



Steep Hill Hawaii™

1150 S. KING STREET, HONOLULU, HI 96814 LICENSE #: 92630

CERTIFICATE OF ANALYSIS

Sample Name: Alchemy
Steep Hill ID: HI87828
Batch ID: 1000100
State ID:
Sample Type: Tincture
Date Received: 7/7/2020
Date Reported: 7/16/2020
Density: 0.930 g/mL

Customer: Hawaii Nexus

OVERALL BATCH SUMMARY: **PASS**

Residual Pesticides	Microbial Impurities	Mycotoxins	Heavy Metals	Foreign Material	Residual Solvents
Pass	Pass	Pass	Pass	NT	NT



Total THC
0.192 %
1.92 mg/g
1.78 mg/mL

Total CBD
4.08 %
40.8 mg/g
37.9 mg/mL

Total Cannabinoids
4.59 %
45.9 mg/g
42.7 mg/mL

Total THC = [THCA x 0.877] + [THC]
Total CBD = [CBDA x 0.877] + [CBD]

Nelson Lazaga, Ph.D
Laboratory Director
Date: 7/16/2020

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CERTIFICATE OF ANALYSIS

Terpenoid Results

NT

Standard terpene analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MS; HI-SOP-024)

Analyte	%	mg/g	mg/mL	LOD mg/g	LOQ mg/g
α-Bisabolol	NT	NT	NT	NT	NT
Camphene	NT	NT	NT	NT	NT
3-Carene	NT	NT	NT	NT	NT
Caryophyllene Oxide	NT	NT	NT	NT	NT
β-Caryophyllene	NT	NT	NT	NT	NT
Citronellol	NT	NT	NT	NT	NT
Eucalyptol	NT	NT	NT	NT	NT
Geraniol	NT	NT	NT	NT	NT
Guaiol	NT	NT	NT	NT	NT
Humulene	NT	NT	NT	NT	NT
p-Isopropyltoluene	NT	NT	NT	NT	NT
Isopulegol	NT	NT	NT	NT	NT
Limonene	NT	NT	NT	NT	NT
Linalool	NT	NT	NT	NT	NT
β-Myrcene	NT	NT	NT	NT	NT
Nerolidol	NT	NT	NT	NT	NT
Ocimene	NT	NT	NT	NT	NT
α-Pinene	NT	NT	NT	NT	NT
β-Pinene	NT	NT	NT	NT	NT
α-Terpinene	NT	NT	NT	NT	NT
γ-Terpinene	NT	NT	NT	NT	NT
Terpinolene	NT	NT	NT	NT	NT
Total	NT	NT	NT	NT	NT

Microbial Impurities Results

Pass

7/10/2020

Microbiological screening utilizing PathogenDx and TEMPO (HI-SOP-008 + HI-SOP-007) - Limit units: CFU/g

Analyte	Pass/Fail	Result	Limit	LOQ
Aspergillus flavus	Pass	ND	ND	Not Detected in 1 gram
Aspergillus fumigatus	Pass	ND	ND	Not Detected in 1 gram
Aspergillus niger	Pass	ND	ND	Not Detected in 1 gram
Salmonella	Pass	ND	ND	Not Detected in 1 gram
Aerobic	Pass	<100	10000	1 CFU/g
Coliform	Pass	<100	100	1 CFU/g
Enterobacteria	Pass	<100	100	1 CFU/g
General E. coli	Pass	<1	ND	1 CFU/g
Yeast & Mold	Pass	<100	1000	1 CFU/g

Moisture Results

NT

Moisture content analysis utilizing Moisture Balance (MB; HI-SOP-033) - Limit units: %

Analyte	Pass/Fail	%	Limit
Moisture	NT	NT	

Foreign Material Results

NT

Foreign material analysis utilizing visual inspection with 10x magnification (HI-SOP-016)

Analyte	Pass/Fail
Visual Inspection	NT

Cannabinoid Results

7/15/2020

Standard potency analysis utilizing Ultra High Performance Liquid Chromatography (UHPLC; HI-SOP-024)

Analyte	%	mg/g	mg/mL	LOD mg/g	LOQ mg/g
CBC	NT	NT	NT	NT	NT
CBD	2.18	21.8	20.3	0.00947	0.00994
CBDA	2.16	21.6	20.1	0.00947	0.0170
CBDV	NT	NT	NT	NT	NT
CBDVA	NT	NT	NT	NT	NT
CBG	0.0540	0.540	0.502	0.00947	0.0109
CBGA	NT	NT	NT	NT	NT
CBN	ND	ND	ND	0.00947	0.00947
THC	0.182	1.82	1.69	0.00947	0.00947
delta-8-THC	NT	NT	NT	NT	NT
THCA	0.0113	0.113	0.105	0.00947	0.0218
THCV	NT	NT	NT	NT	NT
THCVA	NT	NT	NT	NT	NT
Total	4.59	45.9	42.7		

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

7/14/2020

Residual pesticide analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MSMS; HI-SOP-025) - Limit units: ug/g = ppm

Analyte	Pass/Fail	ug/g	Limit	LOD ug/g	LOQ ug/g	Analyte	Pass/Fail	ug/g	Limit	LOD ug/g	LOQ ug/g
Abamectin B1a	Pass	ND	1	0.240	0.728	Imazalil	Pass	ND	1	0.0470	0.142
Acephate	Pass	ND	1	0.0687	0.208	Imidacloprid	Pass	ND	1	0.0682	0.207
Acequinocyl	Pass	ND	1	0.00350	0.947	Kresoxim-methyl	Pass	ND	1	0.0644	0.195
Acetamiprid	Pass	ND	1	0.114	0.345	Malathion	Pass	ND	1	0.0589	0.178
Aldicarb	Pass	ND	1	0.0378	0.114	Metalaxyl	Pass	ND	1	0.0564	0.171
Azoxystrobin	Pass	ND	1	0.0875	0.265	Methiocarb	Pass	ND	1	0.0961	0.291
Bifenazate	Pass	ND	1	0.101	0.306	Methomyl	Pass	ND	1	0.0374	0.113
Bifenthrin	Pass	ND	1	0.198	0.600	Methyl Parathion	Pass	ND	1	0.143	0.433
Boscalid	Pass	ND	1	0.207	0.626	MGK-264	Pass	ND	1	0.187	0.566
Carbaryl	Pass	ND	1	0.0400	0.121	Myclobutanil	Pass	ND	1	0.0579	0.175
Carbofuran	Pass	ND	1	0.0280	0.0850	Naled	Pass	ND	1	0.0534	0.162
Chlorantraniliprole	Pass	ND	1	0.0859	0.260	Oxamyl	Pass	ND	1	0.0372	0.113
Chlorfenapyr	Pass	ND	1	0.0369	0.112	Paclobutrazol	Pass	ND	1	0.0376	0.114
Chlorpyrifos	Pass	ND	1	0.0844	0.256	Permethrin	Pass	ND	1	0.256	0.777
Clofentezine	Pass	ND	1	0.159	0.483	Phosmet	Pass	ND	1	0.133	0.403
Cyfluthrin	Pass	ND	1	0.397	0.947	Piperonyl Butoxide	Pass	ND	1	0.0435	0.132
Cypermethrin	Pass	ND	1	0.253	0.767	Prallethrin	Pass	ND	1	0.0790	0.239
Diazinon	Pass	ND	1	0.0334	0.101	Propiconazole	Pass	ND	1	0.0805	0.244
Dichlorvos	Pass	ND	1	0.170	0.514	Propoxur	Pass	ND	1	0.0295	0.0893
Dimethoate	Pass	ND	1	0.0470	0.142	Pyrethrins	Pass	ND	1	0.0377	0.114
Ethoprophos	Pass	ND	1	0.0892	0.270	Pyridaben	Pass	ND	1	0.200	0.607
Etofenprox	Pass	ND	1	0.231	0.700	Spinosad	Pass	ND	1	0.0315	0.0955
Etoazole	Pass	ND	1	0.0475	0.144	Spiromesifen	Pass	ND	1	0.0596	0.181
Fenpyroximate	Pass	ND	1	0.00140	0.00426	Spirotetramat	Pass	ND	1	0.0506	0.153
Fipronil	Pass	ND	1	0.107	0.326	Tebuconazole	Pass	ND	1	0.0769	0.233
Flonicamid	Pass	ND	1	0.0917	0.278	Thiacloprid	Pass	ND	1	0.0588	0.178
Fludioxonil	Pass	ND	1	0.0591	0.179	Thiamethoxam	Pass	ND	1	0.0394	0.120
Hexythiazox	Pass	ND	1	0.210	0.637	Trifloxystrobin	Pass	ND	1	0.0383	0.116

Mycotoxin Results

Pass

7/14/2020

Mycotoxin analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MS; HI-SOP-025) - Limit units: ug/kg = ppb

Analyte	Pass/Fail	ug/kg	Limit	LOD ug/kg	LOQ ug/kg
Aflatoxin B1		ND		4.91	14.9
Aflatoxin B2		ND		4.50	13.6
Aflatoxin G1		ND		4.67	14.1
Aflatoxin G2		ND		6.75	20.4
Ochratoxin A	Pass	ND	<20	8.70	26.4
Total Aflatoxins	Pass	ND	<20	6.75	20.4

Heavy Metals Results

Pass

7/16/2020

Heavy metals analysis utilizing Atomic Absorption Spectroscopy (AAS; HI-SOP-015) - Limit units: ug/g = ppm

Analyte	Pass/Fail	ug/g	Limit	LOD ug/g	LOQ ug/g
Arsenic	Pass	< LOQ	10	0.00155	1.62
Cadmium	Pass	ND	4	0.0000130	1.62
Lead	Pass	< LOQ	6	0.00188	1.62
Mercury	Pass	ND	2	0.00139	1.62

Residual Solvents Results

NT

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

Analyte	Pass/Fail	ug/g	Limit	LOD ug/g	LOQ ug/g	Analyte	Pass/Fail	ug/g	Limit	LOD ug/g	LOQ ug/g
Acetone	NT	NT	NT	NT	NT	Isobutane	NT	NT	NT	NT	NT
Acetonitrile	NT	NT	NT	NT	NT	Isopropanol	NT	NT	NT	NT	NT
Benzene	NT	NT	NT	NT	NT	Methanol	NT	NT	NT	NT	NT
Butanes	NT	NT	NT	NT	NT	n-Pentane	NT	NT	NT	NT	NT
Chloroform	NT	NT	NT	NT	NT	Tetrahydrofuran	NT	NT	NT	NT	NT
Ethanol	NT	NT	NT	NT	NT	Toluene	NT	NT	NT	NT	NT
Heptanes	NT	NT	NT	NT	NT	Total Xylenes	NT	NT	NT	NT	NT
n-Hexane	NT	NT	NT	NT	NT						

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