

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


Smazey

Batch ID or Lot Number: SMZ26, SMZ27, and SMZ28	Test: Potency	Reported: 29Jun2023	USDA License: N/A
Matrix: Unit	Test ID: T000247771	Started: 29Jun2023	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD)	Received: 29Jun2023	Status: N/A

Cannabinoids

	LOD (mg)	LOQ (mg)	Result (mg)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.219	0.694	ND	ND	# of Servings = 1, Sample Weight=473g
Cannabichromenic Acid (CBCA)	0.200	0.635	ND	ND	
Cannabidiol (CBD)	0.585	1.687	ND	ND	
Cannabidiolic Acid (CBDA)	0.600	1.731	ND	ND	
Cannabidivarin (CBDV)	0.138	0.399	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.250	0.722	ND	ND	
Cannabigerol (CBG)	0.124	0.394	ND	ND	
Cannabigerolic Acid (CBGA)	0.519	1.648	ND	ND	
Cannabinol (CBN)	0.162	0.514	ND	ND	
Cannabinolic Acid (CBNA)	0.354	1.124	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.619	1.963	<LOQ	<LOQ	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.562	1.783	10.340	0.00	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.498	1.579	ND	ND	
Tetrahydrocannabivarin (THCV)	0.113	0.358	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.439	1.393	ND	ND	
Total Cannabinoids			10.340	0.00	
Total Potential THC			10.340	0.00	
Total Potential CBD			ND	ND	

Final Approval



Karen Winternheimer
29Jun2023
03:10:00 PM MDT

PREPARED BY / DATE



Sam Smith
29Jun2023
03:12:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/54905dc7-c79a-4549-acdd-be758792ab44>

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

54905dc7c79a4549acddb758792ab44.1


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


Smazey

Batch ID or Lot Number: SMZ26, SMZ27, and SMZ28	Test: Heavy Metals	Reported: 11Jul2023	USDA License: NA
Matrix: Finished Product	Test ID: T000248062	Started: 10Jul2023	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 06Jul2023	Status: NA

Heavy Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.27	ND	
Cadmium	0.04 - 4.39	ND	
Mercury	0.04 - 4.47	ND	
Lead	0.04 - 4.47	ND	

Final Approval


PREPARED BY / DATE
Sam Smith
11Jul2023
10:51:00 AM MDT


APPROVED BY / DATE
Karen Winternheimer
11Jul2023
10:53:00 AM MDT



<https://results.botanacor.com/api/v1/coas/uuid/b31c0b49-18a9-4a75-b77c-7364910f7bc9>

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
b31c0b4918a94a75b77c7364910f7bc9.1

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

Smazey

Batch ID or Lot Number: SMZ26, SMZ27, and SMZ28	Test: Microbial Contaminants	Reported: 10Jul2023	USDA License: NA
Matrix: Finished Product	Test ID: T000248061	Started: 06Jul2023	Sampler ID: NA
	Method(s): TM25 (PCR) TM24, TM26, TM27 (Culture Plating)	Received: 06Jul2023	Status: NA

Microbial 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	<LLOQ	
Total Aerobic Count*	TM26: Culture Plating	10 ² CFU/g	1.0x10 ³ - 1.5x10 ⁵	2.6x10 ³ CFU/g	
Total Coliforms*	TM27: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	

Final Approval



Brett Hudson
09Jul2023
02:20:00 PM MDT

PREPARED BY / DATE



Brianne Maillot
10Jul2023
09:25:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/9c979e75-8d0e-4c60-97c2-3fe14e18ca57>

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
9c979e758d0e4c6097c23fe14e18ca57.1

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

Smazey

Batch ID or Lot Number: SMZ26, SMZ27, and SMZ28	Test: Pesticides	Reported: 13Jul2023	USDA License: NA
Matrix: Finished Product	Test ID: T000248060	Started: 12Jul2023	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 06Jul2023	Status: NA

Pesticides	Dynamic Range (ppb)	Result (ppb)	Pesticides	Dynamic Range (ppb)	Result (ppb)
Abamectin	254 - 2710	ND	Malathion	298 - 2762	ND
Acephate	44 - 2724	ND	Metalaxyl	40 - 2764	ND
Acetamiprid	42 - 2716	ND	Methiocarb	42 - 2806	ND
Azoxystrobin	44 - 2756	ND	Methomyl	42 - 2753	ND
Bifenazate	40 - 2754	ND	MGK 264 1	170 - 1665	ND
Boscalid	45 - 2817	ND	MGK 264 2	110 - 1056	ND
Carbaryl	40 - 2706	ND	Myclobutanil	40 - 2854	ND
Carbofuran	43 - 2709	ND	Naled	45 - 2760	ND
Chlorantraniliprole	47 - 2839	ND	Oxamyl	42 - 2745	ND
Chlorpyrifos	36 - 2768	ND	Pacllobutrazol	42 - 2731	ND
Clofentezine	285 - 2782	ND	Permethrin	293 - 2713	ND
Diazinon	279 - 2756	ND	Phosmet	43 - 2744	ND
Dichlorvos	279 - 2771	ND	Prophos	282 - 2776	ND
Dimethoate	42 - 2719	ND	Propoxur	43 - 2728	ND
E-Fenpyroximate	288 - 2796	ND	Pyridaben	294 - 2751	ND
Etofenprox	43 - 2727	ND	Spinosad A	32 - 2082	ND
Etoxazole	297 - 2746	ND	Spinosad D	64 - 680	ND
Fenoxycarb	12 - 2794	ND	Spiromesifen	277 - 2756	ND
Fipronil	65 - 2712	ND	Spirotetramat	280 - 2803	ND
Flonicamid	51 - 2752	ND	Spiroxamine 1	16 - 1215	ND
Fludioxonil	300 - 2843	ND	Spiroxamine 2	21 - 1596	ND
Hexythiazox	41 - 2755	ND	Tebuconazole	289 - 2740	ND
Imazalil	288 - 2795	ND	Thiacloprid	42 - 2707	ND
Imidacloprid	43 - 2793	ND	Thiamethoxam	43 - 2760	ND
Kresoxim-methyl	39 - 2782	ND	Trifloxystrobin	43 - 2714	ND

Final Approval



Karen Winternheimer
13Jul2023
12:43:00 PM MDT

PREPARED BY / DATE



Sam Smith
13Jul2023
12:45:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/12a2e62e-8db4-4217-958d-d39b5b489648>

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
12a2e62e8db44217958dd39b5b489648.1