



Certificate of Analysis

PASSED

Liberty Health Sciences, FL

18770 N CR 225

Gainesville, FL, 32609, US

Telephone: (833) 254-4877

Email: Qualityassurance@libertyhealthsciences.com

Sample : GA20719001-010

Harvest/Lot ID: ENFV103-2207-11904

Batch# : DF-
ACGO-2207-11700

Sampled : 07/19/22

Ordered : 07/19/22

Sample Size Received : 16 gram

Total Batch Size : 2141 units

Completed : 07/22/22 Expires: 07/22/23

Sample Method : SOP.T.20.010

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Terpenes

TESTED

Terpenes	LOD (%)	mg/unit	%	Result (%)	Terpenes	LOD (%)	mg/unit	%	Result (%)
TOTAL TERPENES	0.007	47.41	4.741		CAMPHOR	0.013	ND	ND	
TOTAL TERPINEOL	0.007	ND	ND		BORNEOL	0.013	ND	ND	
CAMPENE	0.007	ND	ND		GERANIOL	0.007	ND	ND	
BETA-MYRCENE	0.007	ND	ND		PULEGONE	0.007	ND	ND	
3-CARENE	0.007	ND	ND		ALPHA-CEDRENE	0.007	ND	ND	
ALPHA-PHELLANDRENE	0.007	ND	ND		ALPHA-HUMULENE	0.007	5.83	0.583	
OCIMENE	0.007	ND	ND		TRANS-NEROLIDOL	0.007	ND	ND	
EUCALYPTOL	0.007	ND	ND		GUAIOL	0.007	ND	ND	
LINALOOL	0.007	7.38	0.738		Analyzed by: 3404, 3655, 3205, 3303, 2155				
FENCHONE	0.007	ND	ND		Weight: 0.9069g				
ISOPULEGOL	0.007	ND	ND		Extraction date: 07/19/22 14:58:38				
ISOBORNEOL	0.007	ND	ND		Extracted by: 3655				
HEXAHYDROTHYMOL	0.007	ND	ND		Analysis Method : SOP.T.30.061A.FL, SOP.T.40.061A.FL				
NEROL	0.007	ND	ND		Analytical Batch : GA047040TER				
GERANYL ACETATE	0.007	ND	ND		Instrument Used : GA-GCMS-002 QP2010S				
BETA-CARYOPHYLLENE	0.007	26.87	2.687		Running on : 07/19/22 16:49:24				
VALENCENE	0.007	ND	ND		Dilution : 50				
CIS-NEROLIDOL	0.007	ND	ND		Reagent : 060922.R22; 050322.48; 010421.48				
CEDROL	0.007	ND	ND		Consumables : 947.109; H20364; 9291.271; LLS-00-0005; 89012-780; RONB32898; 000000146137; 210268; 212516				
CARYOPHYLLENE OXIDE	0.007	<0.2	<0.02		Pipette : GA-005; GA-011; GA-146; GA-151				
FARNESENE	0	<0.01	ND		Terpenoid testing is performed utilizing Gas Chromatography Mass Spectrometry.				
ALPHA-BISABOLOL	0.007	3.8	0.38						
ALPHA-PINENE	0.007	ND	ND						
SABINENE	0.007	ND	ND						
BETA-PINENE	0.007	ND	ND						
ALPHA-TERPINENE	0.007	ND	ND						
LIMONENE	0.007	3.53	0.353						
GAMMA-TERPINENE	0.007	ND	ND						
TERPINOLENE	0.007	ND	ND						
SABINENE HYDRATE	0.007	ND	ND						
FENCHYL ALCOHOL	0.007	ND	ND						
Total (%)			4.741						



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Pesticides

PASSED

Pesticide	LOD	Units	Action Level	Pass/Fail	Result	Pesticide	LOD	Units	Action Level	Pass/Fail	Result
TOTAL CONTAMINANT LOAD (PESTICIDES)	0.01	PPM	5	PASS	ND	PACLOBUTRAZOL	0.01	ppm	0.1	PASS	ND
TOTAL DIMETHOMORPH	0.01	PPM	0.2	PASS	ND	PHOSMET	0.01	ppm	0.1	PASS	ND
TOTAL PERMETHRIN	0.01	ppm	0.1	PASS	ND	PIPERONYL BUTOXIDE	0.01	ppm	3	PASS	ND
TOTAL SPINETORAM	0.01	PPM	0.2	PASS	ND	PRALLETHRIN	0.01	ppm	0.1	PASS	ND
TOTAL SPINOSAD	0.01	ppm	0.1	PASS	ND	PROCONAZOLE	0.01	ppm	0.1	PASS	ND
ABAMECTIN B1A	0.01	ppm	0.1	PASS	ND	PROPOXUR	0.01	ppm	0.1	PASS	ND
ACEPHATE	0.01	ppm	0.1	PASS	ND	PYRETHRINS	0.01	ppm	0.5	PASS	ND
ACEQUINOXYL	0.01	ppm	0.1	PASS	ND	PYRIDABEN	0.01	ppm	0.2	PASS	ND
ACETAMIPRID	0.01	ppm	0.1	PASS	ND	SPIROMESIFEN	0.01	ppm	0.1	PASS	ND
ALDICARB	0.01	ppm	0.1	PASS	ND	SPIROTETRAMAT	0.01	ppm	0.1	PASS	ND
AZOXYSTROBIN	0.01	ppm	0.1	PASS	ND	SPIROXAMINE	0.01	ppm	0.1	PASS	ND
BIFENAZATE	0.01	ppm	0.1	PASS	ND	TEBUCONAZOLE	0.01	ppm	0.1	PASS	ND
BIFENTHRIN	0.01	ppm	0.1	PASS	ND	THIACLOPRID	0.01	ppm	0.1	PASS	ND
BOSCALID	0.01	PPM	0.1	PASS	ND	THIAMETHOXAM	0.01	ppm	0.5	PASS	ND
CARBARYL	0.01	ppm	0.5	PASS	ND	TRIFLOXYSTROBIN	0.01	ppm	0.1	PASS	ND
CARBOFURAN	0.01	ppm	0.1	PASS	ND	PENTACHLORONITROBENZENE (PCNB) *	0.01	PPM	0.15	PASS	ND
CHLORANTRANILIPROLE	0.01	ppm	1	PASS	ND	PARATHION-METHYL *	0.01	PPM	0.1	PASS	ND
CHLORMEQUAT CHLORIDE	0.01	ppm	1	PASS	ND	CAPTAN *	0.07	PPM	0.7	PASS	ND
CHLORPYRIFOS	0.01	ppm	0.1	PASS	ND	CHLORDANE *	0.01	PPM	0.1	PASS	ND
CLOFENTZINE	0.01	ppm	0.2	PASS	ND	CHLORFENAPYR *	0.01	PPM	0.1	PASS	ND
COUMAPHOS	0.01	ppm	0.1	PASS	ND	CYFLUTHRIN *	0.05	PPM	0.5	PASS	ND
DAMINOZIDE	0.01	ppm	0.1	PASS	ND	CYPERMETHRIN *	0.05	PPM	0.5	PASS	ND
DIAZINON	0.01	ppm	0.1	PASS	ND						
DICHLORVOS	0.01	ppm	0.1	PASS	ND						
DIMETHOATE	0.01	ppm	0.1	PASS	ND						
ETHOPROPHOS	0.01	ppm	0.1	PASS	ND						
ETOFENPROX	0.01	ppm	0.1	PASS	ND						
ETOXAZOLE	0.01	ppm	0.1	PASS	ND						
FENHEXAMID	0.01	ppm	0.1	PASS	ND						
FENOXYCARB	0.01	ppm	0.1	PASS	ND						
FENPYROXIMATE	0.01	ppm	0.1	PASS	ND						
FIPRONIL	0.01	ppm	0.1	PASS	ND						
FLONICAMID	0.01	ppm	0.1	PASS	ND						
FLUDIOXONIL	0.01	ppm	0.1	PASS	ND						
HEXYTHIAZOX	0.01	ppm	0.1	PASS	ND						
IMAZALIL	0.01	ppm	0.1	PASS	ND						
IMIDACLOPRID	0.01	ppm	0.4	PASS	ND						
KRESOXIM-METHYL	0.01	ppm	0.1	PASS	ND						
MALATHION	0.01	ppm	0.2	PASS	ND						
METALAXYL	0.01	ppm	0.1	PASS	ND						
METHIOCARB	0.01	ppm	0.1	PASS	ND						
METHOMYL	0.01	ppm	0.1	PASS	ND						
MEVINPHOS	0.01	ppm	0.1	PASS	ND						
MYCLOBUTANIL	0.01	ppm	0.1	PASS	ND						
NALED	0.01	ppm	0.25	PASS	ND						
OXAMYL	0.01	ppm	0.5	PASS	ND						

Analyzed by:	Weight:	Extraction date:	Extracted by:
3404, 3655, 3192, 3303, 3317	1.1217g	07/20/22 09:41:16	3655
Analysis Method :SOP.T.30.101.FL, SOP.T.30.102.FL, SOP.T.30.151.FL, SOP.T.40.101.FL, SOP.T.40.102.FL, SOP.T.40.151.FL			
Analytical Batch :GA047041PES		Reviewed On :07/21/22 11:09:30	
Instrument Used :GA-LCMS-001 PES		Batch Date :07/18/22 17:14:16	
Running on :07/20/22 12:24:36			
Dilution : 10			
Reagent : 061922.R02; 061922.R04; 070822.R34; 050621.01			
Consumables : 947.109; H20364; LLS-00-0005; 89012-780; 296055173; 210268			
Pipette : GA-002			
Testing for agricultural agents is performed utilizing Liquid Chromatography Triple-Quadrupole Mass Spectrometry and Gas Chromatography Triple-Quadrupole Mass Spectrometry in accordance with F.S. Rule 64ER20-39.			

Analyzed by:	Weight:	Extraction date:	Extracted by:
3404, 3192, 3317, 3303	1.1217g	07/20/22 09:41:16	3655
Analysis Method :SOP.T.30.060, SOP.T.40.060			
Analytical Batch :GA047155VOL		Reviewed On :07/21/22 11:24:17	
Instrument Used :GA-GCMS-006		Batch Date :07/20/22 11:25:55	
Running on :07/20/22 14:17:53			
Dilution : 100			
Reagent : 061922.R02; 061922.R04; 070822.R34; 050621.01; 070822.R07			
Consumables : 947.109; H20364; LLS-00-0005; 89012-780; 296055173; 55447-U.11925903; 944C4 944; 210268; 212516			
Pipette : GA-002; GA-006; GA-013			
Testing for agricultural agents is performed utilizing Liquid Chromatography Triple-Quadrupole Mass Spectrometry and Gas Chromatography Triple-Quadrupole Mass Spectrometry in accordance with F.S. Rule 64ER20-39.			



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Sample Method : SOP.T.20.010

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Residual Solvents

PASSED

Solvents	LOD	Units	Action Level	Pass/Fail	Result
METHANOL	25	ppm	250	PASS	ND
ETHANOL	500	ppm	5000	PASS	ND
PENTANES (N-PENTANE)	75	ppm	750	PASS	ND
ETHYL ETHER	50	ppm	500	PASS	ND
ACETONE	75	ppm	750	PASS	ND
2-PROPANOL	50	ppm	500	PASS	ND
ACETONITRILE	6	ppm	60	PASS	ND
DICHLOROMETHANE	12.5	ppm	125	PASS	ND
N-HEXANE	25	ppm	250	PASS	ND
ETHYL ACETATE	40	ppm	400	PASS	ND
BENZENE	0.1	ppm	1	PASS	ND
HEPTANE	500	ppm	5000	PASS	ND
TOLUENE	15	ppm	150	PASS	ND
TOTAL XYLENES	15	ppm	150	PASS	ND
PROPANE	500	ppm	5000	PASS	ND
CHLOROFORM	0.2	ppm	2	PASS	ND
BUTANES (N-BUTANE)	500	ppm	5000	PASS	ND
1,2-DICHLOROETHANE	0.2	ppm	2	PASS	ND
ETHYLENE OXIDE	0.5	ppm	5	PASS	ND
1,1-DICHLOROETHENE	0.8	ppm	8	PASS	ND
TRICHLOROETHYLENE	2.5	ppm	25	PASS	ND

Analyzed by:

N/A

Weight:

N/A

Extraction date:

N/A

Extracted by:

N/A

Analysis Method : SOP.T.40.041.FL

Analytical Batch : GA04707450L

Instrument Used : GA-GCMS-004 QP2020NX

Running on : 07/19/22 12:57:15

Reviewed On : 07/20/22 12:04:40

Batch Date : 07/19/22 10:33:06

Dilution : N/A

Reagent : N/A

Consumables : 27296; 854996

Pipette : N/A

Residual solvents analysis is performed utilizing Gas Chromatography Mass Spectrometry in accordance with with F.S. Rule 64ER20-39.



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
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<div></div> <div>Microbial</div> <div>PASSED</div>						<div></div> <div>Mycotoxins</div> <div>PASSED</div>					
Analyte	LOD	Units	Result	Pass / Fail	Action Level	Analyte	LOD	Units	Result	Pass / Fail	Action Level
ESCHERICHIA COLI SHIGELLA SPP			Not Present	PASS		AFLATOXIN B2	0.002	ppm	ND	PASS	0.02
SALMONELLA SPECIFIC GENE			Not Present	PASS		AFLATOXIN B1	0.002	ppm	ND	PASS	0.02
ASPERGILLUS FLAVUS			Not Present	PASS		OCHRATOXIN A	0.002	ppm	ND	PASS	0.02
ASPERGILLUS FUMIGATUS			Not Present	PASS		AFLATOXIN G1	0.002	ppm	ND	PASS	0.02
ASPERGILLUS TERREUS			Not Present	PASS		AFLATOXIN G2	0.002	ppm	ND	PASS	0.02
ASPERGILLUS NIGER			Not Present	PASS							
TOTAL YEAST AND MOLD	10	CFU/g	<10	PASS	100000						
Analyzed by: 3404, 1790, 3209, 2821, 1541			Weight: 1.1g		Extraction date: 07/19/22 14:16:11	Extracted by: 1790					
Analysis Method : SOP.T.40.041, SOP.T.40.043, SOP.T.40.045, SOP.T.40.056B, SOP.T.40.058.FL, SOP.T.40.208						Analysis Method : SOP.T.30.101.FL, SOP.T.40.101.FL, SOP.T.30.102.FL, SOP.T.40.102.FL					
Analytical Batch : GA047096MIC			Reviewed On : 07/22/22 08:11:52			Analytical Batch : GA047156MYC			Reviewed On : 07/21/22 11:13:19		
Instrument Used : GA-TYM-001 Tempo Filler and Reader			Batch Date : 07/19/22 14:08:28			Instrument Used : GA-LCMS-001 MYC			Batch Date : 07/20/22 11:26:00		
Running on : 07/19/22 15:53:29						Running on : 07/20/22 12:26:03					
Dilution : 90						Dilution : 10					
Reagent : 060122.05; 032822.02						Reagent : 061922.R02; 061922.R04; 070822.R34; 050621.01					
Consumables : 2303260; 2303190; 2304090; 2305240; 61630-123C6-123E						Consumables : 947.109; H20364; LLS-00-0005; 89012-780; 296055173; 944C4 944J; 210268; 212516					
Pipette : GA-154; GA-186; GA-213						Pipette : GA-002; GA-006; GA-013					
Microbial testing is performed utilizing various technologies including: PCR, RTPCR, MPN, and traditional culture based techniques in accordance with F.S. Rule 64ER20-39..						Mycotoxins testing utilizing Liquid Chromatography with Triple-Quadrupole Mass Spectrometry in accordance with F.S. Rule 64ER20-39.					
<div></div> <div>Heavy Metals</div> <div>PASSED</div>											
Metal	LOD	Units	Result	Pass / Fail	Action Level	Metal	LOD	Units	Result	Pass / Fail	Action Level
TOTAL CONTAMINANT LOAD METALS	0.11	PPM	ND	PASS	1.1	ARSENIC	0.02	PPM	ND	PASS	0.2
CADMIUM	0.02	PPM	ND	PASS	0.2	CADMIUM	0.02	PPM	ND	PASS	0.2
MERCURY	0.02	PPM	ND	PASS	0.2	MERCURY	0.02	PPM	ND	PASS	0.2
LEAD	0.05	PPM	ND	PASS	0.5	LEAD	0.05	PPM	ND	PASS	0.5
Analyzed by: 3404, 3571, 3317, 1541			Weight: 0.4405g		Extraction date: 07/20/22 10:33:30	Extracted by: 3571					
Analysis Method : SOP.T.30.081.FL, SOP.T.30.082.FL, SOP.T.40.081.FL, SOP.T.40.082.FL						Analysis Method : SOP.T.30.081.FL, SOP.T.30.082.FL, SOP.T.40.081.FL, SOP.T.40.082.FL					
Analytical Batch : GA047039HEA			Reviewed On : 07/21/22 11:05:18			Analytical Batch : GA047039HEA			Reviewed On : 07/21/22 11:05:18		
Instrument Used : GA-ICPMS-002			Batch Date : 07/18/22 17:13:28			Instrument Used : GA-ICPMS-002			Batch Date : 07/18/22 17:13:28		
Running on : N/A						Running on : N/A					
Dilution : 100						Dilution : 100					
Reagent : 052422.R35; 070522.R18; 010421.51; 071522.04; 071522.R33; 071922.R23; 071922.R24; 042022.R45						Reagent : 052422.R35; 070522.R18; 010421.51; 071522.04; 071522.R33; 071922.R23; 071922.R24; 042022.R45					
Consumables : GA-194; GA-195; CGR0114; 12455-202CD-202C; 210268; L2019501						Consumables : GA-194; GA-195; CGR0114; 12455-202CD-202C; 210268; L2019501					
Pipette : GA-012; GA-183; GA-193						Pipette : GA-012; GA-183; GA-193					
Heavy Metals analysis is performed using Inductively Coupled Plasma Mass Spectrometry in accordance with F.S. Rule 64ER20-39.						Heavy Metals analysis is performed using Inductively Coupled Plasma Mass Spectrometry in accordance with F.S. Rule 64ER20-39.					



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**Filth/Foreign
Material**
PASSED

Analyte	LOD	Units	Result	P/F	Action Level
Filth and Foreign Material	1	%	ND	PASS	5

Analyzed by: 3404, 3192, 1541	Weight: 9.8747g	Extraction date: 07/19/22 13:04:13	Extracted by: 3192
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Analysis Method : SOP.T.30.074, SOP.T.40.074

Analytical Batch : GA047084FIL

Instrument Used : GA-Filth/Foreign Material Microscope

Running on : N/A

Reviewed On : 07/19/22 15:53:02

Batch Date : 07/19/22 11:50:42

Dilution : N/A

Reagent : N/A

Consumables : N/A

Pipette : N/A

Filth and foreign material inspection is performed by visual inspection utilizing naked eye and microscope technologies in accordance with F.S. Rule 64ER20-39.


Water Activity
PASSED

Analyte	LOD	Units	Result	P/F	Action Level
Water Activity	0.1	aw	0.647	PASS	0.85

Analyzed by: 3404, 3655, 2507	Weight: 0.8723g	Extraction date: 07/20/22 09:42:37	Extracted by: 3655
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Analysis Method : SOP.T.40.019

Analytical Batch : GA047095WAT

Instrument Used : GA-085 Rotronic HygroPalm

Running on : N/A

Reviewed On : 07/20/22 12:21:29

Batch Date : 07/19/22 13:48:02

Dilution : N/A

Reagent : N/A

Consumables : 107264

Pipette : N/A

Water Activity is performed using a Rotronic HygroPalm HP 23-AW in accordance with F.S. Rule 64ER20-39.