SC Labs®
Formerly Botanacor Labs

CERTIFICATE OF ANALYSIS

Prepared for:
Surly Brewing Co
4811 Dusharme Dr
Brooklyn Center, MN USA 55429

Surly Double Take POG

Batch ID or Lot Number:	Test:	Reported:	USDA License:
MT008 24018 Middle	**Potency**	**26Jan2024**	N/A
Matrix:	Test ID:	Started:	Sampler ID:
Unit	T000268989	26Jan2024	N/A
	Method(s):	Received:	Status:
	TM14 (HPLC-DAD)	26Jan2024	N/A

Cannabinoids

	LOD (mg)	**LOQ** (mg)	**Result** (mg)	**Result** (mg/g)	**Notes**
Cannabichromene (CBC)	0.202	0.693	ND	ND	# of Servings = 2, Sample Weight=473g
Cannabichromenic Acid (CBCA)	0.185	0.634	ND	ND	
Cannabidiol (CBD)	0.640	1.994	ND	ND	
Cannabidiolic Acid (CBDA)	0.656	2.045	ND	ND	
Cannabidivarin (CBDV)	0.151	0.472	ND	ND	
Cannabidivarinic Acid (CBDVA)	0.274	0.853	ND	ND	
Cannabigerol (CBG)	0.115	0.394	<LOQ	<LOQ	
Cannabigerolic Acid (CBGA)	0.480	1.645	ND	ND	
Cannabinol (CBN)	0.150	0.513	<LOQ	<LOQ	
Cannabinolic Acid (CBNA)	0.327	1.123	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.572	1.960	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.519	1.780	9.380	0.00	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.460	1.577	ND	ND	
Tetrahydrocannabivarin (THCV)	0.104	0.358	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.406	1.391	ND	ND	
Total Cannabinoids			**9.380**	**0.00**	
Total Potential THC			9.380	0.00	
Total Potential CBD			ND	ND	

Final Approval

Sam Smith
27Jan2024
05:32:00 PM MST
PREPARED BY / DATE

Karen Winternheimer
27Jan2024
05:33:00 PM MST
APPROVED BY / DATE

https://results.botanacor.com/api/v1/coas/uuid/b0be060e-32df-49b5-ac2c-816f8418de6b

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)).

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Batch ID or Lot Number:	Test:	Reported:	USDA License:
MT008 1/18/24	**Heavy Metals**	**25Jan2024**	NA
Matrix:	Test ID:	Started:	Sampler ID:
Finished Product	T000268219	24Jan2024	NA
	Method(s):	Received:	Status:
	TM19 (ICP-MS): Heavy Metals	19Jan2024	NA

Heavy Metals

	Dynamic Range (ppm)	**Result** (ppm)	**Notes**
Arsenic	0.05 - 4.50	ND	
Cadmium	0.05 - 4.61	ND	
Mercury	0.05 - 4.69	ND	
Lead	0.05 - 4.69	ND	

Final Approval

Sam Smith
25Jan2024
08:11:00 AM MST
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Karen Winternheimer
25Jan2024
08:17:00 AM MST
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https://results.botanacor.com/api/v1/coas/uuid/d4a59f6e-ad4b-4f47-9ffe-cab781b1f609

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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Batch ID or Lot Number:	Test:	Reported:	USDA License:
MT008 1/18/24	**Microbial Contaminants**	**25Jan2024**	NA
Matrix:	Test ID:	Started:	Sampler ID:
Finished Product	T000268218	22Jan2024	NA
	Method(s): TM25 (PCR) TM24, TM26, TM27 (Culture Plating)	Received: 19Jan2024	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
Salmonella	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

Eden Thompson-Wright
25Jan2024
09:51:00 AM MST
PREPARED BY / DATE

Brianne Maillot
25Jan2024
01:03:00 PM MST
APPROVED BY / DATE

https://results.botanacor.com/api/v1/coas/uuid/b903965b-781e-4fd3-b383-57c0b231d33c

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: 10^2 = 100 CFU, 10^3 = 1,000 CFU, 10^4 = 10,000 CFU, 10^5 = 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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Batch ID or Lot Number:	Test:	Reported:	USDA License:
MT008 1/18/24	**Mycotoxins**	**26Jan2024**	N/A
Matrix:	Test ID:	Started:	Sampler ID:
Finished Product	T000268221	24Jan2024	N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 19Jan2024	Status: Active

Mycotoxins

	Dynamic Range (ppb)	**Result** (ppb)	**Notes**
Ochratoxin A	0.82 - 121.47	ND	N/A
Aflatoxin B1	0.85 - 30.77	ND	
Aflatoxin B2	0.85 - 30.77	ND	
Aflatoxin G1	0.91 - 30.58	ND	
Aflatoxin G2	1.68 - 31.13	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

Final Approval

Karen Winternheimer
26Jan2024
08:23:00 AM MST
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Sam Smith
26Jan2024
08:37:00 AM MST
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https://results.botanacor.com/api/v1/coas/uuid/4598f267-717f-4af3-bd66-a9119a3d1b12

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

4598f267717f4af3bd66a9119a3d1b12.1

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Batch ID or Lot Number:	Test:	Reported:	USDA License:
MT008 1/18/24	**Pesticides**	**25Jan2024**	NA
Matrix:	Test ID:	Started:	Sampler ID:
Finished Product	T000268217	24Jan2024	NA
	Method(s):	Received:	Status:
	TM17 (LC-QQ LC MS/MS)	19Jan2024	NA

Pesticides

	Dynamic Range (ppb)	**Result** (ppb)
Abamectin	278 - 2656	ND
Acephate	43 - 2744	ND
Acetamiprid	44 - 2697	ND
Azoxystrobin	45 - 2680	ND
Bifenazate	38 - 2657	ND
Boscalid	53 - 2709	ND
Carbaryl	41 - 2679	ND
Carbofuran	44 - 2697	ND
Chlorantraniliprole	55 - 2700	ND
Chlorpyrifos	48 - 2745	ND
Clofentezine	282 - 2696	ND
Diazinon	277 - 2699	ND
Dichlorvos	281 - 2763	ND
Dimethoate	42 - 2722	ND
E-Fenpyroximate	244 - 2799	ND
Etofenprox	44 - 2722	ND
Etoxazole	281 - 2664	ND
Fenoxycarb	34 - 2690	ND
Fipronil	38 - 2737	ND
Flonicamid	49 - 2702	ND
Fludioxonil	285 - 2671	ND
Hexythiazox	43 - 2741	ND
Imazalil	276 - 2723	ND
Imidacloprid	43 - 2781	ND
Kresoxim-methyl	43 - 2720	ND

	Dynamic Range (ppb)	**Result** (ppb)
Malathion	287 - 2674	ND
Metalaxyl	42 - 2689	ND
Methiocarb	45 - 2718	ND
Methomyl	43 - 2771	ND
MGK 264 1	159 - 1614	ND
MGK 264 2	114 - 1090	ND
Myclobutanil	64 - 2706	ND
Naled	45 - 2654	ND
Oxamyl	43 - 2759	ND
Paclobutrazol	45 - 2710	ND
Permethrin	279 - 2735	ND
Phosmet	37 - 2583	ND
Prophos	279 - 2711	ND
Propoxur	44 - 2704	ND
Pyridaben	293 - 2727	ND
Spinosad A	35 - 2081	ND
Spinosad D	66 - 670	ND
Spiromesifen	274 - 2709	ND
Spirotetramat	277 - 2760	ND
Spiroxamine 1	17 - 1003	ND
Spiroxamine 2	24 - 1617	ND
Tebuconazole	279 - 2705	ND
Thiacloprid	44 - 2715	ND
Thiamethoxam	45 - 2748	ND
Trifloxystrobin	46 - 2705	ND

Final Approval

Karen Winternheimer
25Jan2024
11:26:00 AM MST
PREPARED BY / DATE

Sam Smith
25Jan2024
11:27:00 AM MST
APPROVED BY / DATE

https://results.botanacor.com/api/v1/coas/uuid/0263af4a-21ce-4cb8-9ec8-8f0d2cba8619

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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0263af4a21ce4cb89ec88f0d2cba8619.3

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Brooklyn Center, MN USA 55429

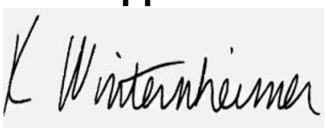
Surly Double Take POG

Batch ID or Lot Number:	Test:	Reported:	USDA License:
MT008 1/18/24	**Residual Solvents**	**24Jan2024**	N/A
Matrix:	Test ID:	Started:	Sampler ID:
Finished Product	T000268220	23Jan2024	N/A
	Method(s):	Received:	Status:
	TM04 (GC-MS): Residual Solvents	19Jan2024	Active

Residual Solvents

	Dynamic Range (ppm)	**Result** (ppm)	**Notes**
Propane	73 - 1451	ND	
Butanes (Isobutane, n-Butane)	167 - 3350	ND	
Methanol	59 - 1171	ND	
Pentane	81 - 1627	ND	
Ethanol	81 - 1627	764	
Acetone	90 - 1793	ND	
Isopropyl Alcohol	91 - 1825	ND	
Hexane	6 - 115	ND	
Ethyl Acetate	93 - 1863	ND	
Benzene	0.2 - 3.7	ND	
Heptanes	89 - 1787	ND	
Toluene	17 - 330	ND	
Xylenes (m,p,o-Xylenes)	118 - 2364	ND	

Final Approval



Karen Winternheimer
24Jan2024
02:27:00 PM MST
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Sam Smith
24Jan2024
02:28:00 PM MST
APPROVED BY / DATE

https://results.botanacor.com/api/v1/coas/uuid/e0589d9f-a877-4f68-b6f0-a5b74c318f8c

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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