

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


## Smazey


Batch ID or Lot Number: <b>SMZ22-SMZ24</b>	Test: <b>Potency</b>	Reported: <b>31May2023</b>	USDA License: N/A
Matrix: Unit	Test ID: T000245359	Started: 30May2023	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD)	Received: 30May2023	Status: N/A

## Cannabinoids

	LOD (mg)	LOQ (mg)	Result (mg)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.210	0.688	ND	ND	# of Servings = 1, Sample Weight=473g
Cannabichromenic Acid (CBCA)	0.192	0.629	ND	ND	
Cannabidiol (CBD)	0.536	1.675	ND	ND	
Cannabidiolic Acid (CBDA)	0.550	1.718	ND	ND	
Cannabidivarin (CBDV)	0.127	0.396	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.229	0.717	ND	ND	
Cannabigerol (CBG)	0.119	0.391	ND	ND	
Cannabigerolic Acid (CBGA)	0.497	1.633	ND	ND	
Cannabinol (CBN)	0.155	0.510	ND	ND	
Cannabinolic Acid (CBNA)	0.339	1.114	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.593	1.946	<LOQ	<LOQ	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.538	1.767	9.690	0.00	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.477	1.566	ND	ND	
Tetrahydrocannabivarin (THCV)	0.108	0.355	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.421	1.381	ND	ND	
<b>Total Cannabinoids</b>			<b>9.690</b>	<b>0.00</b>	
Total Potential THC			9.690	0.00	
Total Potential CBD			ND	ND	

## Final Approval

  
PREPARED BY / DATE  
Sam Smith  
31May2023  
04:37:00 PM MDT

  
APPROVED BY / DATE  
Karen Winternheimer  
31May2023  
04:39:00 PM MDT



<https://results.botanacor.com/api/v1/coas/uuid/454e7781-0f65-4e6a-a7b8-495884416214>

**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>SMZ21-SMZ24</b>	Test: <b>Pesticides</b>	Reported: <b>25May2023</b>	USDA License: NA
Matrix: Finished Product	Test ID: T000244088	Started: 23May2023	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 18May2023	Status: NA

Pesticides	Dynamic Range (ppb)	Result (ppb)	Pesticides	Dynamic Range (ppb)	Result (ppb)
Abamectin	272 - 2715	ND	Malathion	288 - 2719	ND
Acephate	44 - 2775	ND	Metalaxyl	39 - 2714	ND
Acetamiprid	44 - 2747	ND	Methiocarb	46 - 2692	ND
Azoxystrobin	45 - 2714	ND	Methomyl	45 - 2768	ND
Bifenazate	39 - 2690	ND	MGK 264 1	167 - 1674	ND
Boscalid	31 - 2648	ND	MGK 264 2	101 - 1063	ND
Carbaryl	43 - 2748	ND	Myclobutanil	47 - 2722	ND
Carbofuran	41 - 2718	ND	Naled	52 - 2771	ND
Chlorantraniliprole	44 - 2660	ND	Oxamyl	46 - 2772	ND
Chlorpyrifos	40 - 2733	ND	Pacllobutrazol	44 - 2722	ND
Clofentezine	291 - 2714	ND	Permethrin	260 - 2692	ND
Diazinon	281 - 2707	ND	Phosmet	42 - 2726	ND
Dichlorvos	272 - 2769	ND	Prophos	304 - 2666	ND
Dimethoate	43 - 2729	ND	Propoxur	43 - 2740	ND
E-Fenpyroximate	270 - 2726	ND	Pyridaben	294 - 2663	ND
Etofenprox	41 - 2666	ND	Spinosad A	33 - 2083	ND
Etoxazole	292 - 2672	ND	Spinosad D	64 - 658	ND
Fenoxycarb	14 - 2725	ND	Spiromesifen	258 - 2708	ND
Fipronil	28 - 2650	ND	Spirotetramat	265 - 2777	ND
Flonicamid	54 - 2811	ND	Spiroxamine 1	20 - 1162	ND
Fludioxonil	278 - 2651	ND	Spiroxamine 2	25 - 1480	ND
Hexythiazox	43 - 2705	ND	Tebuconazole	286 - 2782	ND
Imazalil	276 - 2741	ND	Thiacloprid	42 - 2728	ND
Imidacloprid	50 - 2785	ND	Thiamethoxam	46 - 2775	ND
Kresoxim-methyl	45 - 2723	ND	Trifloxystrobin	42 - 2708	ND

## Final Approval



Alex Benson  
25May2023  
12:41:00 PM MDT

PREPARED BY / DATE



Phillip Travisano  
25May2023  
02:50:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/56980591-0a11-43ce-b07c-5b5960a37adc>

### 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>SMZ21-SMZ24</b>	Test: <b>Microbial Contaminants</b>	Reported: <b>23May2023</b>	USDA License: NA
Matrix: Finished Product	Test ID: T000244089	Started: 19May2023	Sampler ID: NA
	Method(s): TM25 (PCR) TM24, TM26, TM27 (Culture Plating)	Received: 18May2023	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>	7.4x10 <sup>3</sup> CFU/g	
Total Aerobic Count*	TM26: Culture Plating	10 <sup>2</sup> CFU/g	1.0x10 <sup>3</sup> - 1.5x10 <sup>5</sup>	<LLOQ	
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  
22May2023  
03:51:00 PM MDT



Eden Thompson-Wright  
23May2023  
09:47:00 AM MDT



PREPARED BY / DATE

APPROVED BY / DATE

<https://results.botanacor.com/api/v1/coas/uuid/839722a1-c6c0-4ea2-a4ff-6c1be6e1e59c>

### 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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**Lupulin Brewing Company**

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


## Smazey

Batch ID or Lot Number: <b>SMZ21-SMZ24</b>	Test: <b>Heavy Metals</b>	Reported: <b>22May2023</b>	USDA License: NA
Matrix: Finished Product	Test ID: T000244090	Started: 19May2023	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 18May2023	Status: NA

## Heavy Metals

	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.05 - 4.53	ND	
Cadmium	0.04 - 4.47	ND	
Mercury	0.05 - 4.60	ND	
Lead	0.04 - 4.50	ND	

## Final Approval



Sam Smith  
22May2023  
07:47:00 AM MDT

PREPARED BY / DATE



Karen Winternheimer  
22May2023  
07:49:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/a43d0ffc-9d72-4bd9-85b4-0aa0d3f86794>

### Definitions

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

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