

Utah Department of Agriculture and Food  
**Division of Laboratory Services**  
4451 South 2700 West  
Taylorsville, Utah 84129  
(801) 816-3840

## CERTIFICATE OF ANALYSIS

<b>Cannabinoid Analysis</b>		<b>Status:</b>	PASS
<b>Sample ID:</b>	HP23297-3	<b>Description:</b>	Tincture - Ingest
<b>Testing Date:</b>	10/27/2023	<b>Reviewed By:</b>	Cameron Cheyne

Method: ACL.AM.003 Analysis performed using High-Performance Liquid Chromatography (HPLC-DAD)

Analyte	Abbreviation	CAS Number	% (w/w)	mg/g
$\Delta$ 9-Tetrahydrocannabinidiol	$\Delta$ 9-THC	1972-08-03	<LOQ	<LOQ
$\Delta$ 8-Tetrahydrocannabinidiol	$\Delta$ 8-THC	5957-75-5	ND	ND
$\Delta$ 9-Tetrahydrocannabinolic acid	THCA	23978-85-0	ND	ND
$\Delta$ 9-Tetrahydrocannabivarin	THCV	31262-37-0	ND	ND
Cannabidiol	CBD	13956-29-1	0.06%	0.6
Cannabidiolic acid	CBDA	1244-58-2	ND	ND
Cannabidivarin	CBDV	24274-48-4	ND	ND
Cannabinol	CBN	521-35-7	<LOQ	<LOQ
Cannabigerol	CBG	25654-31-3	2.36%	23.6
Cannabichromene	CBC	20675-51-8	0.13%	1.3
Cannabigerolic acid	CBGA	25555-57-1	0.09%	0.9
Cannabichromenic acid	CBCA	20408-52-0	ND	ND
Cannabicitran	CBTC	31508-71-1	NT	NT
9(R+S)- $\Delta$ 6a, 10a-Tetrahydrocannabinidiol	$\Delta$ 3-THC	95720-01-07, 95720-02-8	ND	ND
(6aR,9R)- $\Delta$ 10-Tetrahydrocannabinidiol	(6aR,9R)- $\Delta$ 10-THC	95543-62-7	ND	ND
(6aR,9S)- $\Delta$ 10-Tetrahydrocannabinidiol	(6aR,9S)- $\Delta$ 10-THC	95588-87-7	ND	ND
<b>Total Cannabinoids</b>			2.65%	26.50
Total THC			ND	ND
Total CBD			0.06%	0.60
Total THC Analogs			ND	ND

**Unknown Cannabinoid Peak Area:** 1.0% **Status:** PASS

Notes:

Total Cannabinoids is calculated as the direct sum of each of the cannabinoid values.

Total THC is calculated as  $\Delta$ 9-THC + (THCA x 0.877).

Total CBD is calculated as CBD + (CBDA x 0.877).

Total THC Analogs is calculated as  $\Delta$ 9-THC + (THCA x 0.877) +  $\Delta$ 8-THC + CBTC.

ND = Not Detected, NQ = Not Quantifiable, NT = Not Tested, <LOQ = Below the limit of quantification

The results reported herein pertain only to the indicated sample and may not be used as an endorsement of a product. The results are given under applicable provisions of the Utah Code and represent a true statement of the outcomes of the analyses conducted on the sample received by the laboratory. This report may not be reproduced, except in its entirety. © 2023 All Rights Reserved.

# CERTIFICATE OF ANALYSIS

Prepared for:

**Kielbasa Farms**

Po Box 668

Duchesne, UT USA 84021

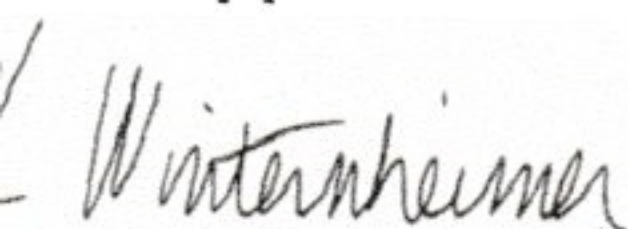
## CINNAMON TINCTURE 82823

Batch ID or Lot Number: <b>BATCH102CINNAMONTINCTURE82823</b>	Test: <b>Density</b>	Reported: <b>01Sep2023</b>	USDA License: NA
Matrix: Concentrate	Test ID: T000254748	Started: 01Sep2023	Sampler ID: NA
	Method(s): TL-SOP-0034 (Gravimetric)	Received: 31Aug2023	Status: NA

### Density Analysis

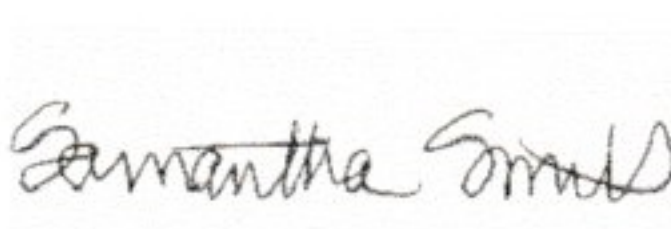
	Result	Notes
Density	0.956 g/ml	Free from visual mold, mildew, and foreign matter N/A

### Final Approval



Karen Winterheimer  
01Sep2023  
09:31:00 AM MDT

PREPARED BY / DATE



Sam Smith  
01Sep2023  
09:33:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/348a2f0c-4ed2-4313-bbd9-1e27f09c133c>



Prepared for:  
**Kielbasa Farms**

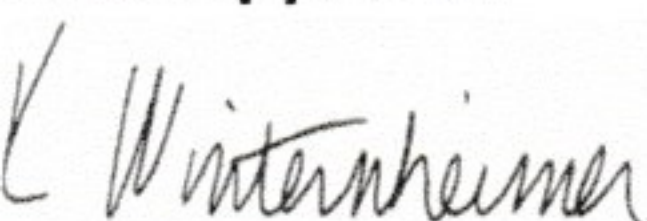
Po Box 668  
Duchesne, UT USA 84021

## CINNAMON TINCTURE 82823

Batch ID or Lot Number: <b>BATCH102CINNAMONTINCTURE828Pesticides</b> 23	Test: Pesticides	Reported: <b>07Sep2023</b>	USDA License: NA
Matrix: Finished Product	Test ID: T000254744	Started: 06Sep2023	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 31Aug2023	Status: NA

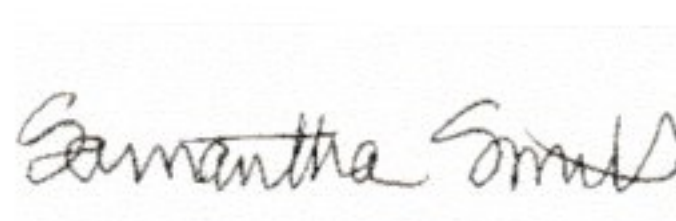
Pesticides	Dynamic Range (ppb)	Result (ppb)	Pesticides	Dynamic Range (ppb)	Result (ppb)
Abamectin	419 - 2744	ND	Malathion	294 - 2709	ND
Acephate	44 - 2757	ND	Metalaxyl	42 - 2719	ND
Acetamiprid	41 - 2752	ND	Methiocarb	43 - 2687	ND
Azoxystrobin	48 - 2701	ND	Methomyl	41 - 2778	ND
Bifenazate	44 - 2732	ND	MGK 264 1	170 - 1674	ND
Boscalid	39 - 2669	ND	MGK 264 2	109 - 1077	ND
Carbaryl	42 - 2729	ND	Myclobutanil	41 - 2563	ND
Carbofuran	43 - 2709	ND	Naled	40 - 2752	ND
Chlorantraniliprole	44 - 2684	ND	Oxamyl	41 - 2784	ND
Chlorpyrifos	44 - 2780	ND	Paclobutrazol	44 - 2727	ND
Clofentezine	279 - 2751	ND	Permethrin	274 - 2728	ND
Diazinon	288 - 2747	ND	Phosmet	44 - 2714	ND
Dichlorvos	276 - 2790	ND	Propfos	303 - 2652	ND
Dimethoate	42 - 2751	ND	Propoxur	44 - 2720	ND
Dis-Fenpyroximate	298 - 2805	ND	Pyridaben	299 - 2785	ND
Etofenprox	44 - 2754	ND	Spinosad A	31 - 2097	ND
Etoxazole	306 - 2771	ND	Spinosad D	66 - 682	ND
Fenoxycarb	28 - 2741	ND	Spiromesifen	294 - 2758	ND
Fipronil	54 - 2679	ND	Spirotetramat	276 - 2734	ND
Fonicamid	46 - 2810	ND	Spiroxamine 1	18 - 1178	ND
Fludioxonil	275 - 2643	ND	Spiroxamine 2	23 - 1491	ND
Hexythiazox	43 - 2787	ND	Tebuconazole	291 - 2783	ND
Imazalil	282 - 2751	ND	Thiacloprid	42 - 2731	ND
Imidacloprid	42 - 2806	ND	Thiamethoxam	41 - 2792	ND
Kresoxim-methyl	46 - 2755	ND	Trifloxystrobin	44 - 2700	ND

## Final Approval



Karen Winternheimer  
07Sep2023  
09:17:00 AM MDT

PREPARED BY / DATE



Sam Smith  
07Sep2023  
09:19:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/10bccea2-9a69-4a32-91e3-b7663788e74d>

### 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

Prepared for:  
**Kielbasa Farms**

Po Box 668  
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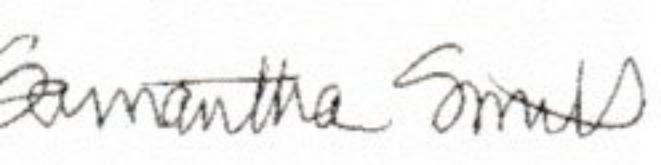
## CINNAMON TINCTURE 82823

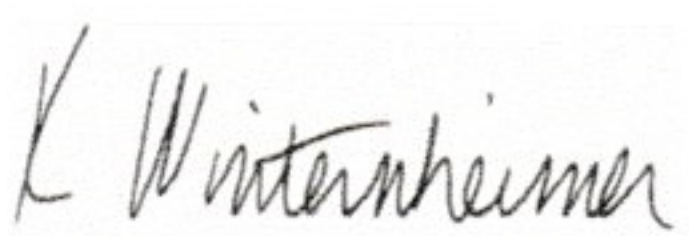
Batch ID or Lot Number: <b>BATCH102CINNAMONTINCTURE82823</b>	Test: <b>Heavy Metals</b>	Reported: <b>08Sep2023</b>	USDA License: NA
Matrix: Finished Product	Test ID: T000254746	Started: 07Sep2023	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 31Aug2023	Status: NA

### Heavy Metals

	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.34	ND	
Cadmium	0.04 - 4.33	ND	
Mercury	0.04 - 4.37	ND	
Lead	0.04 - 4.44	ND	

### Final Approval

  
 Sam Smith  
 08Sep2023  
 08:29:00 AM MDT  
 PREPARED BY / DATE

  
 Karen Winternheimer  
 08Sep2023  
 08:33:00 AM MDT  
 APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/a967c1d2-6f5b-44d2-81b0-9beaf93235c9>

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

Prepared for:  
**Kielbasa Farms**  
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Duchesne, UT USA 84021

## CINNAMON TINCTURE 82823

Batch ID or Lot Number: <b>BATCH102CINNAMONTINCTURE828</b>	Test: <b>Microbial Contaminants</b>	Reported: <b>05Sep2023</b>	USDA License: NA
Matrix: Finished Product	Test ID: T000254745	Started: 01Sep2023	Sampler ID: NA
	Method(s): TM25 (PCR) TM24, TM26, TM27 (Culture Plating)	Received: 31Aug2023	Status: NA

Microbial 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
Salmonella	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>	<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  
04Sep2023  
01:11:00 PM MDT

PREPARED BY / DATE



Brianne Maillot  
05Sep2023  
09:55:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/ad4d8861-cbe2-4801-b42b-257913fb0ca0>

### 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

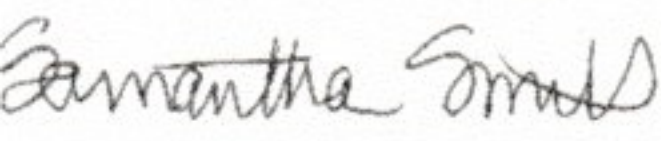
Prepared for:  
**Kielbasa Farms**  
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Duchesne, UT USA 84021

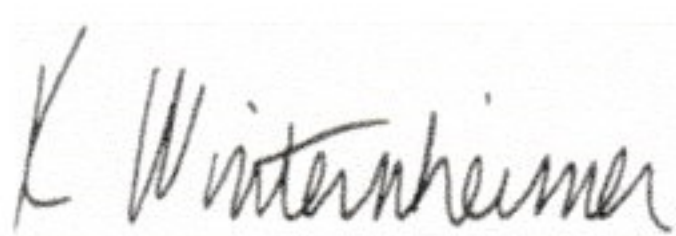
## CINNAMON TINCTURE 82823

Batch ID or Lot Number: <b>BATCH102CINNAMONTINCTURE828Mycotoxins</b> 23	Test: <b>Mycotoxins</b>	Reported: <b>12Sep2023</b>	USDA License: N/A
Matrix: Finished Product	Test ID: T000254749	Started: 09Sep2023	Sampler ID: N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 31Aug2023	Status: Active

<b>Mycotoxins</b>	<b>Dynamic Range (ppb)</b>	<b>Result (ppb)</b>	<b>Notes</b>
Ochratoxin A	3.00 - 113.29	ND	N/A
Aflatoxin B1	0.98 - 29.83	ND	
Aflatoxin B2	0.95 - 29.62	ND	
Aflatoxin G1	0.98 - 29.86	ND	
Aflatoxin G2	1.16 - 30.34	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

## Final Approval

  
PREPARED BY / DATE  
Sam Smith  
12Sep2023  
06:21:00 AM MDT

  
APPROVED BY / DATE  
Karen Winternheimer  
12Sep2023  
06:22:00 AM MDT



<https://results.botanacor.com/api/v1/coas/uuid/914c3560-554c-4f18-9d5b-b15981c4e840>

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

Prepared for:

**Kielbasa Farms**

Po Box 668

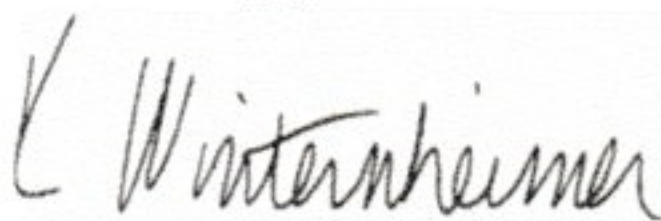
Duchesne, UT USA 84021

## CINNAMON TINCTURE 82823

Batch ID or Lot Number: <b>BATCH102CINNAMONTINCTURE82823</b>	Test: <b>Residual Solvents</b>	Reported: <b>05Sep2023</b>	USDA License: N/A
Matrix: Concentrate	Test ID: T000254747	Started: 05Sep2023	Sampler ID: N/A
	Method(s): TM04 (GC-MS): Residual Solvents	Received: 31Aug2023	Status: Active

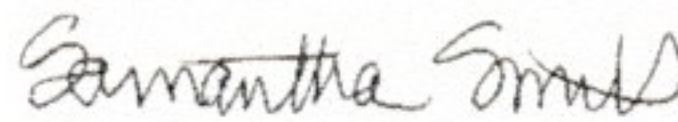
Residual Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	102 - 2039	ND	
Butanes (Isobutane, n-Butane)	207 - 4134	ND	
Methanol	65 - 1296	ND	
Pentane	104 - 2082	ND	
Ethanol	102 - 2047	ND	
Acetone	106 - 2116	ND	
Isopropyl Alcohol	109 - 2172	ND	
Hexane	6 - 127	ND	
Ethyl Acetate	106 - 2130	ND	
Benzene	0.2 - 4.2	ND	
Heptanes	107 - 2148	ND	
Toluene	19 - 387	ND	
Xylenes (m,p,o-Xylenes)	144 - 2881	ND	

## Final Approval



Karen Winternheimer  
05Sep2023  
03:04:00 PM MDT

PREPARED BY / DATE



Sam Smith  
05Sep2023  
03:06:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/702f6737-2ea1-4c14-85a4-e3e41a897ebf>

### Definitions

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