

CERTIFICATE OF ANALYSIS

Prepared for:
Tweedle Botanicals

87 Camino Bosque
Boulder, CO USA 80302

Tweedle Hemp Spirit

Batch ID or Lot Number: 23581	Test: Potency	Reported: 15Oct2024	USDA License: N/A
Matrix: Unit	Test ID: T000291715	Started: 14Oct2024	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD)	Received: 14Oct2024	Status: N/A

Cannabinoids

	LOD (mg)	LOQ (mg)	Result (mg)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.332	1.224	<LOQ	<LOQ	# of Servings = 1,
Cannabichromenic Acid (CBCA)	0.304	1.120	ND	ND	Sample
Cannabidiol (CBD)	1.056	3.101	283.320	0.40	Weight=750g
Cannabidiolic Acid (CBDA)	1.084	3.180	ND	ND	
Cannabidivaricin (CBDV)	0.250	0.733	3.090	0.00	
Cannabidivarinic Acid (CBDVA)	0.452	1.327	ND	ND	
Cannabigerol (CBG)	0.189	0.695	15.290	0.00	
Cannabigerolic Acid (CBGA)	0.788	2.906	ND	ND	
Cannabinol (CBN)	0.246	0.907	7.340	0.00	
Cannabinolic Acid (CBNA)	0.538	1.983	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.939	3.462	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.853	3.145	ND	ND	
Delta 9-Tetrahydrocannabinoic Acid (THCA-A)	0.756	2.786	ND	ND	
Tetrahydrocannabivarin (THCV)	0.172	0.632	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.667	2.457	ND	ND	
Total Cannabinoids			309.040	0.40	
Total Potential THC			ND	ND	
Total Potential CBD			283.320	0.40	

Final Approval



Judith Marquez
15Oct2024
01:38:00 PM MDT

PREPARED BY / DATE



APPROVED BY / DATE

Sam Smith
15Oct2024
01:49:00 PM MDT



<https://results.botanacor.com/api/v1/coas/uuid/80049026-c42c-40e8-b059-1d6dfc492395>

Definitions

% = % (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)).

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.



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Tweedle Botanicals

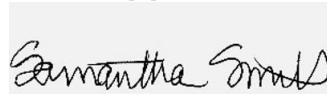
87 Camino Bosque
Boulder, CO USA 80302

Tweedle Hemp Spirit

Batch ID or Lot Number: 23581	Test: Mycotoxins	Reported: 08Nov2024	USDA License: N/A
Matrix: Concentrate	Test ID: T000293232	Started: 07Nov2024	Sampler ID: N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 06Nov2024	Status: Active

Mycotoxins	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	0.71 - 130.62	ND	N/A
Aflatoxin B1	0.91 - 32.73	ND	
Aflatoxin B2	0.94 - 32.73	ND	
Aflatoxin G1	0.94 - 32.79	ND	
Aflatoxin G2	1.43 - 32.89	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval



Sam Smith
08Nov2024
09:35:00 AM MST

PREPARED BY / DATE



APPROVED BY / DATE

Karen Winternheimer
08Nov2024
09:37:00 AM MST



<https://results.botanacor.com/api/v1/coas/uuid/1a6c0530-3bf7-46a7-94fc-39cecc22d511>

Definitions

ND = None Detected (defined by dynamic range of the method)

Dynamic Range = Limit of Quantitation (LOQ) through Upper Limit of Method Range

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Cert #4329.02

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CERTIFICATE OF ANALYSIS

Prepared for:
Tweedle Botanicals

87 Camino Bosque
Boulder, CO USA 80302

Tweedle Hemp Spirit

Batch ID or Lot Number: 23581	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 1 of 4
Reported: 31Oct2024	Started: 30Oct2024	Received: 29Oct2024	

Residual Solvents

Test ID: T000292556

Methods: TM04 (GC-MS): Residual

Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	85 - 1695	ND	
Butanes (Isobutane, n-Butane)	170 - 3397	ND	
Methanol	66 - 1326	ND	
Pentane	89 - 1772	ND	
Ethanol	99 - 1977	ND	
Acetone	104 - 2070	ND	
Isopropyl Alcohol	113 - 2266	ND	
Hexane	6 - 127	ND	
Ethyl Acetate	107 - 2132	ND	
Benzene	0.2 - 4.4	ND	
Heptanes	99 - 1985	ND	
Toluene	20 - 396	ND	
Xylenes (m,p,o-Xylenes)	146 - 2926	ND	

Final Approval

 Sam Smith
31Oct2024
02:34:00 PM MDT

PREPARED BY / DATE

 Sam Smith
31Oct2024
02:36:00 PM MDT

APPROVED BY / DATE

Heavy Metals

Test ID: T000292555

Methods: TM19 (ICP-MS): Heavy

Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.34	ND	
Cadmium	0.04 - 4.28	ND	
Mercury	0.05 - 4.52	ND	
Lead	0.05 - 4.74	ND	

Final Approval

 Karen Winternheimer
01Nov2024
02:19:00 PM MDT

PREPARED BY / DATE

 Sam Smith
01Nov2024
02:24:00 PM MDT

APPROVED BY / DATE

Prepared for:
Tweedle Botanicals

87 Camino Bosque
Boulder, CO USA 80302

Tweedle Hemp Spirit

Batch ID or Lot Number: 23581	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 2 of 4
Reported: 31Oct2024	Started: 30Oct2024	Received: 29Oct2024	

Microbial Contaminants

Test ID: T000292554

Methods: TM25 (PCR) TM24, TM26,

TM27 (Culture Plating)

	Method	LOD	Quantitation Range	Result	Notes
STEC	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	Free from visual mold, mildew, and foreign matter
Salmonella	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



Brett Hudson
03Nov2024
12:28:00 PM MST



Nora Langer
04Nov2024
11:02:00 AM MST

PREPARED BY / DATE

APPROVED BY / DATE

Prepared for:
Tweedle Botanicals

 87 Camino Bosque
 Boulder, CO USA 80302

Tweedle Hemp Spirit

Batch ID or Lot Number: 23581	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 3 of 4
Reported: 31Oct2024	Started: 30Oct2024	Received: 29Oct2024	

Pesticides

Test ID: T000292553

Methods: TM17

(LC-QQ LC MS/MS)	Dynamic Range (ppb)	Result (ppb)	Dynamic Range (ppb)	Result (ppb)
Abamectin	394 - 2706	ND	Malathion	277 - 2772
Acephate	46 - 2775	ND	Metalaxyll	46 - 2755
Acetamiprid	37 - 2745	ND	Methiocarb	45 - 2729
Azoxystrobin	45 - 2766	ND	Methomyl	40 - 2799
Bifenazate	38 - 2769	ND	MGK 264 1	138 - 1605
Boscalid	43 - 2665	ND	MGK 264 2	108 - 1089
Carbaryl	37 - 2704	ND	Myclobutanil	40 - 2672
Carbofuran	43 - 2697	ND	Naled	41 - 2699
Chlorantraniliprole	38 - 2712	ND	Oxamyl	42 - 2798
Chlorpyrifos	28 - 2778	ND	Pacllobutrazol	42 - 2710
Clofentezine	271 - 2755	ND	Permethrin	253 - 2723
Diazinon	278 - 2776	ND	Phosmet	47 - 2646
Dichlorvos	261 - 2774	ND	Prophos	282 - 2714
Dimethoate	39 - 2753	ND	Propoxur	42 - 2703
E-Fenpyroximate	337 - 2738	ND	Pyridaben	334 - 2735
Etofenprox	38 - 2763	ND	Spinosad A	31 - 2103
Etoxazole	337 - 2661	ND	Spinosad D	76 - 659
Fenoxy carb	45 - 2768	ND	Spiromesifen	317 - 2711
Fipronil	32 - 2752	ND	Spirotetramat	295 - 2776
Flonicamid	44 - 2790	ND	Spiroxamine 1	14 - 1034
Fludioxonil	298 - 2742	ND	Spiroxamine 2	23 - 1615
Hexythiazox	41 - 2712	ND	Tebuconazole	289 - 2761
Imazalil	267 - 2773	ND	Thiacloprid	38 - 2779
Imidacloprid	37 - 2763	ND	Thiamethoxam	38 - 2773
Kresoxim-methyl	45 - 2804	ND	Trifloxystrobin	42 - 2739

Final Approval


 Sam Smith
 07Nov2024
 09:10:00 AM MST

PREPARED BY / DATE



 Karen Winternheimer
 07Nov2024
 09:13:00 AM MST

APPROVED BY / DATE

Prepared for:

Tweedle Botanicals

87 Camino Bosque
Boulder, CO USA 80302

Tweedle Hemp Spirit

Batch ID or Lot Number: 23581	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 4 of 4
Reported: 31Oct2024	Started: 30Oct2024	Received: 29Oct2024	



<https://results.botanacor.com/api/v1/coas/uuid/71e34ab7-65ab-48b6-b9ff-6c9c2f80d11f>

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: 10^2 = 100 CFU, 10^3 = 1,000 CFU, 10^4 = 10,000 CFU, 10^5 = 100,000 CFU.

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Cert #4329.02

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