Cannabinoids Test SHIMADZU INTEGRATED UPLC-PDA

GSL SOP 400



Order #: 35129 Order Name: Koi Naturals Lemon Lime 250 mg Batch#: 9244NLL250 Received: 09/16/2019 Completed: 09/23/2019



Koi CBD LLC 14631 Best Ave Norwalk California, 90650 (877) 774-4779 thinh@koicbd.com



UPLOADED: 09/19/2019 14:16:52

Sample



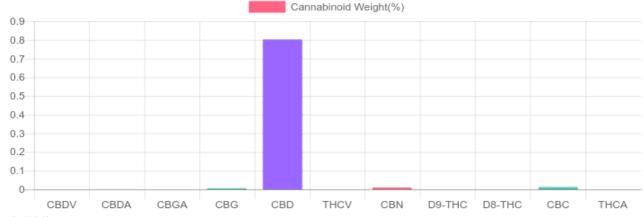
258.7 mg Cannabinoids per Unit

250.1 mg CBD per Unit

Cannabinoids LOQ weight(%) mg/g mg/Unit D9-THC 10 PPM N/D N/D N/D THCA 10 PPM N/D N/D N/D CBD 10 PPM 0.802% 8.015 250.1 CBDA 20 PPM B/LOQ B/LOQ B/LOQ CBDV 20 PPM N/D N/D N/D CBC 10 PPM 0.012% 0.116 3.6 CBN 10 PPM 0.010% 0.098 3.1 CBG 10 PPM 0.006% 0.061 1.9 CBGA 20 PPM N/D N/D N/D D8-THC 10 PPM N/D N/D N/D THCV 10 PPM N/D N/D N/D TOTAL D9-THC N/D N/D N/D TOTAL CBD* 250.1 0.802% 8.015 TOTAL CANNABINOIDS 0.830% 8.290 258.7

PREPARED: 09/18/2019 21:12:43

1 Unit = 30 ml per Unit x density (1.04) x Cannabinoid concentration



Reporting Limit 10 ppm

*Total CBD = CBD + CBDA x 0.877

N/D - Not Detected, B/LOQ - Below Limit of Quantification



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Dr. Andrew Hall, Ph.D., CSO & Lab Director

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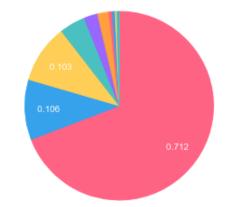
TERPENES: TOTAL (1.029%)

Headspace GCMS - Shimadzu GCMS QP2020 with HS20

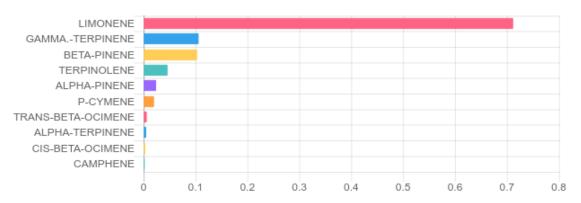
Terpene	Results (%)	LOQ (%)	LOD (%)
ALPHA-PINENE	0.024%	0.0067%	0.0063%
ALPHA-TERPINENE	B/LOQ	0.0067%	0.0063%
BETA-PINENE	0.103%	0.0067%	0.0063%
CAMPHENE	B/LOQ	0.0067%	0.0063%
CIS-BETA-OCIMENE	B/LOQ	0.0067%	0.0031%
EUCALYPTOL	B/LOQ	0.0067%	0.0063%
GAMMATERPINENE	0.106%	0.0067%	0.0016%
LIMONENE	0.712%	0.0067%	0.0063%
P-CYMENE	0.020%	0.0067%	0.0063%
TERPINOLENE	0.046%	0.0067%	0.0063%
TRANS-BETA-OCIMENE	B/LOQ	0.0067%	0.0031%

GSL SOP 404 Prepared: 09/17/2019 22:12:03 Uploaded: 09/19/2019 18:06:15

Terpenes Breakdown



Top Terpenes Results:



Tested for but not present:

BETA-MYRCENE, 3-CARENE, LINALOOL, ISOPULEGOL, GERANIOL, CARYOPHYLLENE, HUMULENE, CIS-NEROLIDOL, TRANS-NEROLIDOL, GUAIOL, CARYOPHYLLENE OXIDE, ALPHA-BISABOLOL



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Order #: 35129 Order Name: Koi Naturals Lemon Lime 250 mg Batch#: 9244NLL250 Received: 09/16/2019 Completed: 09/23/2019



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PESTICIDE ANALYSIS:

GSL SOP 401

PREPARED: 09/17/2019 21:00:47

UPLOADED: 09/18/2019 21:26:16

GCMS-MS - Shimadzu GCMS-TQ8040

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
CAPTAN	0.700	N/D	0.003	0.001
CHLORDANE	0.100	N/D	0.003	0.001
CHLORFENAPYR	0.100	N/D	0.003	0.001
COUMAPHOS	0.100	N/D	0.003	0.001

Pesticide	Action Level	Results	LOQ	LOD
Festicide	(ppm)	(ppm)	(ppm)	(ppm)
CYFLUTHRIN	2.000	N/D	0.003	0.001
CYPERMETHRIN	1.000	N/D	0.003	0.001
PARATHION-METHYL	0.100	N/D	0.003	0.001
PENTACHLORONITROBENZENE	E 0.100	N/D	0.003	0.001

LCMS-MS - Shimadzu LCMS-8060

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
ABAMECTIN B1A	0.100	N/D	0.005	0.001
ACEPHATE	0.100	N/D	0.001	0.001
ACEQUINOCYL	0.100	N/D	0.001	0.001
ACETAMIPRID	0.100	N/D	0.005	0.001
ALDICARB	0.100	N/D	0.005	0.001
AZOXYSTROBIN	0.100	N/D	0.001	0.001
BIFENAZATE	0.100	N/D	0.005	0.001
BIFENTHRIN	3.000	N/D	0.005	0.001
BOSCALID	0.100	N/D	0.005	0.001
CARBARYL	0.500	N/D	0.003	0.001
CARBOFURAN	0.100	N/D	0.001	0.001
CHLORANTRANILIPROLE	10.000	N/D	0.005	0.005
CHLORPYRIFOS	0.100	N/D	0.001	0.001
CLOFENTEZINE	0.100	N/D	0.001	0.001
DAMINOZIDE	0.100	N/D	0.005	0.001
DIAZANON	0.100	N/D	0.001	0.001
DICHLORVOS	0.100	N/D	0.005	0.001
DIMETHOATE	0.100	N/D	0.001	0.001
DIMETHOMORPH	2.000	N/D	0.005	0.001
ETHOPROPHOS	0.100	N/D	0.001	0.001
ETOFENPROX	0.100	N/D	0.001	0.001
ETOXAZOLE	0.100	N/D	0.010	0.005
FENHEXAMID	0.100	N/D	0.005	0.001
FENOXYCARB	0.100	N/D	0.005	0.001
FENPYROXIMATE	0.100	N/D	0.001	0.001
FIPRONIL	0.100	N/D	0.003	0.001
FLONICAMID	0.100	N/D	0.025	0.010
FLUDIOXONIL	0.100	N/D	0.003	0.001
HEXYTHIAZOX	0.100	N/D	0.005	0.001

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
IMAZALIL	0.100	N/D	0.005	0.001
IMIDACLOPRID	5.000	N/D	0.005	0.001
KRESOXIM-METHYL	0.100	N/D	0.010	0.005
MALATHION	0.500	N/D	0.005	0.001
METALAXYL	2.000	N/D	0.001	0.001
METHIOCARB	0.100	N/D	0.005	0.001
METHOMYL	1.000	N/D	0.001	0.001
MEVINPHOS	0.100	N/D	0.001	0.001
MYCLOBUTANIL	0.100	N/D	0.005	0.001
NALED	0.100	N/D	0.005	0.001
OXAMYL	0.500	N/D	0.001	0.001
PACLOBUTRAZOL	0.100	N/D	0.005	0.001
PERMETHRINS	0.500	N/D	0.005	0.001
PHOSMET	0.100	N/D	0.005	0.001
PIPERONYL BUTOXIDE	3.000	N/D	0.001	0.001
PRALLETHRIN	0.100	N/D	0.005	0.005
PROPICONAZOLE	0.100	N/D	0.010	0.005
PROPOXUR	0.100	N/D	0.001	0.001
PYRETHRINS (PYRETHRIN I)	0.500	N/D	0.005	0.005
PYRIDABEN	0.100	N/D	0.005	0.001
SPINETORAM	0.100	N/D	0.001	0.001
SPINOSAD	0.100	N/D	0.001	0.001
SPIROMESIFEN	0.100	N/D	0.005	0.001
SPIROTETRAMAT	0.100	N/D	0.001	0.001
SPIROXAMINE	0.100	N/D	0.001	0.001
TEBUCONAZOLE	0.100	N/D	0.005	0.001
THIACLOPRID	0.100	N/D	0.001	0.001
THIAMETHOXAM	5.000	N/D	0.001	0.001
TRIFLOXYSTROBIN	0.100	N/D	0.001	0.001

N/D = Not Detected, A/LOQ = Above LOQ Level, B/LOQ = Below LOQ Level, B/LOD = Below LOD Level



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RESIDUAL SOLVENTS:

Headspace GCMS - Shimadzu GCMS QP2020 with HS20

GSL SOP 405 Prepared: 09/17/2019 22:10:17 Uploaded: 09/18/2019 23:45:27

Residual Solvent	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
ACETONE	5,000	N/D	140	20
ACETONITRILE	410	N/D	25	1
BENZENE	1	N/D	1	0.5
BUTANE	5,000	N/D	50	10
CHLOROFORM	1	N/D	1	0.5
DICHLOROETHANE	1	N/D	1	0.5
DICHLOROMETHANE	1	N/D	1	0.5
ETHANOL	5,000	N/D	140	20
ETHYL ACETATE	5,000	N/D	140	20
ETHYL ETHER	5,000	N/D	140	20
SOPROPYL ALCOHOL	5,000	N/D	140	20
METHANOL	3,000	N/D	100	20
N-HEPTANE	5,000	N/D	140	20
N-HEXANE	290	N/D	18	10
PENTANE	5,000	N/D	140	20
PROPANE	5,000	N/D	20	1
OLUENE	890	N/D	53	1
FRICHLOROETHENE	1	N/D	0	0
XYLENES	2,170	N/D	130	20



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Microbial Analysis:

Microbial Analysis GSL SOP 406 Uploaded: 09/20/2019 18:13:12

PCR - Agilent AriaMX Test	Test Method Used	Device Used	LOD	Allowable Criteria	Actual Result	Pass/Fail
STEC E.COLI*	USP 61/62†	ARIAMX PCR	2 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS
SALMONELLA*	USP 61/62†	ARIAMX PCR	5 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS
ASPERGILLUS	USP 61/62†	ARIAMX PCR	ASP_LOD***	PRESENCE / ABSENT	BELOW LOD	PASS
YEAST AND MOLD	USP 61/62†	ARIAMX PCR	363.05518 CFU/G**	1,000	BELOW THRESHOLD	PASS
TOTAL AEROBIC BACTERIA	USP 61/62†	ARIAMX PCR	0.25316 CFU/G**	10,000	BELOW THRESHOLD	PASS
COLIFORM	USP 61/62†	ARIAMX PCR	3.41539 CFU/G**	100	BELOW THRESHOLD	PASS
ENTEROBACTERIACEAE	USP 61/62†	ARIAMX PCR	0.32951 CFU/G**	100	BELOW THRESHOLD	PASS

† USP 61 (enumeration of bacteria TAC, TYM, and ENT/Coliform), USP 62 (identifying specific species E.coli Aspergillus etc) * STEC and Salmonella run as Multiplex

** CFU/g Calculation based on Select Category Type Gummy MIP/Extract Flower matrix
*** Flavus = 2 Copies of DNA / Fumigatis = 2 Copies of DNA Niger = 20 Copies of DNA / Terrus = 10 copies of DNA



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Mycotoxin Analysis:

LC-MS - Shimadzu LCMS-8060 GSL SOP 401

Uploaded: 09/18/2019 21:24:34

Analyte	Action Lvl (ppb)	Results (ppb)
AFLATOXIN B1	20	N/D
AFLATOXIN B2	20	N/D
AFLATOXIN G1	20	N/D
AFLATOXIN G2	20	N/D
OCHRATOXIN A	20	N/D

LOQ is 4ppb, LOD is 1ppb

Water Activity:

HD-3A Water Activity Meter - GSL SOP 407

Uploaded: 09/20/2019 00:29:44

Water

0.72

Filth and Foreign Materials Analysis:

Microscope - Amscope Simul-Focal Trinocular Stereo Zoom Microscope - GSL SOP 409

Uploaded: 09/20/2019 00:32:26

Pass: No Foreign Materials Detected



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Metal	Action Level (ppb)	Result (ppb)
ARSENIC (AS)	200	0
CADMIUM (CD)	200	0
MERCURY (HG)	100	0
LEAD (PB)	500	0

Lower Limit of Quantitation (LOQ) is 75 ppb

Heavy Metals Analysis:

ICP-MS - Shimadzu ICPMS-2030 GSL SOP 403

Uploaded: 09/23/2019 19:25:22