

Prepared for:
Lupulin Brewing Company
570 Humboldt Drive, Ste. 107
Big Lake, MN USA 55309

Smazey

Batch ID or Lot Number: SMZ9-SMZ12	Test: Potency	Reported: 09Feb2023	USDA License: N/A
Matrix: Unit	Test ID: T000234981	Started: 08Feb2023	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD)	Received: 08Feb2023	Status: N/A

Cannabinoids

	LOD (mg)	LOQ (mg)	Result (mg)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.203	0.603	ND	ND	# of Servings = 1, Sample Weight=473.95g
Cannabichromenic Acid (CBCA)	0.186	0.551	ND	ND	
Cannabidiol (CBD)	0.546	1.756	ND	ND	
Cannabidiolic Acid (CBDA)	0.561	1.801	ND	ND	
Cannabidivarin (CBDV)	0.129	0.415	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.234	0.751	ND	ND	
Cannabigerol (CBG)	0.115	0.342	ND	ND	
Cannabigerolic Acid (CBGA)	0.482	1.431	ND	ND	
Cannabinol (CBN)	0.151	0.446	ND	ND	
Cannabinolic Acid (CBNA)	0.329	0.976	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.575	1.704	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.522	1.548	12.070	0.00	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.462	1.371	ND	ND	
Tetrahydrocannabivarin (THCV)	0.105	0.311	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.408	1.210	ND	ND	
Total Cannabinoids			12.070	0.00	
Total Potential THC			12.070	0.00	
Total Potential CBD			ND	ND	

Final Approval



Karen Winternheimer
09Feb2023
04:24:00 PM MST

PREPARED BY / DATE



Sam Smith
09Feb2023
04:26:00 PM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/4aa1d757-45f2-411b-89e1-cbd6e54ab55c>

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 Accredited by A2LA.



Cert #4329.02
4aa1d75745f2411b89e1cbd6e54ab55c.1

Prepared for:
Lupulin Brewing Company
570 Humboldt Drive, Ste. 107
Big Lake, MN USA 55309

Smazey

Batch ID or Lot Number: SMZ9-SMZ12	Test: Pesticides	Reported: 17Feb2023	USDA License: NA
Matrix: Concentrate	Test ID: T000235500	Started: 16Feb2023	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 13Feb2023	Status: NA

Pesticides	Dynamic Range (ppb)	Result (ppb)	Pesticides	Dynamic Range (ppb)	Result (ppb)
Abamectin	297 - 2792	ND	Malathion	302 - 2702	ND
Acephate	41 - 2796	ND	Metalaxyl	41 - 2735	ND
Acetamiprid	44 - 2777	ND	Methiocarb	42 - 2747	ND
Azoxystrobin	45 - 2726	ND	Methomyl	40 - 2767	ND
Bifenazate	41 - 2722	ND	MGK 264 1	169 - 1608	ND
Boscalid	41 - 2792	ND	MGK 264 2	110 - 1130	ND
Carbaryl	41 - 2718	ND	Myclobutanil	40 - 2752	ND
Carbofuran	45 - 2698	ND	Naled	44 - 2720	ND
Chlorantraniliprole	41 - 2742	ND	Oxamyl	43 - 2765	ND
Chlorpyrifos	38 - 2737	ND	Pacllobutrazol	44 - 2698	ND
Clofentezine	273 - 2731	ND	Permethrin	288 - 2744	ND
Diazinon	291 - 2730	ND	Phosmet	42 - 2720	ND
Dichlorvos	263 - 2800	ND	Prophos	295 - 2742	ND
Dimethoate	41 - 2748	ND	Propoxur	44 - 2713	ND
E-Fenpyroximate	294 - 2737	ND	Pyridaben	310 - 2696	ND
Etofenprox	44 - 2698	ND	Spinosad A	35 - 2226	ND
Etoxazole	309 - 2713	ND	Spinosad D	52 - 493	ND
Fenoxycarb	45 - 2730	ND	Spiromesifen	285 - 2749	ND
Fipronil	42 - 2729	ND	Spirotetramat	289 - 2741	ND
Flonicamid	50 - 2770	ND	Spiroxamine 1	18 - 1159	ND
Fludioxonil	307 - 2813	ND	Spiroxamine 2	4 - 1599	ND
Hexythiazox	42 - 2732	ND	Tebuconazole	289 - 2696	ND
Imazalil	291 - 2750	ND	Thiacloprid	43 - 2750	ND
Imidacloprid	43 - 2771	ND	Thiamethoxam	41 - 2792	ND
Kresoxim-methyl	40 - 2749	ND	Trifloxystrobin	46 - 2706	ND

Final Approval



Karen Winternheimer
17Feb2023
01:56:00 PM MST

PREPARED BY / DATE



Sam Smith
17Feb2023
01:59:00 PM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/be8985ba-7e47-4a05-8f07-771b5023a52a>

Definitions

ND = None Detected (defined by dynamic range of the method)
Dynamic Range = Limit of Quantitation (LOQ) through Upper Limit of Method Range
ppb = Parts Per Billion

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 Accredited by A2LA.



Cert #4329.02
be8985ba7e474a058f07771b5023a52a.1


Prepared for:
Lupulin Brewing Company
570 Humboldt Drive, Ste. 107
Big Lake, MN USA 55309

Smazey

Batch ID or Lot Number: SMZ9-SMZ12	Test: Heavy Metals	Reported: 17Feb2023	USDA License: NA
Matrix: Unit	Test ID: T000235502	Started: 16Feb2023	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 13Feb2023	Status: NA

Heavy Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.05 - 4.89	ND	
Cadmium	0.05 - 4.74	ND	
Mercury	0.04 - 4.30	ND	
Lead	0.04 - 3.87	ND	

Final Approval



Sam Smith
17Feb2023
01:27:00 PM MST

PREPARED BY / DATE



Karen Winternheimer
17Feb2023
01:32:00 PM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/fe4bda0a-3125-41bf-a121-71c8ee9f9c02>

Definitions

ND = None Detected (defined by dynamic range of the method)
Dynamic Range = Limit of Quantitation (LOQ) through Upper Limit of Method Range

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 Accredited by A2LA.



Cert #4329.02
fe4bda0a312541bfa12171c8ee9f9c02.1

Prepared for:
Lupulin Brewing Company
570 Humboldt Drive, Ste. 107
Big Lake, MN USA 55309


Smazey

Batch ID or Lot Number: SMZ9-SMZ12	Test: Microbial Contaminants	Reported: 17Feb2023	USDA License: NA
Matrix: Finished Product	Test ID: T000235501	Started: 14Feb2023	Sampler ID: NA
	Method(s): TM25 (PCR) TM24, TM26, TM27 (Culture Plating)	Received: 13Feb2023	Status: NA

Microbial Contaminants

Contaminants	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



Brianne Maillot
17Feb2023
11:04:00 AM MST

PREPARED BY / DATE



Phillip Travisano
17Feb2023
11:57:00 AM MST

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/0267b452-8155-46b8-95b1-f48c60dd5135>

Definitions

* 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
CFU/g = Colony Forming Units per Gram, LOD = Limit of Detection
ULOQ = Upper Limit of Quantitation, LLOQ = Lower Limit of Quantitation
STEC = Shiga Toxin-Producing E. coli

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 Accredited by A2LA.



Cert #4329.02
0267b452815546b895b1f48c60dd5135.1