

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


## Smazey

Batch ID or Lot Number: <b>SMZ31</b>	Test: <b>Potency</b>	Reported: <b>24Aug2023</b>	USDA License: N/A
Matrix: Unit	Test ID: T000253485	Started: 24Aug2023	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD)	Received: 24Aug2023	Status: N/A

## Cannabinoids

	LOD (mg)	LOQ (mg)	Result (mg)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.280	0.658	ND	ND	# of Servings = 1, Sample Weight=473g
Cannabichromenic Acid (CBCA)	0.256	0.602	ND	ND	
Cannabidiol (CBD)	0.704	1.713	ND	ND	
Cannabidiolic Acid (CBDA)	0.722	1.757	ND	ND	
Cannabidivarin (CBDV)	0.166	0.405	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.301	0.733	ND	ND	
Cannabigerol (CBG)	0.159	0.374	ND	ND	
Cannabigerolic Acid (CBGA)	0.665	1.562	ND	ND	
Cannabinol (CBN)	0.208	0.487	ND	ND	
Cannabinolic Acid (CBNA)	0.454	1.066	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.792	1.861	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.720	1.690	10.470	0.00	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.638	1.497	ND	ND	
Tetrahydrocannabivarin (THCV)	0.145	0.340	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.562	1.321	ND	ND	
<b>Total Cannabinoids</b>			<b>10.470</b>	<b>0.00</b>	
Total Potential THC			10.470	0.00	
Total Potential CBD			ND	ND	

## Final Approval

  
PREPARED BY / DATE  
PREPARED BY / DATE

Sam Smith  
24Aug2023  
02:09:00 PM MDT

  
APPROVED BY / DATE  
APPROVED BY / DATE

Karen Winternheimer  
24Aug2023  
02:17:00 PM MDT



<https://results.botanacor.com/api/v1/coas/uuid/b6c143b1-556d-4ba4-861a-5a686bfb0370>

**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.



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**Lupulin Brewing Company**  
570 Humboldt Drive, Ste. 107  
Big Lake, MN USA 55309

## Smazey

Batch ID or Lot Number: <b>SMZ31</b>	Test: <b>Pesticides</b>	Reported: <b>31Aug2023</b>	USDA License: NA
Matrix: Finished Product	Test ID: T000254299	Started: 29Aug2023	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 29Aug2023	Status: NA

Pesticides	Dynamic Range (ppb)	Result (ppb)	Pesticides	Dynamic Range (ppb)	Result (ppb)
Abamectin	388 - 2653	ND	Malathion	284 - 2750	ND
Acephate	41 - 2816	ND	Metalaxyl	43 - 2743	ND
Acetamiprid	42 - 2759	ND	Methiocarb	42 - 2757	ND
Azoxystrobin	44 - 2750	ND	Methomyl	40 - 2790	ND
Bifenazate	47 - 2720	ND	MGK 264 1	164 - 1647	ND
Boscalid	44 - 2750	ND	MGK 264 2	110 - 1056	ND
Carbaryl	42 - 2710	ND	Myclobutanil	78 - 2694	ND
Carbofuran	43 - 2707	ND	Naled	48 - 2734	ND
Chlorantraniliprole	49 - 2751	ND	Oxamyl	41 - 2772	ND
Chlorpyrifos	47 - 2728	ND	Pacllobutrazol	48 - 2711	ND
Clofentezine	284 - 2755	ND	Permethrin	294 - 2796	ND
Diazinon	272 - 2747	ND	Phosmet	43 - 2724	ND
Dichlorvos	282 - 2806	ND	Prophos	288 - 2762	ND
Dimethoate	41 - 2745	ND	Propoxur	41 - 2694	ND
E-Fenpyroximate	284 - 2792	ND	Pyridaben	292 - 2755	ND
Etofenprox	42 - 2734	ND	Spinosad A	30 - 2054	ND
Etoxazole	292 - 2752	ND	Spinosad D	65 - 673	ND
Fenoxycarb	18 - 2767	ND	Spiromesifen	276 - 2742	ND
Fipronil	36 - 2704	ND	Spirotetramat	272 - 2805	ND
Flonicamid	44 - 2793	ND	Spiroxamine 1	18 - 1218	ND
Fludioxonil	273 - 2732	ND	Spiroxamine 2	23 - 1537	ND
Hexythiazox	42 - 2743	ND	Tebuconazole	272 - 2770	ND
Imazalil	256 - 2785	ND	Thiacloprid	41 - 2760	ND
Imidacloprid	37 - 2860	ND	Thiamethoxam	40 - 2786	ND
Kresoxim-methyl	39 - 2777	ND	Trifloxystrobin	43 - 2703	ND

## Final Approval



Karen Winternheimer  
31Aug2023  
10:19:00 AM MDT

PREPARED BY / DATE



Sam Smith  
31Aug2023  
10:22:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/a6bd4818-29aa-4dd7-8abd-65935ae9bb79>

### 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

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## Smazey

Batch ID or Lot Number: <b>SMZ31</b>	Test: <b>Microbial Contaminants</b>	Reported: <b>05Sep2023</b>	USDA License: NA
Matrix: Finished Product	Test ID: T000254300	Started: 30Aug2023	Sampler ID: NA
	Method(s): TM25 (PCR) TM24, TM26, TM27 (Culture Plating)	Received: 29Aug2023	Status: NA

## Microbial Contaminants

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

## Final Approval



Brett Hudson  
02Sep2023  
12:16:00 PM MDT



Brianne Maillot  
05Sep2023  
09:31:00 AM MDT



PREPARED BY / DATE

APPROVED BY / DATE

<https://results.botanacor.com/api/v1/coas/uuid/13d3f710-4246-4424-a86e-ce6a41a6cd7a>

### 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: 10<sup>2</sup> = 100 CFU, 10<sup>3</sup> = 1,000 CFU, 10<sup>4</sup> = 10,000 CFU, 10<sup>5</sup> = 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

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Big Lake, MN USA 55309


## Smazey

Batch ID or Lot Number: <b>SMZ31</b>	Test: <b>Heavy Metals</b>	Reported: <b>05Sep2023</b>	USDA License: NA
Matrix: Finished Product	Test ID: T000254301	Started: 05Sep2023	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 29Aug2023	Status: NA

Heavy Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.05 - 4.66	ND	
Cadmium	0.05 - 4.85	ND	
Mercury	0.05 - 4.80	ND	
Lead	0.05 - 4.73	ND	

## Final Approval

  
PREPARED BY / DATE  
Sam Smith  
05Sep2023  
04:02:00 PM MDT

  
APPROVED BY / DATE  
Karen Winternheimer  
05Sep2023  
04:05:00 PM MDT



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**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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