

Prepared for:
BLUEBIRD BOTANICALS
PO BOX 271724
Louisville, CO USA 80027

15CL-30


Batch ID or Lot Number: 311102196	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 1 of 6
Reported: 28Jul2023	Started: 28Jul2023	Received: 27Jul2023	


Residual Solvents - Colorado Compliance

Test ID: T000249827
Methods: TM04 (GC-MS): Residual

Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	108 - 2170	ND	
Butanes (Isobutane, n-Butane)	212 - 4241	ND	
Methanol	67 - 1345	ND	
Pentane	108 - 2154	ND	
Ethanol	110 - 2190	ND	
Acetone	107 - 2138	ND	
Isopropyl Alcohol	112 - 2237	ND	
Hexane	7 - 130	ND	
Ethyl Acetate	110 - 2191	ND	
Benzene	0.2 - 4.5	ND	
Heptanes	108 - 2166	ND	
Toluene	20 - 395	ND	
Xylenes (m,p,o-Xylenes)	143 - 2860	ND	

Final Approval


Karen Winternheimer
28Jul2023
03:54:00 PM MDT
PREPARED BY / DATE


Sam Smith
28Jul2023
03:55:00 PM MDT
APPROVED BY / DATE

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Cannabinoids - Colorado Compliance


Test ID: T000249822

Methods: TM14 (HPLC-DAD): Potency - Standard

Cannabinoid Analysis	LOD (mg/mL)	LOQ (mg/mL)	Result (mg/mL)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.059	0.214	1.190	1.26	Density = 0.945g/mL
Cannabichromenic Acid (CBCA)	0.054	0.196	ND	ND	
Cannabidiol (CBD)	0.211	0.562	31.086	32.90	
Cannabidiolic Acid (CBDA)	0.217	0.576	<LOQ	<LOQ	
Cannabidivarin (CBDV)	0.050	0.133	0.148	0.16	
Cannabidivarinic Acid (CBDVA)	0.090	0.240	ND	ND	
Cannabigerol (CBG)	0.034	0.121	0.628	0.66	
Cannabigerolic Acid (CBGA)	0.141	0.507	ND	ND	
Cannabinol (CBN)	0.044	0.158	ND	ND	
Cannabinolic Acid (CBNA)	0.096	0.346	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.168	0.604	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.152	0.549	1.132	1.20	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.135	0.486	ND	ND	
Tetrahydrocannabivarin (THCV)	0.031	0.110	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.119	0.429	ND	ND	
Total Cannabinoids			34.184	36.18	
Total Potential THC			1.132	1.20	
Total Potential CBD			31.086	32.90	

Final Approval


Sam Smith
29Jul2023
12:35:00 PM MDT
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Karen Winternheimer
29Jul2023
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Cannabinoids - Colorado Compliance


Test ID: T000249823

Methods: TM14 (HPLC-DAD): Potency – Standard

Cannabinoid Analysis	LOD (mg/mL)	LOQ (mg/mL)	Result (mg/mL)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.054	0.194	1.203	1.27	Density = 0.945g/mL
Cannabichromenic Acid (CBCA)	0.049	0.177	ND	ND	
Cannabidiol (CBD)	0.192	0.510	31.251	33.07	
Cannabidiolic Acid (CBDA)	0.197	0.523	<LOQ	<LOQ	
Cannabidivarin (CBDV)	0.045	0.121	0.150	0.16	
Cannabidivarinic Acid (CBDVA)	0.082	0.218	ND	ND	
Cannabigerol (CBG)	0.031	0.110	0.657	0.70	
Cannabigerolic Acid (CBGA)	0.128	0.461	ND	ND	
Cannabinol (CBN)	0.040	0.144	<LOQ	<LOQ	
Cannabinolic Acid (CBNA)	0.087	0.314	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.152	0.549	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.138	0.498	1.132	1.20	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.123	0.442	ND	ND	
Tetrahydrocannabivarin (THCV)	0.028	0.100	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.108	0.389	ND	ND	
Total Cannabinoids			34.393	36.40	
Total Potential THC			1.132	1.20	
Total Potential CBD			31.251	33.07	

Final Approval


Sam Smith
29Jul2023
12:35:00 PM MDT
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Karen Winternheimer
29Jul2023
12:38:00 PM MDT
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Heavy Metals - Colorado Compliance

Test ID: T000249826

Methods: TM19 (ICP-MS): Heavy

Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.05 - 4.66	ND	
Cadmium	0.05 - 4.55	ND	
Mercury	0.05 - 4.64	ND	
Lead	0.04 - 4.44	ND	

Final Approval


Sam Smith
31Jul2023
12:41:00 PM MDT
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Karen Winternheimer
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Microbial Contaminants - Colorado Compliance

Test ID: T000249825
Methods: TM25 (qPCR) TM24, TM26,
TM27 (Culture Plating): Microbial
(Colorado Panel)

	Method	LOD	Quantitation Range	Result	Notes
STEC	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	Free from visual mold, mildew, and foreign matter
<i>Salmonella</i>	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	
Total Yeast and Mold*	TM24: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	
Total Aerobic Count*	TM26: Culture Plating	10 ² CFU/g	1.0x10 ³ - 1.5x10 ⁵	None Detected	
Total Coliforms*	TM27: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	

Final Approval

 Eden Thompson-Wright 31Jul2023 01:24:00 PM MDT	 Brianne Maillot 31Jul2023 01:27:00 PM MDT
PREPARED BY / DATE	APPROVED BY / DATE

Mycotoxins - Colorado Compliance

Test ID: T000249828
Methods: TM18 (UHPLC-QQQ
LCMS/MS): Mycotoxins

	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	3.59 - 132.88	ND	N/A
Aflatoxin B1	1.02 - 33.62	ND	
Aflatoxin B2	0.95 - 33.85	ND	
Aflatoxin G1	1.09 - 33.58	ND	
Aflatoxin G2	1.12 - 34.04	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval

 Sam Smith 02Aug2023 07:17:00 AM MDT	 Karen Winternheimer 02Aug2023 07:20:00 AM MDT
PREPARED BY / DATE	APPROVED BY / DATE

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Pesticides


Test ID: T000249824

Methods: TM17

(LC-QQ LC MS/MS)	Dynamic Range (ppb)	Result (ppb)		Dynamic Range (ppb)	Result (ppb)	
Abamectin	405 - 2594	ND		Malathion	303 - 2745	ND
Acephate	38 - 2739	ND		Metalaxyl	43 - 2698	ND
Acetamiprid	41 - 2701	ND		Methiocarb	40 - 2731	ND
Azoxystrobin	46 - 2690	ND		Methomyl	39 - 2736	ND
Bifenazate	42 - 2685	ND		MGK 264 1	185 - 1690	ND
Boscalid	42 - 2763	ND		MGK 264 2	112 - 1093	ND
Carbaryl	38 - 2710	ND		Myclobutanil	30 - 2725	ND
Carbofuran	44 - 2694	ND		Naled	41 - 2674	ND
Chlorantraniliprole	39 - 2719	ND		Oxamyl	40 - 2747	ND
Chlorpyrifos	41 - 2733	ND		Paclobutrazol	43 - 2700	ND
Clofentezine	294 - 2738	ND		Permethrin	307 - 2723	ND
Diazinon	301 - 2710	ND		Phosmet	43 - 2685	ND
Dichlorvos	279 - 2725	ND		Prophos	317 - 2737	ND
Dimethoate	43 - 2691	ND		Propoxur	42 - 2716	ND
E-Fenpyroximate	308 - 2765	ND		Pyridaben	313 - 2703	ND
Etofenprox	43 - 2718	ND		Spinosad A	30 - 2095	ND
Etoxazole	318 - 2725	ND		Spinosad D	72 - 666	ND
Fenoxycarb	42 - 2714	ND		Spiromesifen	302 - 2737	ND
Fipronil	51 - 2692	ND		Spirotetramat	327 - 2733	ND
Flonicamid	43 - 2744	ND		Spiroxamine 1	17 - 1242	ND
Fludioxonil	320 - 2720	ND		Spiroxamine 2	21 - 1511	ND
Hexythiazox	43 - 2750	ND		Tebuconazole	318 - 2716	ND
Imazalil	296 - 2740	ND		Thiacloprid	40 - 2696	ND
Imidacloprid	42 - 2739	ND		Thiamethoxam	39 - 2740	ND
Kresoxim-methyl	44 - 2723	ND		Trifloxystrobin	42 - 2699	ND

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Karen Winternheimer
03Aug2023
01:15:00 PM MDT
PREPARED BY / DATE


Sam Smith
03Aug2023
01:18:00 PM MDT
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<https://results.botanacor.com/api/v1/coas/uuid/3a466938-1b02-456b-82e4-535a5893d7c8>

Definitions
LOD = Limit of Detection, ULOQ = Upper Limit of Quantitation, LLOQ = Lower Limit of Quantitation, PPB = Parts per Billion, % = % (w/w) = Percent (weight of analyte / weight of product). ND = None Detected (defined by dynamic range of the method). Total Potential Delta 9-THC or CBD is calculated to take into account the loss of a carboxyl group during decarboxylation step, using the following formulas: Total Potential Delta 9-THC = Delta 9-THC + (Delta 9-THCa *(0.877)) and Total CBD = CBD + (CBDa *(0.877)). Fail equates to a concentration level of Delta 9-THC, on a dry weight basis, higher than 0.3 percent + or - the measurement uncertainty. Total Potential THC is calculated using the following formulas to take into account the loss of a carboxyl group during decarboxylation step. Total THC = THC + (THCa *(0.877)). ALOQ = Above Limit Of Quantitation (defined by dynamic range of the method), CFU/g = Colony Forming Units per Gram. Values recorded in scientific notation, a common microbial practice of expressing numbers that are too large to be conveniently written in decimal form. Examples: 10² = 100 CFU, 10³ = 1,000 CFU, 10⁴ = 10,000 CFU, 10⁵ = 100,000 CFU.

Testing results are based solely upon the sample submitted to SC Laboratories, Inc., in the condition it was received. SC Laboratories, Inc., warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of SC Laboratories, Inc. ISO/IEC 17025:2017 A2LA Cert #: 4329.02 Chemical; 4329.03 Biological. Some tests listed on this COA may not be within our scope of A2LA accreditation. Please visit [A2LA for more details](#).



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