

# Certificate of Quality Assurance

**PRODUCT NAME:** Lemon Tincture  
**PRODUCT STRENGTH:** 450 mg  
**LOT NUMBER:** HTL500-T103  
**OIL BATCH NUMBER:** CONO19-73  
**DATE OF MANUFACTURE:** 6/3/2019  
*Expiration date is 18 months under sealed conditions.*  
**DATE OF ANALYSIS:** 6/3/2019  
**ACTIVE INGREDIENT:** Phytocannabinoid-Rich Hemp Oil  
**INACTIVE INGREDIENTS:** MCT, Lemon Essential Oil

**JOY**<sup>™</sup>  
**ORGANICS**

## Physical Attributes of Raw Hemp Oil

Attribute	Acceptance Criteria	Result
Appearance	Viscous Dark Amber Oil Possible Crystal Formation	Conforms
Aroma	Characteristic Hemp Aroma	Conforms
Dissolution	Not Cloudy or Turbid, Characteristic Color	Conforms
Microbial Testing	Total Aerobic Count <2000 cfu/g Total Yeast and Mold <2000 cfu/g	Conforms

## I Potency of Raw Hemp Oil

Cannabinoid	Weight %
CBD	83.58
CBG	<0.03
CBN	<0.03
THC	ND
CBC	<0.03
THC-A	ND
CBD-A	<0.03

## Pesticides\*

Compound	Result	Compound	Result
Acequinocil	ND	Spinosad	ND
Pyrethrium	ND	Spirotetramat	ND
Spiromesifin	ND	Bifenazate	ND
Abamectin	ND	Fenoxycarb	ND
Imidacloprid	ND	Paclobutrazol	ND

## Terpene Results\*

Compound	Weight %	Compound	Weight %
$\beta$ -Bisabolene	1.0-3.0	Camphene	0.1-0.2
$\beta$ -Farnesene	1.0-2.0	E-Farnesene	0.1-0.2
Gualol	0.5-2.0	Farnesol	0.1-0.2
$\beta$ -Maaliene	0.5-2.0	$\alpha$ -Bisabolol	< 0.1
Calarene	0.5-1.5	p-Cymene	< 0.1
$\beta$ -Caryophyllene	0.1-1.0	Linalool	< 0.1
$\alpha$ -Humulene	0.1-1.0	Myrcene	< 0.1
Cadinene	0.1-1.0	Phytol	< 0.1
$\alpha$ -Gurjunene	0.1-0.5	Isopulegol	< 0.1
d-Limonene	0.1-0.5	Terpinene	< 0.1
Nerolidol	0.1-0.5	Geraniol	< 0.1
$\alpha$ -Pinene	0.1-0.5	Myrcene	< 0.1
Aristolene	0.1-0.3	$\gamma$ -Terpinene	< 0.1
Eucalyptol	0.1-0.2	$\delta$ -3-Carene	< 0.1

## Residual Solvents\*

Solvent	Weight %
Acetone	Compliant with USP<467>
Butane	Compliant with USP<467>
Ethanol	Compliant with USP<467>
Hexane	Compliant with USP<467>
Isobutane	Compliant with USP<467>
Isopropanol	Compliant with USP<467>
Pentane	Compliant with USP<467>

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**JOY<sup>TM</sup>**  
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## Heavy Metals\*

Metal	Result
Cadmium	Compliant with USP<233>
Lead	Compliant with USP<233>
Arsenic	Compliant with USP<233>
Mercury	Compliant with USP<233>

## Analysis Results for Finished Product

Attribute	Acceptance Criteria	Result
Appearance	Light Yellow Liquid	Conforms
Aroma	Characteristic Lemon Odor	Conforms
Cannabidiol Content	95% to 110% of Label Claim	Conforms
THC Content	None Detected	Conforms

\* Results based on testing of multiple batches of hemp oil raw material.

Certified by:



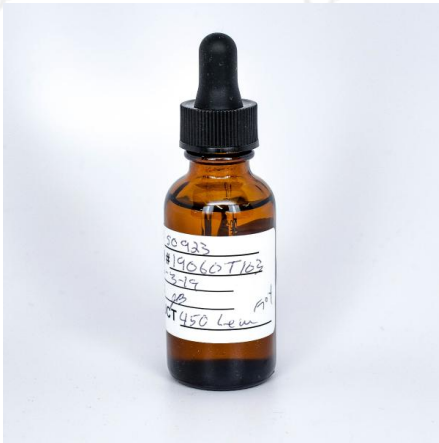
Matthew Plenert, Ph.D  
Head Chemist and Quality Manager

6-13-19

Date



# CERTIFICATE OF ANALYSIS



## SAMPLE INFORMATION

Sample Name: BOM# 50923 Batch# 19060T103  
Sample Matrix: Tincture  
Custom Id: 101577  
Received: 06/07/2019 10:00  
Servings Per Pkg: 1  
Overall Result: **Pass**

Sample Id: 117160  
Collected: 06/07/2019 09:42  
Serving Size: 30 mL  
Density: 0.9408 mg/ml

## MANUFACTURER INFO

Business Name: MyCBDTest  
City:   
Zip Code: 80524

Street Address:  
State:  
License:

## MICROBIAL ECOLI ANALYSIS

TEST TYPE RESULT: **Pass**  
UNIT OF MEASUREMENT: Colony Forming Unit(CFU)

ANALYTE	RESULT	LOD	LLOQ	ACTION LEVEL	ANALYTE	RESULT	LOD	LLOQ	ACTION LEVEL
Ecoli	ND	0.0	0.0	100.0 <b>Pass</b>					

### ADDITIONAL INFORMATION

Method: OR-SOP-TECH-006  
Instrument:   
Sample Prepped 06/10/2019 14:50  
Sample Analyzed 06/11/2019 13:15  
Sample Approved 06/11/2019 13:31

## MICROBIAL SALMONELLA ANALYSIS

TEST TYPE RESULT: **Pass**  
UNIT OF MEASUREMENT: Colony Forming Unit(CFU)

ANALYTE	RESULT	LOD	LLOQ	ACTION LEVEL	ANALYTE	RESULT	LOD	LLOQ	ACTION LEVEL
Salmonella	ND	0.0	0.0	0.0 <b>Pass</b>					

### ADDITIONAL INFORMATION

Method: OR-SOP-TECH-008  
Instrument:   
Sample Prepped 06/10/2019 14:50  
Sample Analyzed 06/11/2019 14:12  
Sample Approved 06/11/2019 17:53





# CERTIFICATE OF ANALYSIS

## CANNABINOID ANALYSIS

**i** Total THC,CBD value(s) have been decarboxylated.

TOTAL THC: 0.0 mg per serving (0.0 mg/mL) (0.0 %)  
 TOTAL CBD: 476.8 mg per serving (15.89 mg/mL) (1.689 %)  
 TOTAL CANNABINOIDS: 476.8 mg per serving (15.89 mg/mL) (1.689 %)

TEST TYPE RESULT: N/A  
 UNIT OF MEASUREMENT: Milligrams per Milliliter(mg/mL)

ANALYTE	RESULT	LOD	LLOQ	ANALYTE	RESULT	LOD	LLOQ
D9THC	ND	0.0	0.0	D8THC	ND	0.0	0.0
THCa	ND	0.0	0.0	CBG	ND	0.0	0.0
CBN	ND	0.0	0.0	CBD	15.89 mg/mL (1.689 %)	0.0	0.0
CBDa	ND	0.0	0.0	CBGa	ND	0.0	0.0
THCv	ND	0.0	0.0	CBC	ND	0.0	0.0
CBDv	ND	0.0	0.0				

### ADDITIONAL INFORMATION

Method: SOP-LAB-001  
 Instrument: HPLC-DAD

Sample Prepped 06/07/2019 10:39  
 Sample Analyzed 06/07/2019 11:04

Sample Approved 06/10/2019 13:56

## CHEMICAL RESIDUE ANALYSIS

TEST TYPE RESULT: Pass  
 UNIT OF MEASUREMENT: Parts per Million(PPM)

ANALYTE	RESULT	LOD	LLOQ	ACTION LEVEL	ANALYTE	RESULT	LOD	LLOQ	ACTION LEVEL
Acephate	ND	0.0050	0.0125	0.4000 Pass	Acequinocyl	ND	0.1250	0.2500	2.000 Pass
Acetamiprid	ND	0.0050	0.0625	0.2000 Pass	Aldicarb	ND	0.0050	0.0250	0.4000 Pass
Azoxystrobin	ND	0.0050	0.0125	0.2000 Pass	Bifenazate	ND	0.0050	0.0125	0.2000 Pass
Bifenthrin	ND	0.0050	0.0625	0.2000 Pass	Boscalid	ND	0.0050	0.0625	0.4000 Pass
Carbaryl	ND	0.0125	0.1250	0.2000 Pass	Carbofuran	ND	0.0050	0.0250	0.2000 Pass
Chlorantraniliprole	ND	0.0125	0.0625	0.2000 Pass	Chlorfenapyr	ND	0.0250	0.0625	1.000 Pass
Chlorpyrifos	ND	0.0050	0.0250	0.2000 Pass	Clofentezine	ND	0.0050	0.0250	0.2000 Pass
Cypermethrin	ND	0.0250	0.0625	1.000 Pass	Daminozide	ND	0.0050	0.0250	1.000 Pass
Dichlorvos	ND	0.0250	0.0625	0.1000 Pass	Diazinon	ND	0.0050	0.0125	0.2000 Pass
Dimethoate	ND	0.0050	0.0125	0.2000 Pass	Ethoprophos	ND	0.0050	0.0250	0.2000 Pass
Etofenprox	ND	0.0050	0.0125	0.4000 Pass	Etoxazole	ND	0.0050	0.0625	0.2000 Pass
Fenoxycarb	ND	0.0050	0.0250	0.2000 Pass	Fenpyroximate	ND	0.0625	0.6250	0.4000 Pass
Fipronil	ND	0.1250	0.1875	0.4000 Pass	Flonicamid	ND	0.0050	0.0125	1.000 Pass
Fludioxonil	ND	0.0250	0.0625	0.4000 Pass	Hexythiazox	ND	0.0050	0.0250	1.000 Pass
Imazalil	ND	0.0050	0.0125	0.2000 Pass	Imidacloprid	ND	0.0050	0.0625	0.4000 Pass
KresoximMethyl	ND	0.0250	0.0625	0.4000 Pass	Malathion	ND	0.0050	0.0250	0.2000 Pass
Metalaxyl	ND	0.0050	0.0125	0.2000 Pass	Methiocarb	ND	0.0050	0.0125	0.2000 Pass
Methomyl	ND	0.0050	0.0250	0.4000 Pass	MethylParathion	ND	0.1250	0.0250	0.2000 Pass





# CERTIFICATE OF ANALYSIS

Myclobutanil	<LLOQ	0.0050	0.0625	0.2000	Pass	Naled	ND	0.0125	0.0625	0.5000	Pass
Oxamyl	ND	5.00E-6	1.25E-5	0.0010	Pass	Paclobutrazol	ND	0.0050	0.0250	0.4000	Pass
Phosmet	ND	0.0050	0.0125	0.2000	Pass	PiperonylButoxide	ND	0.0050	0.0625	2.000	Pass
Prallethrin	ND	0.0250	0.0625	0.2000	Pass	Propoxur	ND	0.0050	0.0250	0.2000	Pass
Pyridaben	ND	0.0050	0.0250	0.2000	Pass	Spiromesifen	ND	0.0625	0.6250	0.2000	Pass
Spirotetramat	ND	0.0050	0.0625	0.2000	Pass	Spiroxamine	ND	0.0050	0.0250	0.4000	Pass
Tebuconazole	ND	0.0050	0.0125	0.4000	Pass	Thiacloprid	ND	0.0050	0.0625	0.2000	Pass
Thiamethoxam	ND	0.0050	0.0125	0.2000	Pass	Trifloxystrobin	ND	0.0050	0.0250	0.2000	Pass
Abamectin	ND	4.851	0.1288	0.5000	Pass	Cyfluthrin	ND	0.0625	0.1250	1.000	Pass
MGK-264	ND	0.0050	0.0625	0.2000	Pass	Permethrins	ND	0.0050	0.0408	0.2000	Pass
Propiconazole	ND	0.0051	0.0494	0.4000	Pass	Pyrethrins	ND	0.0220	0.1006	1.000	Pass
Spinosad	ND	0.0050	0.0230	0.2000	Pass						

**ADDITIONAL INFORMATION**

Method: SOP  
 Instrument:

Sample Prepped 06/07/2019 10:39  
 Sample Analyzed 06/07/2019 11:05

Sample Approved 06/10/2019 14:33

This report applies to the sample investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. This report provides technical results for a specific sample and the report shall not be altered, modified, supplemented, or abstracted in any manner. Any violation of these conditions renders the report and its results void.

All LQC samples required by state regulations were performed and met the acceptance criteria.

**DATA REVIEWED AND APPROVED BY**

06/11/2019

Stacey Anderson, PhD  
 Lab Director

Date



June 11, 2019

**JOY ORGANICS**

Attn: Darcie Moran  
1301 Blue Spruce Drive, Suite B-1  
Fort Collins, CO 80521

Order No. 506650  
Sample No. 1028069

**SAMPLE INFORMATION**

**Description** HTL500  
**Lot Number** T103  
**Category (Type)** Other (Tincture)  
**Received** June 07, 2019

**ANALYTICAL RESULTS**

**Analysis** Heavy Metal Screen ✔ Pass  
**Instrument** ICP-MS  
**Method** MF 24E020  
**Analysis Date** June 07, 2019 to June 11, 2019

Analyte	LOD / LOQ (µg/g)	Findings (µg/g)	Limit (µg/g)	Status
Arsenic	0.02/0.05	ND	1.5	Pass
Cadmium	0.02/0.05	ND	0.5	Pass
Lead	0.02/0.05	ND	0.5	Pass
Mercury	0.02/0.05	ND	3.0	Pass

Reported by  
**Anresco, Inc.**

ND = None Detected  
<LOQ = Below Limit of Quantitation  
<LOD = Below Limit of Detection



Yelena Bindman  
Senior Chemist

June 11, 2019