KCA Laboratories
232 North Plaza Drive
Nicholasville, KY 40356

+1-833-KCA-LABS
https://kcalabs.com
KDA Lic.# P_0058

Certificate of Analysis

Client

Received: 08/17/2021
Completed: 08/24/2021

Type: Finished Materials
Matrix: Concentrate - Isolate

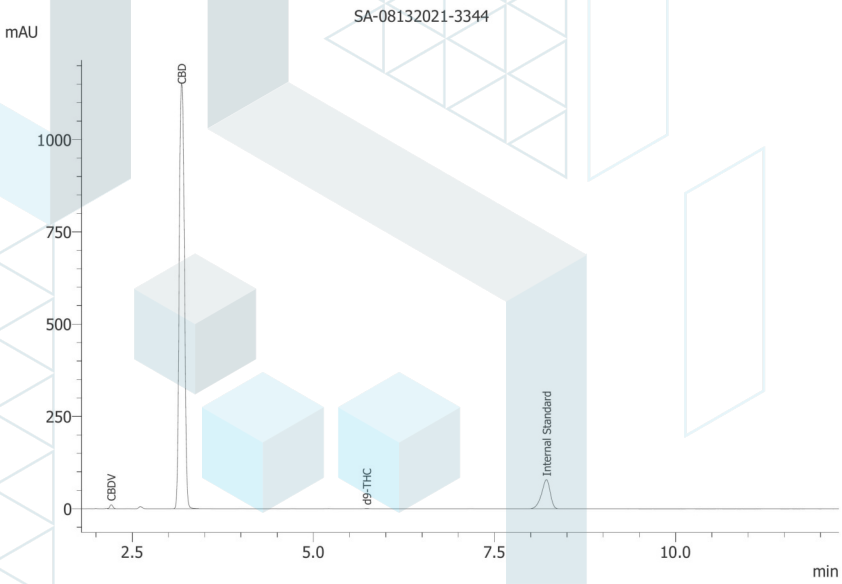
Summary

Test	Date Tested	Status
Cannabinoids	08/19/2021	Tested
Heavy Metals	08/24/2021	Pass
Microbials	08/24/2021	Pass
Mycotoxins	08/23/2021	Pass
Pesticides	08/23/2021	Pass
Residual Solvents	08/24/2021	Pass

Cannabinoids by HPLC-PDA

<LOQ	99.5 %	99.8 %	Not Tested	Not Tested	Yes
Total Δ9-THC	CBD	Total Cannabinoids	Moisture Content	Foreign Matter	Internal Marker Recovered

Analyte	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)
CBC	0.0095	0.0284	ND	ND
CBCA	0.0181	0.0543	ND	ND
CBCV	0.006	0.018	ND	ND
CBD	0.0081	0.0242	99.505	995.05
CBDA	0.0043	0.013	ND	ND
CBDV	0.0061	0.0182	0.2964	2.9644
CBDVA	0.0021	0.0063	ND	ND
CBG	0.0057	0.0172	ND	ND
CBGA	0.0049	0.0147	ND	ND
CBL	0.0112	0.0335	ND	ND
CBLA	0.0124	0.0371	ND	ND
CBN	0.0056	0.0169	ND	ND
CBNA	0.006	0.0181	ND	ND
Δ8-THC	0.0104	0.0312	ND	ND
Δ9-THC	0.0076	0.0227	<LOQ	<LOQ
Δ9-THCA	0.0084	0.0251	ND	ND
Δ9-THCV	0.0069	0.0206	ND	ND
Δ9-THCVA	0.0062	0.0186	ND	ND
Total Δ9-THC			**<LOQ**	**<LOQ**
Total CBD			**99.505**	**995.05**
Total			**99.8153**	**998.153**



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;

08/24/2021

ISO/IEC 17025:2017 Accredited
Accreditation #108651

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Heavy Metals by ICP-MS

Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)
Arsenic	2	20	ND
Cadmium	1	20	ND
Lead	2	20	ND
Mercury	12	50	ND

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08/24/2021

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Pesticides by LC-MS/MS and GC-MS/MS

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

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Microbials by qPCR and/or Plating

Analyte	LOD (CFU/g)	Result (CFU/g)
Coliforms	1	ND
Aerobic Bacteria	1	ND
Salmonella	1	ND
Total Enterobacteriaceae	1	ND

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Mycotoxins by LC-MS/MS

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

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Residual Solvents by HS-GC-MS/MS

Analyte	LOD (ppm)	LOQ (ppm)	Result (ppm)	Analyte	LOD (ppm)	LOQ (ppm)	Result (ppm)
Acetone	0.5	1	ND	Ethylene Oxide	0.5	1	ND
Acetonitrile	0.5	1	ND	Heptane	0.5	1	ND
Benzene	0.5	1	ND	n-Hexane	0.5	1	ND
Butane	0.5	1	ND	Isobutane	0.5	1	ND
1-Butanol	0.5	1	ND	Isopropyl Acetate	0.5	1	ND
2-Butanol	0.5	1	ND	Isopropyl Alcohol	0.5	1	ND
2-Butanone	0.5	1	ND	Isopropylbenzene	0.5	1	ND
Chloroform	0.5	1	ND	Methanol	0.5	1	ND
Cyclohexane	0.5	1	ND	2-Methylbutane	0.5	1	<RL
1,2-Dichloroethane	0.5	1	ND	Methylene Chloride	0.5	1	ND
1,2-Dimethoxyethane	0.5	1	ND	2-Methylpentane	0.5	1	ND
Dimethyl Sulfoxide	0.5	1	ND	3-Methylpentane	0.5	1	ND
N,N-Dimethylacetamide	0.5	1	ND	n-Pentane	0.5	1	<RL
2,2-Dimethylbutane	0.5	1	ND	1-Pentanol	0.5	1	ND
N,N-Dimethylformamide	0.5	1	ND	n-Propane	0.5	1	ND
2,2-Dimethylpropane	0.5	1	ND	1-Propanol	0.5	1	ND
1,4-Dioxane	0.5	1	ND	Pyridine	0.5	1	ND
Ethanol	0.5	1	ND	Tetrahydrofuran	0.5	1	ND
2-Ethoxyethanol	0.5	1	ND	Toluene	0.5	1	ND
Ethyl Acetate	0.5	1	ND	Trichloroethylene	0.5	1	ND
Ethyl Ether	0.5	1	ND	Tetramethylene Sulfone	0.5	1	ND
Ethylbenzene	0.5	1	ND	Xylenes (o-, m-, and p-)	0.5	1	ND
Ethylene Glycol	0.5	1	ND				

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Reporting Limit Appendix

Heavy Metals -

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Arsenic	200	Lead	500
Cadmium	200	Mercury	100

Microbials -

Analyte	Limit (CFU/g)	Analyte	Limit (CFU/g)
Coliforms	1	Aerobic Bacteria	1000
Bile-Tolerant Gram-Negative Bacteria	1000	E.coli/Coliforms	1
Yeast & Mold	1000	Salmonella	1

Residual Solvents -

Analyte	Limit (ppm)	Analyte	Limit (ppm)
Acetone	5000	Ethylene Oxide	1
Acetonitrile	410	Heptane	5000
Benzene	2	n-Hexane	290
Butane	5000	Isobutane	5000
1-Butanol	5000	Isopropyl Acetate	5000
2-Butanol	5000	Isopropyl Alcohol	5000
2-Butanone	5000	Isopropylbenzene	5000
Chloroform	60	Methanol	3000
Cyclohexane	3880	2-Methylbutane	5000
1,2-Dichloroethane	5	Methylene Chloride	600
1,2-Dimethoxyethane	100	2-Methylpentane	290
Dimethyl Sulfoxide	5000	3-Methylpentane	290
N,N-Dimethylacetamide	1090	n-Pentane	5000
2,2-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
Ethylene Glycol	620		

Pesticides - CA BCC

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Abamectin	300	Hexythiazox	2000
Acephate	5000	Imazalil	30

Pesticides - CA BCC

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Acequinocyl	4000	Imidacloprid	3000
Acetamiprid	5000	Kresoxim methyl	1000
Aldicarb	30	Malathion	5000
Azoxystrobin	40000	Metalaxyl	15000
Bifenazate	5000	Methiocarb	30
Bifenthrin	500	Methomyl	100
Boscalid	10000	Mevinphos	30
Captan	5000	MGK-264	200
Carbaryl	500	Myclobutanil	9000
Carbofuran	30	Naled	500
Chloranthraniliprole	40000	Oxamyl	200
Chlordane	30	Paclobutrazol	30
Chlorfenapyr	30	Parathion methyl	30
Chlorpyrifos	30	Pentachloronitrobenzene	200
Clofentezine	500	Permethrin	20000
Coumaphos	30	Phosmet	200
Cyfluthrin	1000	Piperonyl Butoxide	8000
Cypermethrin	1000	Prallethrin	400
Daminozide	30	Propiconazole	20000
Diazinon	200	Propoxur	30
Dichlorvos	30	Pyrethrins	1000
Dimethoate	30	Pyridaben	3000
Dimethomorph	20000	Spinetoram	3000
Ethoprophos	30	Spinosad	3000
Etofenprox	30	Spiromesifen	12000
Etoxazole	1500	Spirotetramat	13000
Fenhexamid	10000	Spiroxamine	30
Fenoxycarb	30	Tebuconazole	2000
Fenpyroximate	2000	Thiacloprid	30
Fipronil	30	Thiamethoxam	4500
Flonicamid	2000	Trifloxystrobin	30000
Fludioxonil	30000		

Mycotoxins -

Analyte	Limit (ppm)	Analyte	Limit (ppm)
B1	20	B2	20
G1	20	G2	20
Ochratoxin A	20		

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