

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


Smazey


Batch ID or Lot Number: SMZ29 and SMZ30	Test: Potency	Reported: 20Jul2023	USDA License: N/A
Matrix: Unit	Test ID: T000249583	Started: 20Jul2023	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD)	Received: 20Jul2023	Status: N/A

Cannabinoids

	LOD (mg)	LOQ (mg)	Result (mg)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.208	0.654	ND	ND	# of Servings = 1, Sample Weight=473g
Cannabichromenic Acid (CBCA)	0.190	0.598	ND	ND	
Cannabidiol (CBD)	0.636	1.719	ND	ND	
Cannabidiolic Acid (CBDA)	0.653	1.763	ND	ND	
Cannabidivarin (CBDV)	0.150	0.407	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.272	0.735	ND	ND	
Cannabigerol (CBG)	0.118	0.371	ND	ND	
Cannabigerolic Acid (CBGA)	0.494	1.553	ND	ND	
Cannabinol (CBN)	0.154	0.485	ND	ND	
Cannabinolic Acid (CBNA)	0.337	1.059	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.589	1.850	<LOQ	<LOQ	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.535	1.680	9.490	0.00	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.474	1.489	ND	ND	
Tetrahydrocannabivarin (THCV)	0.108	0.338	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.418	1.313	ND	ND	
Total Cannabinoids			9.490	0.00	
Total Potential THC			9.490	0.00	
Total Potential CBD			ND	ND	

Final Approval


PREPARED BY / DATE
Sam Smith
20Jul2023
03:21:00 PM MDT


APPROVED BY / DATE
Karen Winternheimer
20Jul2023
03:26:00 PM MDT



<https://results.botanacor.com/api/v1/coas/uuid/4a9d2e8a-5f42-4fd8-a033-3db51798336a>

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
4a9d2e8a5f424fd8a0333db51798336a.1


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


Smazey

Batch ID or Lot Number: SMZ29 and SMZ30	Test: Pesticides	Reported: 28Jul2023	USDA License: NA
Matrix: Finished Product	Test ID: T000250338	Started: 27Jul2023	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 26Jul2023	Status: NA

Pesticides	Dynamic Range (ppb)	Result (ppb)	Pesticides	Dynamic Range (ppb)	Result (ppb)
Abamectin	268 - 2844	ND	Malathion	284 - 2765	ND
Acephate	42 - 2750	ND	Metalaxyl	42 - 2747	ND
Acetamiprid	41 - 2769	ND	Methiocarb	42 - 2785	ND
Azoxystrobin	42 - 2753	ND	Methomyl	39 - 2784	ND
Bifenazate	45 - 2725	ND	MGK 264 1	161 - 1688	ND
Boscalid	46 - 2724	ND	MGK 264 2	107 - 1070	ND
Carbaryl	43 - 2733	ND	Myclobutanil	48 - 2763	ND
Carbofuran	43 - 2729	ND	Naled	49 - 2738	ND
Chlorantraniliprole	39 - 2751	ND	Oxamyl	40 - 2789	ND
Chlorpyrifos	42 - 2743	ND	Pacllobutrazol	42 - 2713	ND
Clofentezine	278 - 2762	ND	Permethrin	276 - 2768	ND
Diazinon	302 - 2751	ND	Phosmet	42 - 2738	ND
Dichlorvos	272 - 2804	ND	Prophos	279 - 2785	ND
Dimethoate	40 - 2747	ND	Propoxur	42 - 2722	ND
E-Fenpyroximate	295 - 2751	ND	Pyridaben	301 - 2699	ND
Etofenprox	44 - 2734	ND	Spinosad A	28 - 2095	ND
Etoxazole	300 - 2724	ND	Spinosad D	66 - 664	ND
Fenoxycarb	2 - 2727	ND	Spiromesifen	294 - 2738	ND
Fipronil	52 - 2695	ND	Spirotetramat	295 - 2805	ND
Flonicamid	45 - 2783	ND	Spiroxamine 1	18 - 1248	ND
Fludioxonil	294 - 2761	ND	Spiroxamine 2	22 - 1532	ND
Hexythiazox	44 - 2740	ND	Tebuconazole	284 - 2736	ND
Imazalil	277 - 2786	ND	Thiacloprid	41 - 2741	ND
Imidacloprid	42 - 2796	ND	Thiamethoxam	39 - 2796	ND
Kresoxim-methyl	46 - 2746	ND	Trifloxystrobin	43 - 2712	ND

Final Approval


Sam Smith
28Jul2023
12:20:00 PM MDT
PREPARED BY / DATE


Karen Winternheimer
28Jul2023
12:27:00 PM MDT
APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/0aa0bca3-4b27-4ab5-bfe4-90515aacc4e8>

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
0aa0bca34b274ab5bfe490515aacc4e8.1

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

Smazey

Batch ID or Lot Number: SMZ29 and SMZ30	Test: Microbial Contaminants	Reported: 30Jul2023	USDA License: NA
Matrix: Finished Product	Test ID: T000250339	Started: 26Jul2023	Sampler ID: NA
	Method(s): TM25 (PCR) TM24, TM26, TM27 (Culture Plating)	Received: 26Jul2023	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	1.5x10 ³ CFU/g	
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
29Jul2023
11:51:00 AM MDT

PREPARED BY / DATE



Eden Thompson-Wright
30Jul2023
11:30:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/82c0ba52-1ce0-4917-a22f-209ea94b42a4>

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
82c0ba521ce04917a22f209ea94b42a4.1

Prepared for:

Lupulin Brewing Company

570 Humboldt Drive, Ste. 107
Big Lake, MN USA 55309


Smazey

Batch ID or Lot Number: SMZ29 and SMZ30	Test: Heavy Metals	Reported: 31Jul2023	USDA License: NA
Matrix: Finished Product	Test ID: T000250340	Started: 29Jul2023	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 26Jul2023	Status: NA

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

PREPARED BY / DATE



Karen Winternheimer
31Jul2023
12:44:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/4b1433bc-3010-4a26-8c3e-66b4acc3a5ca>

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

4b1433bc30104a268c3e66b4acc3a5ca.1