cambium analytica

CAMBIUM ANALYTICA // 1220 WOODMERE AVE TRAVERSE CITY MI 49686 // PH: 231 252 3663

MI LICENSE #: AU-SC-000112

CERTIFICATE OF ANALYSIS

** FOR QUALITY ASSURANCE PURPOSES. NOT A MICHIGAN COMPLIANCE CERTIFICATE.*

PRODUCED: MAR 06, 2023

SAMPLE: CBN INFUSED FULL SPECTRUM CBD OIL BLEND (100103) (TINCTURE) // **CLIENT**: NUVITA CBD // **BATCH**: PASS

REFERENCE FINISHED PRODUCT LOTS 100104, 100105, 100106, 100107-(1-99)

MATRIX: TINCTURE
SAMPLE ID: CAM-230302-171
COLLECTED ON: MAR 01, 2023
RECEIVED ON: MAR 01, 2023
SAMPLE SIZE: 30 ML
SAMPLED BY: HANNAH HARDY
RECEIVED BY: HANNAH HARDY
SERVING/PACKAGE SIZE: .94 G / 28.2 G

CANNABINOID OVERVIEW

CBD:	**24.9 mg/srv**
CBN:	**8.89 mg/srv**
TOTAL CANNABINOIDS:	**37.7 mg/srv**

BATCH RESULT: PASS

POTENCY	PASS
METALS	PASS
MICROBIAL	PASS
PESTICIDES	PASS
SOLVENTS	PASS
TERPENES	TESTED

POT-01: CANNABINOID POTENCY ANALYSIS BY HPLC-DAD // MAR 06, 2023

ANALYTE	LIMIT	AMT	AMT	LOD/LOQ (µg/g)	PASS/FAIL
CBC		0.189 %	1.89 mg/g	0.0517/0.172	
CBD		2.65 %	26.5 mg/g	0.109/0.363	
CBDA		0.0508 %	0.508 mg/g	0.142/0.474	
CBDV		ND	ND	0.0673/0.224	
CBG		0.0530 %	0.53 mg/g	0.0576/0.192	
CBGA		0.00920 %	0.092 mg/g	0.0328/0.109	
CBN		0.946 %	9.46 mg/g	0.0848/0.283	
Δ^8 + Δ^9-THC		0.117 %	1.17 mg/g		
Δ^8-THC	10 %	ND	ND	0.0578/0.193	PASS
Δ^9-THC		0.117 %	1.17 mg/g	0.102/0.340	
THCA		ND	ND	0.0883/0.294	

ANALYTE	LIMIT	AMT	AMT	LOD/LOQ (µg/g)	PASS/FAIL
THCV		ND	ND	0.0699/0.233	
TOTAL THC **		0.117 %	1.17 mg/g		
TOTAL CBD **		2.69 %	26.9 mg/g		
CBD/SRV		24.9 mg			
Δ^8-THC/SRV	1.1 mg	ND			PASS
Δ^9-THC/SRV		1.10 mg			
Δ^8 + Δ^9-THC/SRV	11 mg	1.10 mg			PASS
CBD/PKG		747 mg			
Δ^8 + Δ^9-THC/PKG	220 mg	33.0 mg			PASS
Δ^8-THC/PKG	22 mg	ND			PASS
Δ^9-THC/PKG		33.0 mg			

** TOTAL THC = DELTA-8-THC + DELTA-9-THC + (THCA X 0.877)
** TOTAL CBD = CBD + (CBDA X 0.877)

TRP-013: TERPENE ANALYSIS BY GC-MS // MAR 06, 2023

ANALYTE	AMT (%)	LOD/LOQ (µg/g)	PASS/FAIL
TOTAL TERPENES	0.132 %		
TRANS-CARYOPHYLLENE	0.054 %	0.500/1.000	
α-HUMULENE	0.024 %	0.500/1.000	
α-BISABOLOL	0.017 %	0.500/1.000	
β-MYRCENE	0.013 %	0.500/1.000	
GUAIOL	0.009 %	0.500/1.000	
α-TERPINEOL	0.006 %	0.500/1.000	
TRANS-NEROLIDOL	0.005 %	0.500/1.000	
LIMONENE	0.004 %	0.500/1.000	
(+)-FENCHONE	ND	0.500/1.000	
(1R)-ENDO-(+)-FENCHYL ALCOHOL	ND	0.500/1.000	
α-CEDRENE	ND	0.500/1.000	
α-PHELLANDRENE	ND	0.500/1.000	
α-PINENE	ND	0.500/1.000	
α-TERPINENE	ND	0.500/1.000	

ANALYTE	AMT (%)	LOD/LOQ (µg/g)	PASS/FAIL
CARYOPHYLLENE OXIDE	ND	0.500/1.000	
CEDROL	ND	0.500/1.000	
CIS-β-OCIMENE	ND	0.500/1.000	
CIS-NEROLIDOL	ND	0.500/1.000	
Δ^3-CARENE	ND	0.500/1.000	
DL-MENTHOL	ND	0.500/1.000	
EUCALYPTOL	ND	0.500/1.000	
γ-TERPINENE	ND	0.500/1.000	
GERANYL ACETATE	ND	0.500/1.000	
ISOBORNEOL	ND	0.500/1.000	
ISOPULEGOL	ND	0.500/1.000	
LINALOOL	ND	0.500/1.000	
PULEGONE	ND	0.500/1.000	
SABINENE	ND	0.500/1.000	
SABINENE HYDRATE	ND	0.500/1.000	

p-CYMENE	ND	0.500/1.000	**TERPINOLENE**	ND	0.500/1.000
BORNEOL	ND	0.500/1.000	**TRANS-β-OCIMENE**	ND	0.500/1.000
CAMPHENE	ND	0.500/1.000	**VALENCENE**	ND	0.500/1.000
CAMPHOR	ND	0.500/1.000			

THIS REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT APPROVAL FROM CAMBIUM ANALYTICA. THE RESULTS HEREIN RELATE ONLY TO THE SAMPLE & BATCH IDENTIFIED IN THIS REPORT

RESULTS CERTIFIED BY: VERNON LALONE
LABORATORY DIRECTOR, CAMBIUM ANALYTICA
MAR 06, 2023

RESULTS CERTIFIED BY: DOUGLAS SMITH
CHIEF SCIENTIST, CAMBIUM ANALYTICA
MAR 06, 2023

PGC-03: CHEMICAL RESIDUE ANALYSIS BY GC-MS/MS // MAR 06, 2023

ANALYTE	LIMIT	AMT (µg/g)	LOD/LOQ (µg/kg)	PASS/FAIL	ANALYTE	LIMIT	AMT (µg/g)	LOD/LOQ (µg/kg)	PASS/FAIL
CHLORFENAPYR	1 µg/g	ND	5.940/19.900	PASS	METHYL PARATHION	0.2 µg/g	ND	3.030/10.200	PASS

PLC-02: CHEMICAL RESIDUE ANALYSIS BY LC-MS/MS // MAR 06, 2023

ANALYTE	LIMIT	AMT (µg/g)	LOD/LOQ (µg/kg)	PASS/FAIL	ANALYTE	LIMIT	AMT (µg/g)	LOD/LOQ (µg/kg)	PASS/FAIL
ABAMECTIN	0.5 µg/g	ND	68.200/227.000	PASS	IMAZALIL	0.2 µg/g	ND	15.300/51.000	PASS
ACEPHATE	0.4 µg/g	ND	16.100/53.600	PASS	IMIDACLOPRID	0.4 µg/g	ND	33.500/112.000	PASS
ACEQUINOCYL	2 µg/g	ND	27.800/92.700	PASS	KRESOXIM-METHYL	0.4 µg/g	ND	11.700/39.000	PASS
ACETAMIPRID	0.2 µg/g	ND	14.300/47.600	PASS	MALATHION	0.2 µg/g	ND	15.400/51.400	PASS
ALDICARB	0.4 µg/g	ND	41.900/140.000	PASS	METALAXYL	0.2 µg/g	ND	17.300/57.800	PASS
AZOXYSTROBIN	0.2 µg/g	ND	10.300/34.500	PASS	METHIOCARB	0.2 µg/g	ND	13.700/45.600	PASS
BIFENAZATE	0.2 µg/g	ND	24.800/82.500	PASS	METHOMYL	0.4 µg/g	ND	9.310/31.100	PASS
BIFENTHRIN	0.2 µg/g	ND	14.400/47.900	PASS	MGK-264	0.2 µg/g	ND	19.000/63.200	PASS
BOSCALID	0.4 µg/g	ND	12.600/41.200	PASS	MYCLOBUTANIL	0.2 µg/g	ND	19.500/64.900	PASS
CARBARYL	0.2 µg/g	ND	11.900/39.700	PASS	NALED	0.5 µg/g	ND	22.700/75.700	PASS
CARBOFURAN	0.2 µg/g	ND	10.500/35.200	PASS	OXAMYL	1 µg/g	ND	34.800/116.000	PASS
CHLORANTRANIL-IPROLE	0.2 µg/g	ND	24.300/80.900	PASS	PACLOBUTRAZOL	0.4 µg/g	ND	35.800/119.000	PASS
CHLORPYRIFOS	0.2 µg/g	ND	24.400/81.300	PASS	PERMETHRIN	0.2 µg/g	ND	37.300/124.000	PASS
CLOFENTEZINE	0.2 µg/g	ND	19.900/66.300	PASS	PHOSMET	0.2 µg/g	ND	23.600/78.700	PASS
CYFLUTHRIN	1 µg/g	ND	38.200/127.000	PASS	PRALLETHRIN	0.2 µg/g	ND	36.700/122.000	PASS
CYPERMETHRIN	1 µg/g	ND	27.400/91.200	PASS	PROPICONAZOLE	0.4 µg/g	ND	40.000/133.000	PASS
DAMINOZIDE	1 µg/g	ND	23.600/78.700	PASS	PROPOXUR	0.2 µg/g	ND	11.500/38.300	PASS
DIAZINON	0.2 µg/g	ND	18.400/61.300	PASS	PYRETHRINS	1 µg/g	ND	19.800/65.900	PASS
DICHLORVOS	1 µg/g	ND	12.400/41.300	PASS	PYRIDABEN	0.2 µg/g	ND	25.800/86.000	PASS
DIMETHOATE	0.2 µg/g	ND	12.100/40.300	PASS	SPINOSAD	0.2 µg/g	ND	5.820/19.400	PASS
ETHOPROPHOS	0.2 µg/g	ND	18.900/62.900	PASS	SPINOSAD A		ND	6.300/21.000	
ETOFENPROX	0.4 µg/g	ND	14.200/47.300	PASS	SPINOSAD D		ND	2.380/7.900	
ETOXAZOLE	0.2 µg/g	ND	13.400/44.500	PASS	SPIROMESIFEN	0.2 µg/g	ND	14.400/48.100	PASS
FENOXYCARB	0.2 µg/g	ND	19.700/65.800	PASS	SPIROTETRAMAT	0.2 µg/g	ND	35.100/117.000	PASS
FENPYROXIMATE	0.4 µg/g	ND	43.400/145.000	PASS	SPIROXAMINE	0.4 µg/g	ND	12.100/40.400	PASS
FIPRONIL	0.4 µg/g	ND	44.500/148.000	PASS	TEBUCONAZOLE	0.4 µg/g	ND	37.100/124.000	PASS
FLONICAMID	1 µg/g	ND	21.900/73.100	PASS	THIACLOPRID	0.2 µg/g	ND	15.300/50.900	PASS
FLUDIOXONIL	0.4 µg/g	ND	10.900/36.200	PASS	THIAMETHOXAM	0.2 µg/g	ND	13.500/45.100	PASS
HEXYTHIAZOX	1 µg/g	ND	27.900/92.900	PASS	TRIFLOXYSTROB-IN	0.2 µg/g	ND	18.500/61.600	PASS

COL-027: TOTAL COLIFORMS // MAR 04, 2023

ANALYTE	LIMIT	AMT (CFU/g)	PASS/FAIL
COLIFORMS	100 CFU/g	ND	PASS

TYM-028: TOTAL YEAST AND MOLD // MAR 06, 2023

ANALYTE	LIMIT	AMT (CFU/g)	PASS/FAIL
YEAST & MOLD	10000 CFU/g	ND	PASS

STEC-030: SHIGA TOXIN PRODUCING E. COLI // MAR 06, 2023

ANALYTE	LIMIT	AMT (CFU/g)	PASS/FAIL
SHIGA TOXIN-PRODUCING E. COLI	Any amount in 1 gram	ND	PASS

SAL-030: SALMONELLA // MAR 06, 2023

ANALYTE	LIMIT	AMT (CFU/g)	PASS/FAIL
SALMONELLA SPP.	Any amount in 1 gram	ND	PASS

ASP-029: ASPERGILLUS SPP. // MAR 06, 2023

ANALYTE	LIMIT	AMT (CFU/g)	PASS/FAIL
ASPERGILLUS FLAVUS	Any amount in 1 gram	ND	PASS
ASPERGILLUS FUMIGATUS	Any amount in 1 gram	ND	PASS
ASPERGILLUS NIGER	Any amount in 1 gram	ND	PASS
ASPERGILLUS SPP.	Any amount in 1 gram	ND	PASS
ASPERGILLUS TERREUS	Any amount in 1 gram	ND	PASS

MET-05: HEAVY METALS ANALYSIS BY ICP-MS // MAR 06, 2023

ANALYTE	LIMIT	AMT (µg/g)	LOD/LOQ (µg/kg)	PASS/FAIL
ARSENIC	1.5 µg/g	ND	0.045/0.500	PASS
CADMIUM	0.5 µg/g	< LOQ	0.026/0.500	PASS
CHROMIUM	2 µg/g	0.025 µg/g	0.027/0.500	PASS
COPPER		ND	0.045/0.500	
LEAD	0.5 µg/g	0.001 µg/g	0.017/0.500	PASS
MERCURY	3 µg/g	ND	0.004/0.050	PASS
NICKEL		0.105 µg/g	0.027/0.500	

SOL-04: RESIDUAL SOLVENT ANALYSIS BY GC-MS/HS // MAR 06, 2023

ANALYTE	LIMIT	AMT (µg/g)	LOD/LOQ (µg/g)	PASS/FAIL
1,2-DICHLOROETHANE	5 µg/g	ND	0.400/1.340	PASS
2,2-DIMETHYLBUTANE	290 µg/g	ND	0.980/3.270	PASS
2,3-DIMETHYLBUTANE	290 µg/g	ND	2.190/7.320	PASS
2-METHYLBUTANE	5000 µg/g	ND	1.540/5.140	PASS
2-METHYLPENTANE	290 µg/g	ND	0.730/2.440	PASS
3-METHYLPENTANE	290 µg/g	ND	0.730/2.440	PASS
ACETONE	5000 µg/g	ND	1.570/5.230	PASS
ACETONITRILE	410 µg/g	ND	1.850/6.170	PASS
BENZENE	2 µg/g	ND	0.180/0.590	PASS
BUTANE	5000 µg/g	ND	1.680/5.590	PASS
BUTANES ALL ISOMERS *	5000 µg/g	ND		PASS
CHLOROFORM	60 µg/g	ND	0.780/2.590	PASS
ETHANOL	5000 µg/g	ND	6.020/20.100	PASS
ETHYL ACETATE	5000 µg/g	ND	1.950/6.490	PASS
ETHYLENE OXIDE	50 µg/g	ND	0.150/0.490	PASS
ETHYL ETHER	5000 µg/g	ND	1.370/4.550	PASS
HEPTANE	5000 µg/g	ND	1.310/4.370	PASS
HEXANE	290 µg/g	ND	1.420/4.740	PASS
HEXANES ALL ISOMERS *	290 µg/g	ND		PASS
ISOBUTANE	5000 µg/g	ND	1.600/5.340	PASS
ISOPROPYL ALCOHOL	5000 µg/g	ND	4.900/16.300	PASS
METHANOL	3000 µg/g	ND	7.890/26.400	PASS
METHYLENE CHLORIDE	600 µg/g	ND	1.360/4.530	PASS
NEOPENTANE	5000 µg/g	ND	1.490/4.970	PASS
PENTANE	5000 µg/g	ND	1.460/4.870	PASS
PENTANES ALL ISOMERS *	5000 µg/g	ND		PASS
PROPANE	5000 µg/g	ND	1.950/6.510	PASS
TOLUENE	890 µg/g	ND	1.880/6.260	PASS
TRICHLOROETHYLENE	80 µg/g	ND	0.290/0.960	PASS
TOTAL XYLENES	2170 µg/g	ND	2.020/6.720	PASS

* BEYOND SCOPE OF ACCREDITATION

ACCREDITATIONS

ILAC-MRA

ISO/IEC 17025

ILAC-MRA, PJLA ACCREDITED

PLC-02: CHEMICAL RESIDUE ANALYSIS BY LC-MS/MS
ABAMECTIN, ABAMECTIN BA, ABAMECTIN BB, ACEPHATE, ACEQUINOCYL, ACETAMIPRID, ALDICARB, AZOXYSTROBIN, BIFENAZATE, BIFENTHRIN, BOSCALID, CARBARYL, CARBOFURAN, CHLORANTRANILIPROLE, CHLORFENAPYR, CHLORPYRIFOS, CLOFENTEZINE, CYFLUTHRIN, CYPERMETHRIN, DAMINOZIDE, DIAZINON, DICHLORVOS, DIMETHOATE, ETHOPROPHOS, ETOFENPROX, ETOXAZOLE, FENOXYCARB, FENPYROXIMATE, FIPRONIL, FLONICAMID, FLUDIOXONIL, HEXYTHIAZOX, IMAZALIL, IMIDACLOPRID, KRESOXIM-METHYL, MGK-264, MALATHION, MALATHION A, METALAXYL, METHIOCARB, METHOMYL, METHYL PARATHION, MYCLOBUTANIL, NALED, OXAMYL, PACLOBUTRAZOL, PERMETHRIN, PERMETHRIN CIS, PERMETHRIN TRANS, PHOSMET, PRALLETHRIN, PROPICONAZOLE, PROPOXUR, PYRETHRINS, PYRETHRINS CINERIN I, PYRETHRINS CINERIN I-3, PYRETHRINS JASMOLIN I, PYRETHRINS JASMOLIN I-3, PYRETHRINS PYRETHRIN I, PYRIDABEN, SPINOSAD, SPINOSAD A, SPINOSAD D, SPIROMESIFEN, SPIROTETRAMAT, SPIROXAMINE, TEBUCONAZOLE, THIACLOPRID, THIAMETHOXAM, TRIFLOXYSTROBIN

SOL-04: RESIDUAL SOLVENT ANALYSIS BY GC-MS/HS
1,2-DICHLOROETHANE, 2,2-DIMETHYLBUTANE, 2,3-DIMETHYLBUTANE, 2-METHYLBUTANE, 2-METHYLPENTANE, 3-METHYLPENTANE, ACETONE, ACETONITRILE, BENZENE, BUTANE, CHLOROFORM, ETHANOL, ETHYL ACETATE, ETHYL ETHER, ETHYLENE OXIDE, HEPTANE, HEXANE, ISOBUTANE, ISOPROPYL ALCOHOL, METHANOL, METHYLENE CHLORIDE, NEOPENTANE, PENTANE, PROPANE, TOLUENE, TOTAL XYLENES, TRICHLOROETHYLENE, M-XYLENE, O-XYLENE, P- AND M-XYLENE, P-XYLENE

POT-01: CANNABINOID POTENCY ANALYSIS BY HPLC-DAD
CBD, CBDA, DELTA-9-THC, THCA, CBDV, THCV, CBG, CBGA, CBN, DELTA-8-THC, CBC, DELTA-8 + DELTA-9-THC, TOTAL CBD, TOTAL THC

MET-05: HEAVY METALS ANALYSIS BY ICP-MS
ARSENIC, CADMIUM, CHROMIUM, COPPER, LEAD, MERCURY, NICKEL

PGC-03: CHEMICAL RESIDUE ANALYSIS BY GC-MS/MS
CHLORFENAPYR, METHYL PARATHION

** FOR QUALITY ASSURANCE PURPOSES. NOT A MICHIGAN COMPLIANCE CERTIFICATE.*

nuvita QUALITY RELEASE

Sensory: pass

Visual: pass

Aroma: pass

Flavor: pass

Lab Report (COA): pass

Signature: Emily Yaz Release Date: 3-6-23