

1000mg Mixed Berry Tincture

 Sample ID: SA-230403-19726
 Batch: 2022-0842M
 Type: Finished Products
 Matrix: Oil / Liquid - Hemp Seed Oil
 Unit Mass (g):

 Collected: 03/22/2023
 Received: 03/27/2023
 Completed: 03/31/2023

Client
 Wrapped in Hearts
 4630 50th Street
 Lubbock, TX 79414
 USA


Summary

Test	Date Tested	Status
Cannabinoids	03/30/2023	Tested
Foreign Matter	03/27/2023	Tested
Heavy Metals	03/28/2023	Passed
Microbials	03/31/2023	Passed
Mycotoxins	03/30/2023	Passed
Pesticides	03/30/2023	Passed
Residual Solvents	03/29/2023	Passed
Terpenes	03/30/2023	Tested

0.0807 mg/mL Total Δ9-THC	32.9 mg/mL Total CBD	33.4 mg/mL Total Cannabinoids	Not Tested Moisture Content	Not Detected Foreign Matter	Yes Internal Standard Normalization
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Cannabinoids by HPLC-PDA, LC-MS/MS, and/or GC-MS/MS

Analyte	LOD (mg/mL)	LOQ (mg/mL)	Result (mg/mL)	Result (%)	Result (mg/unit)
CBC	0.00095	0.00284	ND	ND	ND
CBCA	0.00181	0.00543	ND	ND	ND
CBCV	0.0006	0.0018	ND	ND	ND
CBD	0.00081	0.00242	32.9	3.52	988
CBDA	0.00043	0.0013	ND	ND	ND
CBDV	0.00061	0.00182	0.197	0.0211	5.92
CBDVA	0.00021	0.00063	ND	ND	ND
CBG	0.00057	0.00172	0.147	0.0157	4.41
CBGA	0.00049	0.00147	ND	ND	ND
CBL	0.00112	0.00335	ND	ND	ND
CBLA	0.00124	0.00371	ND	ND	ND
CBN	0.00056	0.00169	ND	ND	ND
CBNA	0.0006	0.00181	ND	ND	ND
CBT	0.0018	0.0054	0.0474	0.00507	1.42
Δ8-THC	0.00104	0.00312	ND	ND	ND
Δ9-THC	0.00076	0.00227	0.0807	0.00863	2.42
Δ9-THCA	0.00084	0.00251	ND	ND	ND
Δ9-THCV	0.00069	0.00206	ND	ND	ND
Δ9-THCVA	0.00062	0.00186	ND	ND	ND
Total Δ9-THC			0.0807	0.00863	2.42
Total CBD			32.9	3.52	988
Total			33.4	3.57	1000

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; RL = Reporting Limit; Δ = Delta; Total Δ9-THC = Δ9-THCA * 0.877 + Δ9-THC; Total CBD = CBDA * 0.877 + CBD;



 Generated By: Ryan Bellone
 CCO
 Date: 04/03/2023



 Tested By: Nicholas Howard
 Scientist
 Date: 03/30/2023

 ISO/IEC 17025:2017 Accredited
 Accreditation #108651


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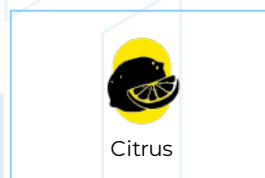
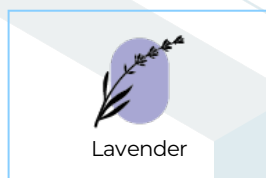
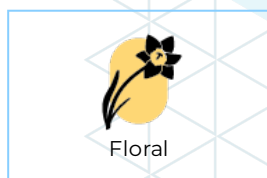
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Terpenes by GC-MS

Analyte	LOD (%)	LOQ (%)	Result (%)	Analyte	LOD (%)	LOQ (%)	Result (%)
α-Bisabolol	0.002	0.01	ND	Limonene	0.002	0.01	0.01879
(+)-Borneol	0.002	0.01	ND	Linalool	0.002	0.01	0.03483
Camphene	0.002	0.01	ND	β-myrcene	0.002	0.01	ND
Camphor	0.004	0.02	ND	Nerol	0.002	0.01	ND
3-Carene	0.002	0.01	ND	cis-Nerolidol	0.002	0.01	ND
β-Caryophyllene	0.002	0.01	<LOQ	trans-Nerolidol	0.002	0.01	ND
Caryophyllene Oxide	0.002	0.01	ND	Ocimene	0.002	0.01	ND
α-Cedrene	0.002	0.01	ND	α-Phellandrene	0.002	0.01	ND
Cedrol	0.002	0.01	ND	β-Pinene	0.002	0.01	ND
Eucalyptol	0.002	0.01	<LOQ	β-Pinene	0.002	0.01	<LOQ
Fenchone	0.004	0.02	ND	Pulegone	0.002	0.01	ND
Fenchyl Alcohol	0.002	0.01	ND	Sabinene	0.002	0.01	ND
Geraniol	0.002	0.01	ND	Sabinene Hydrate	0.002	0.01	ND
Geranyl Acetate	0.002	0.01	ND	α-Terpinene	0.002	0.01	ND
Guaial	0.002	0.01	ND	γ-Terpinene	0.002	0.01	<LOQ
Hexadhydrothymol	0.002	0.01	0.05308	α-Terpineol	0.001	0.005	ND
α-Humulene	0.002	0.01	ND	γ-Terpineol	0.001	0.005	ND
Isoborneol	0.002	0.01	ND	Terpinolene	0.002	0.01	ND
Isopulegol	0.002	0.01	ND	Valencene	0.002	0.01	ND
Total Terpenes (%)							0.129

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; P = Pass; F = Fail; RL = Reporting Limit




 Generated By: Ryan Bellone
 CCO
 Date: 04/03/2023



 Tested By: Jasper van Heemst
 Principal Scientist
 Date: 03/30/2023


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Heavy Metals by ICP-MS

Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)	P/F
Arsenic	2	20	ND	P
Cadmium	1	20	ND	P
Lead	2	20	<RL	P
Mercury	12	50	ND	P

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; P = Pass; F = Fail; RL = Reporting Limit



Generated By: Ryan Bellone
 CCO
 Date: 04/03/2023



Tested By: Kelsey Rogers
 Scientist
 Date: 03/28/2023



1000mg Mixed Berry Tincture

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Pesticides by LC-MS/MS

Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)	P/F	Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)	P/F
Acephate	30	100	ND	P	Hexythiazox	30	100	ND	P
Acetamiprid	30	100	ND	P	Imazalil	30	100	ND	P
Aldicarb	30	100	ND	P	Imidacloprid	30	100	ND	P
Azoxystrobin	30	100	ND	P	Kresoxim methyl	30	100	ND	P
Bifenazate	30	100	ND	P	Malathion	30	100	ND	P
Boscalid	30	100	ND	P	Metalaxyl	30	100	ND	P
Carbaryl	30	100	ND	P	Methiocarb	30	100	ND	P
Carbofuran	30	100	ND	P	Methomyl	30	100	ND	P
Chloranthraniliprole	30	100	ND	P	Mevinphos	30	100	ND	P
Chlorfenapyr	30	100	ND	P	Myclobutanil	30	100	ND	P
Chlorpyrifos	30	100	ND	P	Naled	30	100	ND	P
Clofentezine	30	100	ND	P	Oxamyl	30	100	ND	P
Coumaphos	30	100	ND	P	Paclobutrazol	30	100	ND	P
Daminozide	30	100	ND	P	Permethrin	30	100	ND	P
Diazinon	30	100	ND	P	Phosmet	30	100	ND	P
Dichlorvos	30	100	ND	P	Piperonyl Butoxide	30	100	ND	P
Dimethoate	30	100	ND	P	Prallethrin	30	100	ND	P
Dimethomorph	30	100	ND	P	Propiconazole	30	100	ND	P
Ethoprophos	30	100	ND	P	Propoxur	30	100	ND	P
Etoxazole	30	100	ND	P	Pyrethrins	30	100	ND	P
Fenhexamid	30	100	ND	P	Pyridaben	30	100	ND	P
Fenoxycarb	30	100	ND	P	Spinetoram	30	100	ND	P
Fenpyroximate	30	100	ND	P	Spinosad	30	100	ND	P
Fipronil	30	100	ND	P	Spiromesifen	30	100	ND	P
Flonicamid	30	100	ND	P	Spirotetramat	30	100	ND	P
Fludioxonil	30	100	ND	P	Spiroxamine	30	100	ND	P
					Tebuconazole	30	100	ND	P
					Thiacloprid	30	100	ND	P
					Thiamethoxam	30	100	ND	P
					Trifloxystrobin	30	100	ND	P

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; P = Pass; F = Fail; RL = Reporting Limit



 Generated By: Ryan Bellone
 CCO
 Date: 04/03/2023



 Tested By: Jasper van Heemst
 Principal Scientist
 Date: 03/30/2023


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Mycotoxins by LC-MS/MS

Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)	P/F
B1	1	5	ND	P
B2	1	5	ND	P
G1	1	5	ND	P
G2	1	5	ND	P
Ochratoxin A	1	5	ND	P

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; P = Pass; F = Fail; RL = Reporting Limit



Generated By: Ryan Bellone
 CCO
 Date: 04/03/2023



Tested By: Jasper van Heemst
 Principal Scientist
 Date: 03/30/2023



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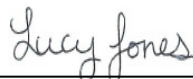
Microbials by PCR and Plating

Analyte	LOD (CFU/g)	Result (CFU/g)	P/F
Total aerobic count	1	ND	P
Total coliforms	1	ND	P
Generic E. coli	1	ND	P
Salmonella spp.	1	ND	P
Shiga-toxin producing E. coli (STEC)	1	ND	P

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; CFU = Colony Forming Units; P = Pass; F = Fail; RL = Reporting Limit



Generated By: Ryan Bellone
 CCO
 Date: 04/03/2023



Tested By: Lucy Jones
 Scientist
 Date: 03/31/2023



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Residual Solvents by HS-GC-MS

Analyte	LOD (ppm)	LOQ (ppm)	Result (ppm)	P/F	Analyte	LOD (ppm)	LOQ (ppm)	Result (ppm)	P/F
Acetone	167	500	ND	P	Ethylene Glycol	21	62	ND	P
Acetonitrile	14	41	ND	P	Ethylene Oxide	0.5	1	ND	P
Benzene	0.5	1	ND	P	Heptane	167	500	ND	P
Butane	167	500	ND	P	n-Hexane	10	29	ND	P
1-Butanol	167	500	ND	P	Isobutane	167	500	ND	P
2-Butanol	167	500	ND	P	Isopropyl Acetate	167	500	ND	P
2-Butanone	167	500	ND	P	Isopropyl Alcohol	167	500	ND	P
Chloroform	2	6	ND	P	Isopropylbenzene	167	500	ND	P
Cyclohexane	129	388	ND	P	Methanol	100	300	ND	P
1,2-Dichloroethane	0.5	1	ND	P	2-Methylbutane	10	29	ND	P
1,2-Dimethoxyethane	4	10	ND	P	Methylene Chloride	20	60	ND	P
Dimethyl Sulfoxide	167	500	ND	P	2-Methylpentane	10	29	ND	P
N,N-Dimethylacetamide	37	109	ND	P	3-Methylpentane	10	29	ND	P
2,2-Dimethylbutane	10	29	ND	P	n-Pentane	167	500	ND	P
2,3-Dimethylbutane	10	29	ND	P	1-Pentanol	167	500	ND	P
N,N-Dimethylformamide	30	88	ND	P	n-Propane	167	500	ND	P
2,2-Dimethylpropane	167	500	ND	P	1-Propanol	167	500	ND	P
1,4-Dioxane	13	38	ND	P	Pyridine	7	20	ND	P
Ethanol	167	500	ND	P	Tetrahydrofuran	24	72	ND	P
2-Ethoxyethanol	6	16	ND	P	Toluene	30	89	ND	P
Ethyl Acetate	167	500	ND	P	Trichloroethylene	3	8	ND	P
Ethyl Ether	167	500	ND	P	Tetramethylene Sulfone	6	16	ND	P
Ethylbenzene	3	7	ND	P	Xylenes (o-, m-, and p-)	73	217	ND	P

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; P = Pass; F = Fail; RL = Reporting Limit



 Generated By: Ryan Bellone
 CCO
 Date: 04/03/2023



 Tested By: Scott Caudill
 Senior Scientist
 Date: 03/29/2023


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Reporting Limit Appendix

Heavy Metals - Colorado CDPHE

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Arsenic	1500	Lead	500
Cadmium	500	Mercury	1500

Microbials -

Analyte	Limit (CFU/g)	Analyte	Limit (CFU/g)
Total coliforms	100	Total aerobic count	100000

Residual Solvents - USP 467

Analyte	Limit (ppm)	Analyte	Limit (ppm)
Acetone	5000	Ethylene Glycol	620
Acetonitrile	410	Ethylene Oxide	1
Benzene	2	Heptane	5000
Butane	5000	n-Hexane	290
1-Butanol	5000	Isobutane	5000
2-Butanol	5000	Isopropyl Acetate	5000
2-Butanone	5000	Isopropyl Alcohol	5000
Chloroform	60	Isopropylbenzene	5000
Cyclohexane	3880	Methanol	3000
1,2-Dichloroethane	5	2-Methylbutane	290
1,2-Dimethoxyethane	100	Methylene Chloride	600
Dimethyl Sulfoxide	5000	2-Methylpentane	290
N,N-Dimethylacetamide	1090	3-Methylpentane	290
2,2-Dimethylbutane	290	n-Pentane	5000
2,3-Dimethylbutane	290	1-Pentanol	5000
N,N-Dimethylformamide	880	n-Propane	5000
2,2-Dimethylpropane	5000	1-Propanol	5000
1,4-Dioxane	380	Pyridine	200
Ethanol	5000	Tetrahydrofuran	720
2-Ethoxyethanol	160	Toluene	890
Ethyl Acetate	5000	Trichloroethylene	80
Ethyl Ether	5000	Tetramethylene Sulfone	160
Ethylbenzene	70	Xylenes (o-, m-, and p-)	2170

Pesticides - CA DCC

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Aldicarb	30	Imidacloprid	3000
Azoxystrobin	40000	Kresoxim methyl	1000
Bifenazate	5000	Malathion	5000
Boscalid	10000	Metalaxyl	15000
Carbaryl	500	Methiocarb	30
Carbofuran	30	Methomyl	100
Chloranthraniliprole	40000	Mevinphos	30
Chlorfenapyr	30	Myclobutanil	9000
Chlorpyrifos	30	Naled	500
Clofentezine	500	Oxamyl	200
Coumaphos	30	Paclobotrazol	30
Daminozide	30	Permethrin	20000
Diazinon	200	Phosmet	200
Dichlorvos	30	Piperonyl Butoxide	8000
Dimethoate	30	Prallethrin	400
Dimethomorph	20000	Propiconazole	20000
Ethoprophos	30	Propoxur	30
Etoazole	1500	Pyrethrins	1000
Fenhexamid	10000	Pyridaben	3000
Fenoxycarb	30	Spinetoram	3000
Fenpyroximate	2000	Spinosad	3000
Fipronil	30	Spiromesifen	12000
Fonicamid	2000	Spirotetramat	13000
Fludioxonil	30000	Spiroxamine	30

Mycotoxins - Colorado CDPHE

Analyte	Limit (ppm)	Analyte	Limit (ppm)
B1	5	B2	5
G1	5	G2	5
Ochratoxin A	5		

Pesticides - CA DCC

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Acephate	5000	Hexythiazox	2000
Acetamiprid	5000	Imazail	30

