



Extract
Sample Matrix:
CBD/HEMP
Derivative Products
(Ingestion)



License No. 800025015
FL License # CMTL-0003
CLIA No. 10D1094068

Certificate of Analysis

Compliance Test

**STAR MANUFACTURING
EXTRACTION**
540 B RD
LABELLE, FL 33935

Batch # SME110321HF
Batch Date: 2021-11-03
Extracted From: Hemp

Sampling Method: MSP 7.3.1
Test Reg State: Florida

Order # STA211104-010001
Order Date: 2021-11-04
Sample # AACD457

Sampling Date: 2021-11-08
Lab Batch Date: 2021-11-08
Completion Date: 2021-11-18

Initial Gross Weight: 20.791 g



Product Image

Potency
Tested

Terpenes
Tested

Heavy Metals
Passed

Mycotoxins
Passed

Pesticides
Passed

Residual
Solvents
Passed

Pathogenic
Microbiology
Passed

Listeria
Monocytogenes
Passed

Flavonoids
Tested



Potency - 20

Specimen Weight: 113.750 mg

Analyte	Dilution (1:n)	LOD (%)	LOQ (%)	Result (mg/g)	(%)
CBC	10.000	0.000018	0.002		<LOQ
Delta-9 THC	10.000	0.000013	0.002		<LOQ
THCVA	10.000	0.000047	0.002		<LOQ
THCV	10.000	0.000007	0.002		<LOQ
THCA-A	10.000	0.000032	0.002		<LOQ
Exo-THC	10.000	0.00023	0.002		<LOQ
Delta-8 THC	10.000	0.000004	0.002		<LOQ
Delta-10 THC	10.000	0.000003	0.002		<LOQ
CBCA	10.000	0.000107	0.002		<LOQ
Delta-8 THC	10.000	0.000026	0.002		<LOQ
Delta-10 THC	10.000	0.000003	0.002		<LOQ
CBT	10.000	0.0002	0.002		<LOQ
CBNA	10.000	0.000095	0.002		<LOQ
CBN	10.000	0.000014	0.002		<LOQ
CBL	10.000	0.000035	0.002		<LOQ
CBGA	10.000	0.00008	0.002		<LOQ
CBG	10.000	0.000248	0.002		<LOQ
CBDVA	10.000	0.000014	0.002		<LOQ
CBDV	10.000	0.000065	0.002		<LOQ
CBDA	10.000	0.00001	0.002		<LOQ
CBD	10.000	0.000054	0.002		<LOQ

Tested (HPLC)

Potency Summary

Total THC None Detected	Total CBD None Detected
Total CBG None Detected	Total CBN None Detected
Other Cannabinoids None Detected	Total Cannabinoids None Detected

Terpenes Summary

Analyte	Result (mg/g)	(%)
beta-Pinene	0.194	0.019%
alpha-Phellandrene	0.167	0.017%

Total Terpenes: 0.036%

Detailed Terpenes Analysis is on the following page

Flavonoids Summary

Analyte	Result (ppm)
Total Flavonoids: 0.000ppm	

Detailed Flavonoids Analysis is on one of the following pages

Xueli Gao
Ph.D., DABT
Lab Toxicologist

Aixia Sun
D.H.Sc., M.Sc., B.Sc., MT (AAB)
Lab Director/Principal Scientist



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Sample # AACD457

Sampling Date: 2021-11-08
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Completion Date: 2021-11-18

Initial Gross Weight: 20.791 g



Terpenes

Specimen Weight: 112.440 mg

Tested
(GC/GCMS)

Dilution Factor: 20.000

Analyte	LOQ (%)	Result (mg/g)	(%)	Analyte	LOQ (%)	Result (mg/g)	(%)
beta-Pinene	0.002	0.194	0.019	alpha-Phellandrene	0.002	0.167	0.017
(+)-Cedrol	0.002	<LOQ		Geraniol	0.002	<LOQ	
Geranyl acetate	0.002	<LOQ		Guaiol	0.002	<LOQ	
Hexahydrothymol	0.002	<LOQ		Isoborneol	0.002	<LOQ	
Isopulegol	0.002	<LOQ		Linalool	0.002	<LOQ	
Nerol	0.002	<LOQ		Pulegone	0.002	<LOQ	
Ocimene	0.000	<LOQ		Gamma-Terpinene	0.002	<LOQ	
Sabinene	0.002	<LOQ		Sabinene Hydrate	0.002	<LOQ	
Terpinolene	0.002	<LOQ		Total Terpeneol	0.001	<LOQ	
trans-Caryophyllene	0.002	<LOQ		trans-Nerolidol	0.002	<LOQ	
Fenchone	0.002	<LOQ		Fenchyl Alcohol	0.002	<LOQ	
3-Carene	0.002	<LOQ		alpha-Bisabolol	0.002	<LOQ	
alpha-Cedrene	0.002	<LOQ		alpha-Humulene	0.002	<LOQ	
alpha-Pinene	0.002	<LOQ		alpha-Terpinene	0.002	<LOQ	
beta-Myrcene	0.002	<LOQ		(R)-(+)-Limonene	0.002	<LOQ	
Borneol	0.004	<LOQ		Camphene	0.002	<LOQ	
Camphors	0.006	<LOQ		Caryophyllene oxide	0.002	<LOQ	
cis-Nerolidol	0.002	<LOQ		Eucalyptol	0.002	<LOQ	
Farnesene	0.002	<LOQ		Valencene	0.002	<LOQ	

Total Terpenes: 0.036%

Xueli Gao
Xueli Gao Lab Toxicologist
Ph.D., DABT

Aixia Sun
Aixia Sun Lab Director/Principal Scientist
D.H.Sc., M.Sc., B.Sc., MT (AAB)



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H Heavy Metals Passed (ICP-MS)

Specimen Weight: 247.300 mg

Dilution Factor: 2.000

Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)	Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)
Arsenic (As)	100	1500	<LOQ	Cadmium (Cd)	100	500	<LOQ
Lead (Pb)	100	500	<LOQ	Mercury (Hg)	100	3000	<LOQ

Mycotoxins Passed (LCMS)

Specimen Weight: 161.900 mg

Dilution Factor: 9.265

Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)	Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)
Aflatoxin B1	6	20	<LOQ	Aflatoxin B2	6	20	<LOQ
Aflatoxin G1	6	20	<LOQ	Aflatoxin G2	6	20	<LOQ
Ochratoxin A	12	20	<LOQ				

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Completion Date: 2021-11-18

Initial Gross Weight: 20.791 g

Pesticides FL V4 **Passed**
(LCMS/GCMS)
Specimen Weight: 161.900 mg

Dilution Factor: 9.265

Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)	Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)
Abamectin	28.23	300	<LOQ	Acephate	30	3000	<LOQ
Acequinocyl	48	2000	<LOQ	Acetamiprid	30	3000	<LOQ
Aldicarb	30	100	<LOQ	Azoxystrobin	10	3000	<LOQ
Bifenazate	30	3000	<LOQ	Bifenthrin	30	500	<LOQ
Boscalid	10	3000	<LOQ	Captan	30	3000	<LOQ
Carbaryl	10	500	<LOQ	Carbofuran	10	100	<LOQ
Chlorantraniliprole	10	3000	<LOQ	Chlordane	10	100	<LOQ
Chlorfenapyr	30	100	<LOQ	Chloromequat Chloride	10	3000	<LOQ
Chlorpyrifos	30	100	<LOQ	Clofentezine	30	500	<LOQ
Coumaphos	48	100	<LOQ	Cyfluthrin	30	1000	<LOQ
Cypermethrin	30	1000	<LOQ	Daminozide	30	100	<LOQ
Diazinon	30	200	<LOQ	Dichlorvos	30	100	<LOQ
Dimethoate	30	100	<LOQ	Dimethomorph	48	3000	<LOQ
Ethoprophos	30	100	<LOQ	Etofenprox	30	100	<LOQ
Etoxazole	30	1500	<LOQ	Fenhexamid	10	3000	<LOQ
Fenoxycarb	30	100	<LOQ	Fenpyroximate	30	2000	<LOQ
Fipronil	30	100	<LOQ	Flonicamid	30	2000	<LOQ
Fludioxonil	48	3000	<LOQ	Hexythiazox	30	2000	<LOQ
Imazalil	30	100	<LOQ	Imidacloprid	30	3000	<LOQ
Kresoxim Methyl	30	1000	<LOQ	Malathion	30	2000	<LOQ
Metaxyl	10	3000	<LOQ	Methiocarb	30	100	<LOQ
Methomyl	30	100	<LOQ	methyl-Parathion	10	100	<LOQ
Mevinphos	10	100	<LOQ	Myclobutanil	30	3000	<LOQ
Naled	30	500	<LOQ	Oxamyl	30	500	<LOQ
Paclbutrazol	30	100	<LOQ	Pentachloronitrobenzene	10	200	<LOQ
Permethrin	30	1000	<LOQ	Phosmet	30	200	<LOQ
Piperonylbutoxide	30	3000	<LOQ	Prallethrin	30	400	<LOQ
Propiconazole	30	1000	<LOQ	Propoxur	30	100	<LOQ
Pyrethrins	30	1000	<LOQ	Pyridaben	30	3000	<LOQ
Spinetoram	10	3000	<LOQ	Spinosad	30	3000	<LOQ
Spiromesifen	30	3000	<LOQ	Spirotetramat	30	3000	<LOQ
Spiroxamine	30	100	<LOQ	Tebuconazole	30	1000	<LOQ
Thiacloprid	30	100	<LOQ	Thiamethoxam	30	1000	<LOQ
Trifloxystrobin	30	3000	<LOQ				

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Xueli Gao Lab Toxicologist
Ph.D., DABT

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Initial Gross Weight: 20.791 g

Residual Solvents - FL (CBD) **Passed**
(GCMS)

Specimen Weight: 132.900 mg

Dilution Factor: 1.000

Analyte	LOQ (ppm)	Action Level (ppm)	Result (ppm)	Analyte	LOQ (ppm)	Action Level (ppm)	Result (ppm)
1,1-Dichloroethene	0.16	8	<LOQ	1,2-Dichloroethane	0.04	5	<LOQ
Acetone	2.08	5000	<LOQ	Acetonitrile	1.17	410	<LOQ
Benzene	0.02	2	<LOQ	Butanes	2.5	2000	<LOQ
Chloroform	0.04	60	<LOQ	Ethanol	2.78	5000	16548.771
Ethyl Acetate	1.11	5000	<LOQ	Ethyl Ether	1.39	5000	<LOQ
Ethylene Oxide	0.1	5	<LOQ	Heptane	1.39	5000	Passed
Hexane	1.17	290	<LOQ	Isopropyl alcohol	1.39	500	<LOQ
Methanol	0.69	3000	<LOQ	Methylene chloride	2.43	600	<LOQ
Pentane	2.08	5000	<LOQ	Propane	5.83	2100	<LOQ
Toluene	2.92	890	<LOQ	Total Xylenes	2.92	2170	<LOQ
Trichloroethylene	0.49	80	<LOQ				

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Pathogenic Microbiology SAE (MicroArray)

Specimen Weight: 1031.050 mg

Passed
(Micro Array)

Dilution Factor: 1.000

Analyte	Result (cfu/g)	Analyte	Result (cfu/g)
Aspergillus flavus	Absence in 1g	Aspergillus fumigatus	Absence in 1g
Aspergillus niger	Absence in 1g	Aspergillus terreus	Absence in 1g
Salmonella	Absence in 1g	STEC E. Coli	Absence in 1g



Listeria Monocytogenes

Specimen Weight: 1004.200 mg

Passed
(qPCR)

Dilution Factor: 1.000

Analyte	Action Level (cfu/g)	Result
Listeria Monocytogenes	1	Absence in 1g

Xueli Gao
Xueli Gao
Ph.D., DABT
Lab Toxicologist

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Flavonoids

Specimen Weight: 102.100 mg

Tested
(LCMS)

Dilution Factor: 10.000

Analyte	Dilution (1:n)	LOQ (ppm)	Result (ppm)	Analyte	Dilution (1:n)	LOQ (ppm)	Result (ppm)
Apigenin	0.100	4	<LOQ	Baicalin	0.100	8	<LOQ
beta sitosterol	0.100	5	<LOQ	Cannflavin A	0.100	3.91	<LOQ
Cannflavin B	0.100	4.84	<LOQ	Cannflavin C	0.100	2.36	<LOQ
Chrysin	0.100	2.5	<LOQ	Fisetin	0.100	5	<LOQ
Kaempferol	0.100	1	<LOQ	Luteolin	0.100	2.5	<LOQ
Orientin	0.100	5	<LOQ	Quercetin	0.100	2.23	<LOQ
Rutin	0.100	7.81	<LOQ	Vitexin	0.100	4	<LOQ
Wogonin	0.100	0.5	<LOQ				

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Definitions and Abbreviations used in this report: *Total CBD = CBD + (CBD-A * 0.877), *Total CBDV = CBDV + (CBDVA * 0.87), *Total THC = THCA-A * 0.877 + Delta 9 THC, *Total THCV = THCV + (THCVA * 0.87), *CBG Total = (CBGA * 0.877) + CBG, *CBN Total = (CBNA * 0.877) + CBN, *Total CBC = CBC + (CBCA * 0.877), *Other Cannabinoids Total = Total Cannabinoids - All the listed cannabinoids on the summary section, *Total Detected Cannabinoids = Delta8-THC + Total CBN + CBT + Delta8-THCV + Total CBG + Total CBD + Total THCV + CBL + Total THC + Total CBC + Total CBDV + Delta10-THC, *Total THC-O-Acetate = Delta 8 THC-O-Acetate + THC-O-Acetate, *Analyte Details above show the Dry Weight Concentrations unless specified as 12% moisture concentration. (mg/ml) = Milligrams per Milliliter, LOQ = Limit of Quantitation, LOD = Limit of Detection, Dilution = Dilution Factor (ppb) = Parts per Billion, (%) = Percent, (cfu/g) = Colony Forming Unit per Gram (cfu/g) = Colony Forming Unit per Gram, LOD = Limit of Detection, (µg/g) = Microgram per Gram (ppm) = Parts per Million, (ppm) = (µg/g), (aw) = aw (area ratio) = Area Ratio, (mg/Kg) = Milligram per Kilogram, *Measurement of Uncertainty = +/- 10%



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analyte_abbreviation	panel_abbreviation	coa_approved_date	analyte_remark	panel_remark	sample_remark
Apigenin	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Baicalin	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
beta sitosterol	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Cannflavin A	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Cannflavin B	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Cannflavin C	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Chrysin	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Fisetin	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Kaempferol	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Luteolin	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Orientin	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Pelargonidin-3-O-glucoside	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Quercetin	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Rutin	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Vitexin	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Wogonin	Flavonoids	11/19/2021 11:38	Detected	Tested	Passed
Apigenin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Baicalin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
beta sitosterol	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Cannflavin A	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Cannflavin B	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Cannflavin C	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Chrysin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Fisetin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Kaempferol	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Luteolin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Orientin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
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Rutin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Vitexin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Wogonin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Apigenin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Baicalin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
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Vitexin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
Wogonin	Flavonoids	11/15/2021 15:23	Detected	Tested	Passed
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