

Ryan F. Quarles
Commissioner



Office of Agriculture Marketing
Industrial Hemp Program
111 Corporate Drive
Frankfort, KY 40601
Phone: (502) 573-0282

Kentucky Department of Agriculture

Industrial Hemp Research Pilot Program

Processor/Handler License

License Holder	GenCanna Global USA Inc
License Number	16-10-01P
Signing Authority (if different from License Holder)	Christopher Edward Stubbs
Mailing Address	321 Venable Road Winchester, KY 40391

DATE OF ISSUANCE	DATE OF EXPIRATION
03/7/2018	03/31/2021

The terms and conditions of this license are identical to the terms and conditions stated in the License Holder's current *Processor/Handler Licensing Agreement*, and any subsequent amendments. Refer to the *Licensing Agreement* for a complete list of approved processing, handling, and storage locations and their associated GPS coordinates.

This Industrial Hemp Research Pilot Program License has been issued under the authority of KRS 260.850 to 260.869. This license is non-transferable. This license does not automatically renew; License Holders must comply with annual renewal requirements, and re-apply to the program to renew the license past the date of expiration listed in this document.

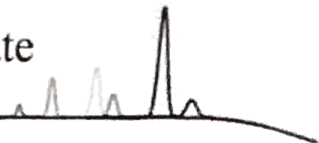
Law enforcement officials or individuals with questions should contact KDA Industrial Hemp Program Manager Doris Hamilton at 502-782-4113 for confirmation and further details.

Keith L. Rogers, Chief of Staff

9/24/2018

Date





Certificate ID: 58572

Received: 7/2/19

Scan QR Code
for authenticity



Client Sample ID: 190114RE

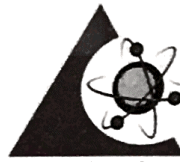
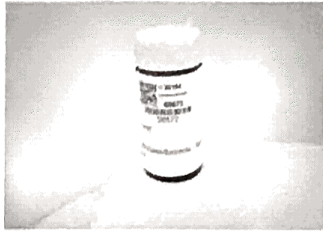
Lot Number:

Matrix: Concentrates/Extracts - Isolate



GenCanna

Authorization: Jon Podgorni, Lab Manager	Signature: <i>Jon Podgorni</i>	Date: 7/11/2019
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PJLA Testing
Accreditation
80585

The data contained within this report was collected in accordance with the requirements of ISO/IEC17025:2017. I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

CN: Cannabinoid Profile & Potency [WI-10-17 & WI-10-17-01]

Analyst: LG

Test Date: 7/8/2019

The client sample was analyzed for plant-based cannabinoids by Liquid Chromatography (LC). The collected data was compared to data collected for certified reference standards at known concentrations.

58572-CN

ID	Weight %	Concentration (mg/g)		
D9-THC	ND	ND		
THCV	ND	ND		
CBD	99.20	992.00		
CBDV	0.12	1.18		
CBG	ND	ND		
CBC	0.01	0.14		
CBN	ND	ND		
THCA	ND	ND		
CBDA	ND	ND		
CBGA	ND	ND		
D8-THC	ND	ND		
exo-THC	ND	ND		
Total	99.33	993.32	0%	Cannabinoids (wt%) 99.2%
Max THC	-	-		
Max CBD	99.20	992.00		

Max THC (and Max CBD) are calculated values for total cannabinoids after heating, assuming complete decarboxylation of the acid to the neutral form. It is calculated based on the weight loss of the acid group during decarboxylation: Max THC = (0.877 x THCA) + THC. This calculation does not include other cannabinoid isomers (eg. D8-THC and exo-THC). ND = None detected above the limits of detection (LLD)

EA: Elemental Analysis [WI-10-13]

Analyst: JFD

Test Date: 7/10/2019

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

58572-EA

Symbol	Metal	Conc. ¹	MDL	Limits ²	Status
Al	Aluminum	290 ug/kg	5 ug/kg	-	
As	Arsenic	ND	4 ug/kg	150 ug/kg	PASS
Cd	Cadmium	ND	1 ug/kg	150 ug/kg	PASS
Ca	Calcium	2,879 ug/kg	500 ug/kg	-	
Cr	Chromium	93 ug/kg	5 ug/kg	2500 ug/kg	PASS
Co	Cobalt	ND	10 ug/kg	-	
Cu	Copper	ND	500 ug/kg	10000 ug/kg	PASS
Fe	Iron	366 ug/kg	5 ug/kg	-	
Pb	Lead	ND	2 ug/kg	500 ug/kg	PASS
Mg	Magnesium	5,510 ug/kg	500 ug/kg	-	
Mn	Manganese	ND	500 ug/kg	-	
Hg	Mercury	ND	2 ug/kg	150 ug/kg	PASS
Mo	Molybdenum	ND	50 ug/kg	1000 ug/kg	PASS
Ni	Nickel	ND	50 ug/kg	150 ug/kg	PASS
P	Phosphorus	ND	500 ug/kg	-	
K	Potassium	4,610 ug/kg	5 ug/kg	-	
Se	Selenium	ND	10 ug/kg	-	
Ag	Silver	ND	10 ug/kg	-	
S	Sulfur	ND	5 ug/kg	-	
Sn	Tin	ND	5000 ug/kg	-	
Zn	Zinc	737 ug/kg	5 ug/kg	-	

1) ND = None detected to the Method Detection Limit (MDL)

2) USP recommended maximum daily limits for inhalational drug product.

MB1: Microbiological Contaminants [WI-10-09]

Analyst: aem

Test Date: 7/8/2019

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

58572-MB1

Symbol	Analysis	Results	Units	Limits*	Status
AC	Total Aerobic Bacterial Count	<100	CFU/g	10,000 CFU/g	PASS
CC	Total Coliform Bacterial Count	<100	CFU/g	100 CFU/g	PASS
EB	Total Bile Tolerant Gram Negative Count	<100	CFU/g	100 CFU/g	PASS
YM	Total Yeast & Mold	<100	CFU/g	1,000 CFU/g	PASS

Note: All recorded Microbiological tests are within the established limits.

MB2: Pathogenic Bacterial Contaminants [WI-10-10]

Analyst: LabAdmin

Test Date: 7/9/2019

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

58572-MB2

Test ID	Analysis	Results	Units	Limits*	Status
58572-ECPT	E. coli (O157)	Negative	NA	Non Detected	PASS
58572-SPT	Salmonella	Negative	NA	Non Detected	PASS

Note: All recorded pathogenic bacteria tests passed.

MY: Mycotoxin Testing [WI-10-05]

Analyst: AKR

Test Date: 7/10/2019

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

58572-MY

Test ID	Date	Results	MDL	Limits	Status*
Total Aflatoxin	7/10/2019	< MDL	2 ppb	< 20 ppb	PASS
Total Ochratoxin	7/10/2019	< MDL	3 ppb	< 20 ppb	PASS

TP: Terpenes Profile [WI-10-27]

Analyst: CMA

Test Date: 7/11/2019

The client sample was analyzed by Head-Space Gas Chromatography (HS-GC). The collected data was compared to data collected for certified reference standards at known concentrations. All values are semiquantitative estimates based on recorded peak areas relative to terpene calibration data.

58572-TP

Compound	ppm	Terpene Profile	Compound	ppm	Terpene Profile	
beta-myrcene			camphene			
isopulegol			L-fenchone			
menthol			beta-pinene			
cis-nerolidol			eucalyptol			
trans-nerolidol			alpha-terpinene			
gamma-terpinene			delta-3-carene			
alpha-bisabolol			alpha-pinene			
linalool			D-limonene			
beta-caryophyllene	13		geraniol			
caryophyllene oxide			cis-beta-ocimene			
guaiaol			alpha-ocimene			
sabinene			alpha-phellandrene			
alpha-humulene	5		terpinolene			
p-cymene						
	ppm 0.00	10.00	20.00	0.00	10.00	20.00

Total Terpene: <0.1 wt%

VC: Analysis of Volatile Organic Compounds [WI-10-28]

Analyst: CMA

Test Date: 7/10/2019

The client sample was analyzed by Head-Space Gas Chromatography (HS-GC). The collected data was compared to data collected for certified reference standards at known concentrations.

58572-VC

Compound	CAS	Amount ¹	Limit ²	RL	Status
Propane	74-98-6	ND	1,000 ppm	200	PASS
Isobutane	75-28-5	ND	1,000 ppm	200	PASS
Butane	106-97-8	ND	1,000 ppm	200	PASS
Methanol	67-56-1	ND	3,000 ppm	200	PASS
Ethanol	64-17-5	ND	5,000 ppm	200	PASS
Acetone	67-64-1	ND	5,000 ppm	200	PASS
Isopropanol	67-63-0	ND	5,000 ppm	200	PASS
Acetonitrile	75-05-8	ND	410 ppm	200	PASS
Hexane	110-54-3	ND	290 ppm	200	PASS
Heptane	142-82-5	ND	5,000 ppm	200	PASS

1) ND = Not detected at a level greater than the Reporting Limit (RL).

2) In ppm, based on USP recommended limits for residual solvents, adopted by the Massachusetts Department of Public Health on 3/31/16. Butane/Propane limits are based on limits established for state of Colorado.

END OF REPORT

CERTIFICATE OF ANALYSIS:
CRYSTALLINE CANNABIDIOL



Product Name
CC - Crystalline Cannabidiol
Batch Number
190114RE
Manufacture Date
July 1, 2019
Expiration Date
July 2021

Botanical Source
Industrial hemp, grown and processed in Kentucky, USA in compliance with Section 7415 of the Farm Bill and applicable Kentucky State Law and State Department of Agriculture regulations.

Product Description
This product is hemp derived crystalline cannabidiol, isolated through CO₂ extraction and crystal precipitation.

Qualitative Analysis

OBSERVATION	METHOD	RESULT
Foreign Matter	Gross Visual	Absent
Color	Gross Visual	Off White
Molds & Mildews	Gross Visual	Absent
Smell	Olfactory	Odorless to Slight Terpenoid
Product Feel	Tactile	Fine Powder

Quantitative Analysis

Cannabinoid Analysis**

RESULT: PASS

IDENTIFICATION	METHOD	RESULT
Cannabinoid	HPLC-DAD	%wt/wt
Cannabidiolic Acid (CBDA)	HPLC-DAD	N/D
Cannabidiol (CBD)	HPLC-DAD	99.20%
Cannabidivarin (CBDV)	HPLC-DAD	0.12%
Tetrahydrocannabinolic Acid (THCA)	HPLC-DAD	N/D
Δ -9-Tetrahydrocannabinol (Δ -9-THC)	HPLC-DAD	N/D
Cannabinol (CBN)	HPLC-DAD	N/D
Cannabichromene (CBC)	HPLC-DAD	0.01%

**Denotes third party analysis. Source data available upon request.

N/A NOT APPLICABLE TO PRODUCT TYPE

N/D NOT DETECTED



Packing Slip

321 Venable Road Suite #2
Winchester KY 40391
United States

Date	S.O. No.
9/11/2019	#551

Bill To
Snce Laboratories 110 West Old Andrew Johnson Highway Jefferson City TN 37760 United States

Ship To
Snce Laboratories 110 West Old Andrew Johnson Highway Jefferson City TN 37760 United States

Quote	Terms	Rep	Ship Via	FOB
Q-01461	Prepay	Sonya Bain		

Item	Description	Ordered	Shipped
Crystalline Cannabidiol Crystalline Cannabidiol	Crystalline Cannabidiol .25Kg	8	8

