the results of the preparatory test, the detection limit stipulated is adequate for the enumeration of the specified microorganisms.

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Testing Location(s)**Released on Behalf of Eurofins by****Food Integrity Innovation-Madison****Edward Ladwig - Director**

Eurofins Food Chemistry Testing Madison, Inc.
3301 Kinsman Blvd
Madison WI 53704
800-675-8375



2918.01

Food Integ. Innovation-Madison NE**Shannon Jacoby - Business Unit Manager**

Eurofins Food Chemistry Testing US, Inc.
2102 Wright Street
Madison WI 53704
800-675-8375

These results apply only to the items tested. This certificate of analysis shall not be reproduced, except in its entirety, without the written approval of Eurofins.