



Steep Hill Arkansas

11711 HERMITAGE ROAD, SUITE #5, LITTLE ROCK, AR 72211 LICENSE #: BL157155

CERTIFICATE OF ANALYSIS

Sample Name: HempBath Massage Oil
Steep Hill ID: AR88241
Batch ID: 20188-09
State ID: 0196A
Sample Type: Oil
Date Received: 7/20/2020
Date Reported: 7/23/2020
Pkg. Volume: 237 mL
of Servings: 237
Density: 1.01 g/mL

Customer: Abacus Health Products
25 John A Cummings
Woonsocket, RI 02895

OVERALL BATCH SUMMARY: **PASS**

Cannabinoids	Residual Pesticides	Microbial Impurities	Heavy Metals	Residual Solvents	Moisture	Water Activity
Tested	Pass	Pass	Pass	NT	NT	NT



Total THC

Not Detected
Not Detected
Not Detected
Not Detected

Total CBD

0.248 %
2.48 mg/g
595 mg/pkg
2.51 mg/serv

Total Cannabinoids

0.248 %
2.48 mg/g
595 mg/pkg
2.51 mg/serv

Brandon Thornton
Pharm D. Co-Owner & CEO
Date: 7/23/2020

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CERTIFICATE OF ANALYSIS

Cannabinoid Results

7/21/2020

Standard potency analysis utilizing Ultra High Performance Liquid Chromatography (UHPLC; SOP-068-AR)

Analyte	%	mg/g	mg/pkg	mg/serv	LOD mg/g	LOQ mg/g
CBC	NT	NT	NT	NT	NT	NT
CBD	0.248	2.48	595	2.51	0.000869	0.00290
CBDA	ND	ND	ND	ND	0.00237	0.00790
CBDV	NT	NT	NT	NT	NT	NT
CBG	NT	NT	NT	NT	NT	NT
CBGA	NT	NT	NT	NT	NT	NT
CBN	NT	NT	NT	NT	NT	NT
THC	ND	ND	ND	ND	0.00126	0.00419
delta-8-THC	NT	NT	NT	NT	NT	NT
THCA	ND	ND	ND	ND	0.00178	0.00593
THCV	NT	NT	NT	NT	NT	NT
Total	0.248	2.48	595	2.51		

Terpenoid Results

NT

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

This method is not included in our ISO accreditation scope.

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

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CERTIFICATE OF ANALYSIS

Residual Pesticides Results

Pass

7/21/2020

Residual pesticide analysis utilizing Liquid and Gas Chromatography – Mass Spectrometry (LC-MSMS + GC-MSMS);

SOP-070-AR + SOP-073-AR) - Limit units: ug/g = ppm

Analyte	Pass/Fail	µg/g	Limit	LOD µg/g	LOQ µg/g	Analyte	Pass/Fail	µg/g	Limit	LOD µg/g	LOQ µg/g
Abamectin	Pass	ND	0.5	0.167	0.558	Imazalil	Pass	ND	0.2	0.0215	0.0718
Acephate	Pass	ND	0.4	0.0130	0.0434	Imidacloprid	Pass	ND	0.4	0.0101	0.0338
Acequinocyl	Pass	ND	2	0.187	0.622	Kresoxim-methyl	Pass	ND	0.4	0.00898	0.0300
Acetamiprid	Pass	ND	0.2	0.0131	0.0438	Malathion	Pass	ND	0.2	0.00624	0.0208
Aldicarb	Pass	ND	0.4	0.0839	0.280	Metalaxyl	Pass	ND	0.2	0.00921	0.0307
Azoxystrobin	Pass	ND	0.2	0.0118	0.0394	Methiocarb	Pass	ND	0.2	0.00886	0.0296
Bifenazate	Pass	ND	0.2	0.00825	0.0275	Methomyl	Pass	ND	0.4	0.0133	0.0443
Bifenthrin	Pass	ND	0.2	0.0665	0.222	Methyl Parathion	Pass	ND	0.2	0.0148	0.0433
Boscalid	Pass	ND	0.4	0.0211	0.0703	MGK-264	Pass	ND	0.2	0.00197	0.00492
Carbaryl	Pass	ND	0.2	0.00789	0.0263	Myclobutanil	Pass	ND	0.2	0.0111	0.0371
Carbofuran	Pass	ND	0.2	0.00928	0.0309	Naled	Pass	ND	0.5	0.0199	0.0662
Chlorantraniliprole	Pass	ND	0.2	0.0144	0.0482	Oxamyl	Pass	ND	1	0.0187	0.0624
Chlorfenapyr	Pass	ND	1	0.0148	0.0433	Paclobutrazol	Pass	ND	0.4	0.0157	0.0525
Chlorpyrifos	Pass	ND	0.2	0.0134	0.0447	Permethrins	Pass	ND	0.2	0.0138	0.0404
Clofentezine	Pass	ND	0.2	0.0185	0.0618	Phosmet	Pass	ND	0.2	0.0139	0.0464
Cyfluthrin	Pass	ND	1	0.0227	0.0660	Piperonyl Butoxide	Pass	ND	2	0.00912	0.0304
Cypermethrin	Pass	ND	1	0.0227	0.0680	Prallethrin	Pass	ND	0.2	0.0302	0.101
Daminozide	Pass	ND	1	0.0271	0.0902	Propiconazole	Pass	ND	0.4	0.00649	0.0216
Diazinon	Pass	ND	0.2	0.00958	0.0319	Propoxur	Pass	ND	0.2	0.00712	0.0237
DDVP (Dichlorvos)	Pass	ND	0.1	0.0126	0.0421	Pyrethrins	Pass	ND	1	0.0101	0.0335
Dimethoate	Pass	ND	0.2	0.0133	0.0442	Pyridaben	Pass	ND	0.2	0.0152	0.0506
Ethoprophos	Pass	ND	0.2	0.0129	0.0429	Spinosad	Pass	ND	0.2	0.0172	0.0573
Etofenprox	Pass	ND	0.4	0.0182	0.0607	Spiromesifen	Pass	ND	0.2	0.0149	0.0497
Etoxazole	Pass	ND	0.2	0.0147	0.0490	Spirotetramat	Pass	ND	0.2	0.00726	0.0242
Fenoxycarb	Pass	ND	0.2	0.0117	0.0389	Spiroxamine	Pass	ND	0.4	0.0222	0.0738
Fenpyroximate	Pass	ND	0.4	0.00942	0.0314	Tebuconazole	Pass	ND	0.4	0.00659	0.0220
Fipronil	Pass	ND	0.4	0.0183	0.0609	Thiacloprid	Pass	ND	0.2	0.00773	0.0258
Flonicamid	Pass	ND	1	0.0233	0.0777	Thiamethoxam	Pass	ND	0.2	0.00774	0.0258
Fludioxonil	Pass	ND	0.4	0.0221	0.0736	Trifloxystrobin	Pass	ND	0.2	0.00952	0.0318
Hexythiazox	Pass	ND	1	0.00970	0.0323						

Heavy Metals Results

Pass

7/23/2020

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

Analyte	Pass/Fail	µg/kg	Limit	LOD µg/kg	LOQ µg/kg
Arsenic	Pass	ND	200	1.53	5.10
Cadmium	Pass	< LOQ	200	0.499	1.66
Lead	Pass	< LOQ	500	1.32	4.41
Mercury	Pass	5.76	100	0.818	2.73

Moisture Results

NT

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

Analyte	Pass/Fail	%	Limit
Moisture	NT	NT	

Microbial Impurities Results

Pass

7/21/2020

Microbiological screening utilizing 3M Petrifilm (SOP-700-AR) - Limit units: CFU/g

Analyte	Pass/Fail	Result	Limit	LOQ
Coliform	Pass	ND		Not Detected in 1 gram
General E. coli	NT	NT	NT	NT
Salmonella		NT	NT	NT

Water Activity Results

NT

Water activity analysis utilizing Water Activity Meter (WAM; SOP-059-AR) - Limit units: Aw

Analyte	Pass/Fail	Aw	Limit
Water Activity	NT	NT	

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CERTIFICATE OF ANALYSIS

Residual Solvents Results

NT

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

Analyte	Pass/Fail	µg/g	Limit	LOD µg/g	LOQ µg/g	Analyte	Pass/Fail	µg/g	Limit	LOD µg/g	LOQ µg/g
1-Butanol	NT	NT	NT	NT	NT	Dimethyl Sulfoxide	NT	NT	NT	NT	NT
1-Pentanol	NT	NT	NT	NT	NT	Ethanol	NT	NT	NT	NT	NT
1-Propanol	NT	NT	NT	NT	NT	Ethyl Acetate	NT	NT	NT	NT	NT
1,2-Dimethoxyethane	NT	NT	NT	NT	NT	Ethyl Ether	NT	NT	NT	NT	NT
1,4-Dioxane	NT	NT	NT	NT	NT	Ethylene Glycol	NT	NT	NT	NT	NT
2-Butanol	NT	NT	NT	NT	NT	Ethylene Oxide	NT	NT	NT	NT	NT
2-Butanone	NT	NT	NT	NT	NT	n-Heptane	NT	NT	NT	NT	NT
2-Ethoxyethanol	NT	NT	NT	NT	NT	n-Hexane	NT	NT	NT	NT	NT
2-Methylbutane	NT	NT	NT	NT	NT	Isopropyl Acetate	NT	NT	NT	NT	NT
2-Methylpentane	NT	NT	NT	NT	NT	Methanol	NT	NT	NT	NT	NT
2-Propanol (IPA)	NT	NT	NT	NT	NT	Methylpropane	NT	NT	NT	NT	NT
2,2-Dimethylbutane	NT	NT	NT	NT	NT	N,N-Dimethylacetamide	NT	NT	NT	NT	NT
2,3-Dimethylbutane	NT	NT	NT	NT	NT	N,N-Dimethylformamide	NT	NT	NT	NT	NT
3-Methylpentane	NT	NT	NT	NT	NT	n-Pentane	NT	NT	NT	NT	NT
Acetone	NT	NT	NT	NT	NT	Propane	NT	NT	NT	NT	NT
Acetonitrile	NT	NT	NT	NT	NT	Pyridine	NT	NT	NT	NT	NT
Benzene	NT	NT	NT	NT	NT	Sulfolane	NT	NT	NT	NT	NT
n-Butane	NT	NT	NT	NT	NT	Tetrahydrofuran	NT	NT	NT	NT	NT
Cumene	NT	NT	NT	NT	NT	Toluene	NT	NT	NT	NT	NT
Cyclohexane	NT	NT	NT	NT	NT	Xylenes	NT	NT	NT	NT	NT
Dichloromethane	NT	NT	NT	NT	NT						

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