

CERTIFICATE OF ANALYSIS

Sample Name: 1 gram CBD Isolate
 Steep Hill ID: BK75445
 Batch ID:
 Sample Type: Concentrate
 Date Received: 10/23/2019
 Date Reported: 10/28/2019

Customer: Cultivated Minds Innovation

Cannabinoid Results – Standard Potency
10/28/2019

Standard potency analysis utilizing High Performance Liquid Chromatography with Photo Diode Array Detector (HPLC-PDA; SOP-068) - **THC Limits: 1000 mg/pkg**

Analyte	%	mg/g	mg/pkg	LOD mg/g	LOQ mg/g
CBD	99	990		0.33	1.92
CBDA	ND	ND	ND	0.109	0.96
CBG	ND	ND	ND	0.142	0.96
CBN	ND	ND	ND	0.036	0.96
THC	ND	ND	ND	0.148	0.96
THCA	ND	ND	ND	0.152	0.96
Total	99	990			

Total THC	Total CBD
Not Detected	99 %
Not Detected	990 mg/g
Not Detected	

Cannabinoid Results – Extended Cannabinoids NT

Standard potency analysis utilizing High Performance Liquid Chromatography with Photo Diode Array Detector (HPLC-PDA; SOP-068) - **THC Limits: 1000 mg/pkg**

Analyte	%	mg/g	mg/pkg	LOD mg/g	LOQ mg/g
CBC	NT	NT	NT	NT	NT
CBCA	NT	NT	NT	NT	NT
CBD	NT	NT	NT	NT	NT
CBDA	NT	NT	NT	NT	NT
CBDV	NT	NT	NT	NT	NT
CBDVA	NT	NT	NT	NT	NT
CBG	NT	NT	NT	NT	NT
CBGA	NT	NT	NT	NT	NT
CBLA	NT	NT	NT	NT	NT
CBN	NT	NT	NT	NT	NT
CBNA	NT	NT	NT	NT	NT
THC	NT	NT	NT	NT	NT
Δ8-THC	NT	NT	NT	NT	NT
THCA	NT	NT	NT	NT	NT
THCV	NT	NT	NT	NT	NT
THCVA	NT	NT	NT	NT	NT
Total	NT	NT	NT	NT	NT

LOD: Limit of Detection
 LOQ: Limit of Quantitation
 NT: Not Tested
 ND: Not Detected

Moisture Results NT

Moisture content analysis utilizing Moisture Balance (MB; SOP-055)

Analyte	%
Moisture	NT

Water Activity Results NT

Water Activity analysis utilizing Water Activity Meter (WAM; SOP-090) - **Limit units: Aw**

Analyte	Aw	Limit
Water Activity	NT	NT

Foreign Material Results NT

Foreign material analysis utilizing visual inspection (SOP-057)

Analyte	Pass/Fail
Visual Inspection	NT



Travis Ruthenburg
 Chief Science Officer
 Date: 10/28/2019

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Residual Pesticides Results NT

 Residual pesticide analysis utilizing Liquid and Gas Chromatography – Mass Spectrometry (LC-MSMS + GC-MSMS; SOP-070 + SOP-080) - **Limit units: µg/g**

Analyte	µg/g	Limit	LOD µg/g	LOQ µg/g	Analyte	µg/g	Limit	LOD µg/g	LOQ µg/g
Abamectin	NT	NT	NT	NT	Fludioxonil	NT	NT	NT	NT
Acephate	NT	NT	NT	NT	Hexythiazox	NT	NT	NT	NT
Acequinocyl	NT	NT	NT	NT	Imazalil	NT	NT	NT	NT
Acetamiprid	NT	NT	NT	NT	Imidacloprid	NT	NT	NT	NT
Aldicarb	NT	NT	NT	NT	Kresoxim-methyl	NT	NT	NT	NT
Azoxystrobin	NT	NT	NT	NT	Malathion	NT	NT	NT	NT
Bifenazate	NT	NT	NT	NT	Metaxyl	NT	NT	NT	NT
Bifenthrin	NT	NT	NT	NT	Methiocarb	NT	NT	NT	NT
Boscalid	NT	NT	NT	NT	Methomyl	NT	NT	NT	NT
Captan	NT	NT	NT	NT	Methyl Parathion	NT	NT	NT	NT
Carbaryl	NT	NT	NT	NT	Mevinphos	NT	NT	NT	NT
Carbofuran	NT	NT	NT	NT	Myclobutanil	NT	NT	NT	NT
Chlorantraniliprole	NT	NT	NT	NT	Naled	NT	NT	NT	NT
Chlordane	NT	NT	NT	NT	Oxamyl	NT	NT	NT	NT
Chlorfenapyr	NT	NT	NT	NT	Pacllobutrazol	NT	NT	NT	NT
Chlorpyrifos	NT	NT	NT	NT	Pentachloronitrobenzene	NT	NT	NT	NT
Clofentezine	NT	NT	NT	NT	Permethrin	NT	NT	NT	NT
Coumaphos	NT	NT	NT	NT	Phosmet	NT	NT	NT	NT
Cyfluthrin	NT	NT	NT	NT	Piperonyl Butoxide	NT	NT	NT	NT
Cypermethrin	NT	NT	NT	NT	Prallethrin	NT	NT	NT	NT
Daminozide	NT	NT	NT	NT	Propiconazole	NT	NT	NT	NT
Diazinon	NT	NT	NT	NT	Propoxur	NT	NT	NT	NT
Dichlorvos	NT	NT	NT	NT	Pyrethrins	NT	NT	NT	NT
Dimethoate	NT	NT	NT	NT	Pyridaben	NT	NT	NT	NT
Dimethomorph	NT	NT	NT	NT	Spinetoram	NT	NT	NT	NT
Ethoprophos	NT	NT	NT	NT	Spinosad	NT	NT	NT	NT
Etofenprox	NT	NT	NT	NT	Spiromesifen	NT	NT	NT	NT
Etoxazole	NT	NT	NT	NT	Spirotetramat	NT	NT	NT	NT
Fenhexamid	NT	NT	NT	NT	Spiroxamine	NT	NT	NT	NT
Fenoxycarb	NT	NT	NT	NT	Tebuconazole	NT	NT	NT	NT
Fenpyroximate	NT	NT	NT	NT	Thiacloprid	NT	NT	NT	NT
Fipronil	NT	NT	NT	NT	Thiamethoxam	NT	NT	NT	NT
Flonicamid	NT	NT	NT	NT	Trifloxystrobin	NT	NT	NT	NT

Residual Solvents Results NT

 Residual solvents and processing chemicals analysis utilizing Headspace Gas Chromatography – Mass Spectrometry (HS-GC-MS; SOP-010) - **Limit units: µg/g**

Analyte	µg/g	Limit	LOD µg/g	LOQ µg/g	Analyte	µg/g	Limit	LOD µg/g	LOQ µg/g
1,2 Dichloroethane	NT	NT	NT	NT	n-Heptane	NT	NT	NT	NT
Acetone	NT	NT	NT	NT	n-Hexane	NT	NT	NT	NT
Acetonitrile	NT	NT	NT	NT	Isopropanol	NT	NT	NT	NT
Benzene	NT	NT	NT	NT	Methanol	NT	NT	NT	NT
n-Butane	NT	NT	NT	NT	Methylene Chloride	NT	NT	NT	NT
Chloroform	NT	NT	NT	NT	n-Pentane	NT	NT	NT	NT
Ethanol	NT	NT	NT	NT	Propane	NT	NT	NT	NT
Ethyl Acetate	NT	NT	NT	NT	Toluene	NT	NT	NT	NT
Ethyl Ether	NT	NT	NT	NT	Total Xylenes	NT	NT	NT	NT
Ethylene Oxide	NT	NT	NT	NT	Trichloroethylene	NT	NT	NT	NT



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Microbial Impurities Results NT

Microbiological screening utilizing Pathogen Dx. (PDX; SOP-076)

Analyte	Result	Limit	LOQ
Aspergillus flavus	NT	NT	NT
Aspergillus fumigatus	NT	NT	NT
Aspergillus niger	NT	NT	NT
Aspergillus terreus	NT	NT	NT
E. coli (STEC)	NT	NT	NT
Salmonella	NT	NT	NT

Mycotoxin Results NT

Mycotoxin analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MSMS; SOP-070) - Limit units: µg/kg

Analyte	µg/kg	Limit	LOD µg/kg	LOQ µg/kg
Aflatoxin B1	NT	NT	NT	NT
Aflatoxin B2	NT	NT	NT	NT
Aflatoxin G1	NT	NT	NT	NT
Aflatoxin G2	NT	NT	NT	NT
Ochratoxin A	NT	NT	NT	NT
Total Aflatoxins	NT	NT	NT	NT

Heavy Metals Results NT

Heavy metals analysis utilizing Inductively Coupled Plasma Mass Spectrometry (ICP-MS; SOP-072) - Limit units: µg/g

Analyte	µg/g	Limit	LOD µg/g	LOQ µg/g
Arsenic	NT	NT	NT	NT
Cadmium	NT	NT	NT	NT
Lead	NT	NT	NT	NT
Mercury	NT	NT	NT	NT

Terpenoid Results - Standard Terpenes NT

Standard terpene analysis utilizing Gas Chromatography – Mass Spectrometry (GC-MS; SOP-069)

Analyte	%	mg/g	LOD mg/g	LOQ mg/g
Caryophyllene Oxide	NT	NT	NT	NT
β-Caryophyllene	NT	NT	NT	NT
Citronellol	NT	NT	NT	NT
α-Humulene	NT	NT	NT	NT
Limonene	NT	NT	NT	NT
Linalool	NT	NT	NT	NT
β-Myrcene	NT	NT	NT	NT
Phytol 1	NT	NT	NT	NT
Phytol 2	NT	NT	NT	NT
α-Pinene	NT	NT	NT	NT
β-Pinene	NT	NT	NT	NT
Terpinolene	NT	NT	NT	NT
Total	NT	NT	NT	NT

Terpenoid Results - Extended Terpenes NT

Extended terpene analysis utilizing Gas Chromatography – Mass Spectrometry (GC-MS; SOP-069)

Analyte	%	mg/g	LOD mg/g	LOQ mg/g	Analyte	%	mg/g	LOD mg/g	LOQ mg/g
α-Bisabolol	NT	NT	NT	NT	Linalool	NT	NT	NT	NT
endo-Borneol	NT	NT	NT	NT	Menthol	NT	NT	NT	NT
Camphene	NT	NT	NT	NT	β-Myrcene	NT	NT	NT	NT
Camphor	NT	NT	NT	NT	Nerol	NT	NT	NT	NT
3-Carene	NT	NT	NT	NT	cis-Nerolidol	NT	NT	NT	NT
Caryophyllene Oxide	NT	NT	NT	NT	trans-Nerolidol	NT	NT	NT	NT
β-Caryophyllene	NT	NT	NT	NT	cis-β-Ocimene	NT	NT	NT	NT
α-Cedrene	NT	NT	NT	NT	trans-β-Ocimene	NT	NT	NT	NT
Cedrol	NT	NT	NT	NT	α-Phellandrene	NT	NT	NT	NT
Citronellol	NT	NT	NT	NT	Phytol 1	NT	NT	NT	NT
Eucalyptol	NT	NT	NT	NT	Phytol 2	NT	NT	NT	NT
α-Farnesene	NT	NT	NT	NT	α-Pinene	NT	NT	NT	NT
β-Farnesene	NT	NT	NT	NT	β-Pinene	NT	NT	NT	NT
Fenchol	NT	NT	NT	NT	Pulegone	NT	NT	NT	NT
Fenchone	NT	NT	NT	NT	Sabinene	NT	NT	NT	NT
Geraniol	NT	NT	NT	NT	Sabinene Hydrate	NT	NT	NT	NT
Geranyl Acetate	NT	NT	NT	NT	α-Terpinene	NT	NT	NT	NT
Guaiol	NT	NT	NT	NT	γ-Terpinene	NT	NT	NT	NT
α-Humulene	NT	NT	NT	NT	α-Terpineol	NT	NT	NT	NT
Isoborneol	NT	NT	NT	NT	Terpinolene	NT	NT	NT	NT
Isopulegol	NT	NT	NT	NT	Valencene	NT	NT	NT	NT
Limonene	NT	NT	NT	NT	Total	NT	NT	NT	NT



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