



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

ACT Laboratories, Inc.

**617 East Hazel, Lansing, MI 48912
1931 S. Main Street, Morton, IL 61550
190 River Road, Clearfield, PA 16830
109 Brinton Avenue, Trafford, PA 15085
1706 Woodville Road, Toledo, OH 43605**

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Biological and Chemical Testing *(As detailed in the supplement)*

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President/Operations Manager

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

<i>Initial Accreditation Date:</i>	<i>Issue Date:</i>	<i>Expiration Date:</i>
June 25, 2015	May 20, 2019	August 31, 2021
<i>Revision Date:</i>	<i>Accreditation No.:</i>	<i>Certificate No.:</i>
August 6, 2019	82076	L19-250-R1

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjabs.com



Certificate of Accreditation: Supplement

ACT Laboratories, Inc.

617 East Hazel, Lansing, MI 48912
1931 S. Main Street, Morton, IL 61550
190 River Road, Clearfield, PA 16830
109 Brinton Avenue, Trafford, PA 15085
1706 Woodville Road, Toledo, OH 43605
Contact Name: Jeff Nemeth Phone: 517-278-9333

Accreditation is granted to the facility to perform the following testing:

617 East Hazel, Lansing, MI 48912

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical ^F	Cannabis Plant Material, Cannabinoid Infused Products, and Cannabinoid Concentrates	(-)-delta8-THC (D8THC) Cannabichromenic Acid (CBCA) Cannabicyclol (CBL) Cannabidivarin (CBDV) Cannabidivarinic Acid (CBDVA) Cannabigerolic Acid (CBGA) Cannabinolic Acid (CBNA) Tetrahydrocannabivarin (THCV) Tetrahydrocannabivarinic Acid (THCVA)	Lab Methods (HPLC-UV)	D.L. = 0.35 %





Certificate of Accreditation: Supplement

ACT Laboratories, Inc.

617 East Hazel, Lansing, MI 48912
 1931 S. Main Street, Morton, IL 61550
 190 River Road, Clearfield, PA 16830
 109 Brinton Avenue, Trafford, PA 15085
 1706 Woodville Road, Toledo, OH 43605
 Contact Name: Jeff Nemeth Phone: 517-278-9333

Accreditation is granted to the facility to perform the following testing:

1931 S. Main Street, Morton, IL 61550

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Biological ^F	Cannabis Plant Material, Cannabinoid Infused Products, and Cannabinoid Concentrates	Coliforms, Enterobacteriaceae, Total Viable Aerobic Bacteria, Yeast and Mold,	Lab Methods based on 3M Petrifilm	10 CFU/g to 10 000 CFU/g
		E. Coli, Salmonella		Presence/Absence
		Visual Inspection	Microscopy	Presence (Visible Contaminants)
Chemical ^F	Cannabis Plant Material, Cannabinoid Infused Products, and Cannabinoid Concentrates	(-)-delta8-THC (D8THC) Tetrahydrocannabivarinic Acid (THCVA)	Lab Methods (HPLC-UV)	D.L. = 0.375 %
		(-)-delta9-THC (D9THC) Cannabichromene (CBC) Cannabichromenic Acid (CBCA) Cannabicyclol (CBL) Cannabidiol (CBD) Cannabidiolic Acid (CBDA) Cannabidivarin (CBDV) Cannabidivarinic Acid (CBDVA) Cannabigerol (CBG) Cannabigerolic Acid (CBGA) Cannabinol (CBN) Cannabinolic Acid (CBNA) Tetrahydrocannabinolic Acid (THCA) Tetrahydrocannabivarin (THCV)		D.L. = 500 µg/g



Certificate of Accreditation: Supplement

ACT Laboratories, Inc.

617 East Hazel, Lansing, MI 48912
 1931 S. Main Street, Morton, IL 61550
 190 River Road, Clearfield, PA 16830
 109 Brinton Avenue, Trafford, PA 15085
 1706 Woodville Road, Toledo, OH 43605
 Contact Name: Jeff Nemeth Phone: 517-278-9333

Accreditation is granted to the facility to perform the following testing:

1931 S. Main Street, Morton, IL 61550

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical ^F	Cannabis Plant Material, Cannabinoid Infused Products, and Cannabinoid Concentrates	Alpha-biasbolol Alpha-cedrene Alpha-humulene Alpha-phellandrene Alpha-pinene Alpha-terpinene Beta-caryophyllene Beta-myrcene Beta-ocimene Beta-pinene Borneol Camphene Camphor Caryophyllene Oxide Cedrol Cis-nerolidol Delta-3-carene DL-menthol Eucalyptol Fenchol Fenchone Gamma-terpinene Geraniol Geranyl Acetate Guaiol Isoborneol Isopulegol Limonene Linalool Nerol Para-cymene Pulegone Sabinene Sabinene Hydrate Terpineol Terpinolene Trans-nerolidol Valencene	Lab Methods (HS-GC-FID)	D.L. = 500 µg/g
		Butane, Ethanol	Lab Methods (HS-GC-FID)	D.L. = 1 µg/g



Certificate of Accreditation: Supplement

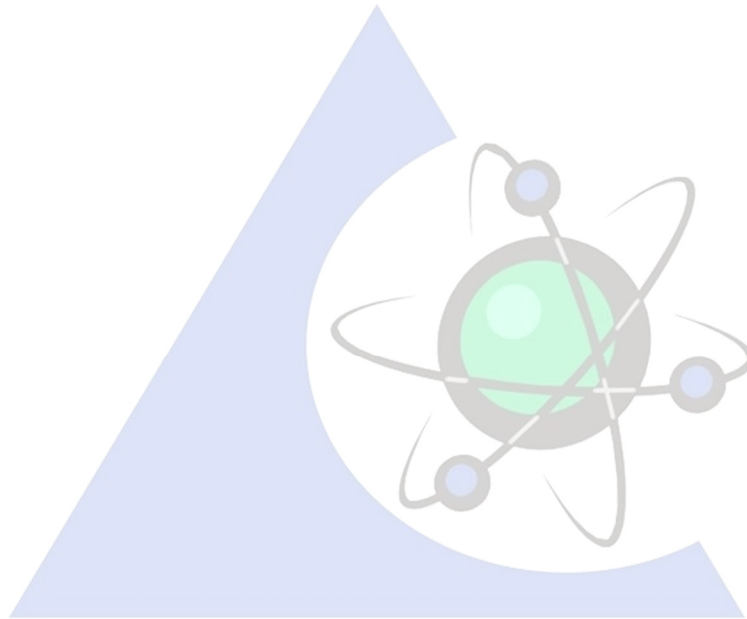
ACT Laboratories, Inc.

617 East Hazel, Lansing, MI 48912
1931 S. Main Street, Morton, IL 61550
190 River Road, Clearfield, PA 16830
109 Brinton Avenue, Trafford, PA 15085
1706 Woodville Road, Toledo, OH 43605
Contact Name: Jeff Nemeth Phone: 517-278-9333

Accreditation is granted to the facility to perform the following testing:

1931 S. Main Street, Morton, IL 61550

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical ^F	Cannabis Plant Material, Cannabinoid Infused Products, and Cannabinoid Concentrates	Aflatoxin, Ochratoxin	Lab Methods (ELISA)	D.L. = 4 ng/g
		Pesticide Screening	Lab Methods (GC/MS)	D.L. = 15 µg/g





Certificate of Accreditation: Supplement

ACT Laboratories, Inc.

617 East Hazel, Lansing, MI 48912
 1931 S. Main Street, Morton, IL 61550
 190 River Road, Clearfield, PA 16830
 109 Brinton Avenue, Trafford, PA 15085
 1706 Woodville Road, Toledo, OH 43605
 Contact Name: Jeff Nemeth Phone: 517-278-9333

Accreditation is granted to the facility to perform the following testing:

190 River Road, Clearfield, PA 16830
109 Brinton Avenue, Trafford, PA 15085

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Microbiological ^F	Cannabis Plant Material and Cannabinoid Concentrates	Coliforms, Enterobacteriaceae, Total Viable Aerobic Bacteria, Yeast and Mold	Lab Methods based on 3M Petrifilm	10 CFU/g to 10 000 CFU/g
		E. Coli, Salmonella		Presence/Absence
Chemical ^F	Cannabis Plant Material and Cannabinoid Concentrates	Total Aflatoxin	Lab Methods (ELISA)	4 ppb to 40 ppb
		Aflatoxin B1	Lab Methods (ELISA)	2 ppb to 50 ppb
		Moisture	Lab Methods (Halogen Lamp Moisture Analyzer)	1 % to 100 %
		Δ^9 - tetrahydrocannabinol (THC), tetrahydrocannabinolic acid (THCA), cannabidiol (CBD), cannabidiolic acid (CBDA), cannabinol (CBN), cannabigerol (CBG), cannabichromene (CBC)	Lab Methods (HPLC-UV)	D.L. = 0.35 %



Certificate of Accreditation: Supplement

ACT Laboratories, Inc.

617 East Hazel, Lansing, MI 48912
1931 S. Main Street, Morton, IL 61550
190 River Road, Clearfield, PA 16830
109 Brinton Avenue, Trafford, PA 15085
1706 Woodville Road, Toledo, OH 43605
Contact Name: Jeff Nemeth Phone: 517-278-9333

Accreditation is granted to the facility to perform the following testing:

190 River Road, Clearfield, PA 16830
109 Brinton Avenue, Trafford, PA 15085

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical ^F	Cannabis Plant Material and Cannabinoid Concentrates	(-)-alpha-Bisabolol, Camphene, delta-3-Carene, beta-Caryophyllene, Geraniol, (-)-Guaiol, alpha-Humulene, p-cymene, (-)-Isopulegol, d-Limonene, Linalool, beta-Myrcene, Nerolidol, Ocimene, alpha-Pinene, (-)-beta-Pinene, alpha-Terpinene, gamma-Terpinene, Terpinolene, (-)-Caryophyllene oxide, Eucalyptol	Lab Methods (HS-GC-FID)	D.L. = 500 ppm
		Butane and Ethanol	Lab Methods (HS-GC-FID)	D.L. = 500 ppm
		Pesticide Screening	Lab Methods (GC/MS)	D.L. = 15 ppm
		Arsenic, Cadmium, Mercury, Lead	Lab Methods (ICP-OES)	Arsenic: D.L. = 1.5 ppm Cadmium: D.L. = 0.3 ppm Mercury: D.L. = 0.5 ppm Lead: D.L. = 1 ppm



Certificate of Accreditation: Supplement

ACT Laboratories, Inc.

617 East Hazel, Lansing, MI 48912
1931 S. Main Street, Morton, IL 61550
190 River Road, Clearfield, PA 16830
109 Brinton Avenue, Trafford, PA 15085
1706 Woodville Road, Toledo, OH 43605
Contact Name: Jeff Nemeth Phone: 517-278-9333

Accreditation is granted to the facility to perform the following testing:

1706 Woodville Road, Toledo, OH 43605

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Biological ^F	Cannabis Plant Material, Cannabinoid Infused Products, and Cannabinoid Concentrates	Coliforms, Enterobacteriaceae, Total Viable Aerobic Bacteria, Yeast and Mold	Lab Methods based on 3M Petrifilm	10 CFU/g to 200 000 CFU/g
		E. Coli, Salmonella	Lab Methods based on 3M Petrifilm	Presence/ Absence
Chemical ^F		(-)-delta8-THC (D8THC) Tetrahydrocannabivarinic Acid (THCVA) (-)-delta9-THC (D9THC) Cannabichromene (CBC) Cannabichromenic Acid (CBCA) Cannabicyclol (CBL) Cannabidiol (CBD) Cannabidiolic Acid (CBDA) Cannabidivarin (CBDV) Cannabidivarinic Acid (CBDVA) Cannabigerol (CBG) Cannabigerolic Acid (CBGA) Cannabinol (CBN) Cannabinolic Acid (CBNA) Tetrahydrocannabinolic Acid (THCA) Tetrahydrocannabivarin (THCV)	Lab Methods (HPLC-UV)	D.L.= 0.35 %



Certificate of Accreditation: Supplement

ACT Laboratories, Inc.

617 East Hazel, Lansing, MI 48912
 1931 S. Main Street, Morton, IL 61550
 190 River Road, Clearfield, PA 16830
 109 Brinton Avenue, Trafford, PA 15085
 1706 Woodville Road, Toledo, OH 43605
 Contact Name: Jeff Nemeth Phone: 517-278-9333

Accreditation is granted to the facility to perform the following testing:

1706 Woodville Road, Toledo, OH 43605

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical ^F	Cannabis Plant Material, Cannabinoid Infused Products, and Cannabinoid Concentrates	Alpha-biasbolol, Alpha-cedrene Alpha-humulene Alpha-phellandrene Alpha-pinene Alpha-terpinene Beta-caryophyllene Beta-myrcene Beta-ocimene Beta-pinene Borneol Camphene Camphor Caryophyllene Oxide Cedrol Cis-nerolidol Delta-3-carene DL-menthol Eucalyptol Fenchol Fenchone Gamma-terpinene Geraniol Geranyl Acetate Guaiol Isoborneol, Isopulegol Limonene Linalool Nerol Para-cymen Pulegone Sabinene Sabinene Hydrate Terpineol Terpinolene Trans-nerolidol Valencene	Lab Methods (HS-GC-FID)	D.L. = 500 µg/g
		Arsenic, Cadmium, Mercury, Lead	Lab Methods (ICP-MS)	DL= 0.037 5 µg/g



Certificate of Accreditation: Supplement

ACT Laboratories, Inc.

617 East Hazel, Lansing, MI 48912
 1931 S. Main Street, Morton, IL 61550
 190 River Road, Clearfield, PA 16830
 109 Brinton Avenue, Trafford, PA 15085
 1706 Woodville Road, Toledo, OH 43605
 Contact Name: Jeff Nemeth Phone: 517-278-9333

Accreditation is granted to the facility to perform the following testing:

1706 Woodville Road, Toledo, OH 43605

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical ^F	Cannabis Plant Material, Cannabinoid Infused Products, and Cannabinoid Concentrates	Acetone Benzene Butane Ethanol Heptane Hexane Isopropyl Alcohol Pentane Toluene Total Xylenes (meta, para, ortho)	Lab Methods (HS-GC-FID)	D.L. = 1 µg/g
		Abamectin Aldicarb Bifenazate Cyflurthrin Daminozide DDVP (Dichlorvos) Diazinon Dimethoate Etoxazole Fonicamid Fludioxonil Imidacloprid Myclobutanil Paclobutrazol Piperonyl butoxide Pyrethrins Spinosad Spirotetramat Thiamethoxam Trifloxystrobin.	Lab Methods (LC-MS-MS)	D.L. = 0.1 µg/g
		Aflatoxin B1 Aflatoxin B2 Aflatoxin G1 Aflatoxin G2 Total Aflatoxin Ochratoxin A	Lab Methods (LC-MS-MS)	



Certificate of Accreditation: Supplement

ACT Laboratories, Inc.

617 East Hazel, Lansing, MI 48912
1931 S. Main Street, Morton, IL 61550
190 River Road, Clearfield, PA 16830
109 Brinton Avenue, Trafford, PA 15085
1706 Woodville Road, Toledo, OH 43605
Contact Name: Jeff Nemeth Phone: 517-278-9333

Accreditation is granted to the facility to perform the following testing:

1706 Woodville Road, Toledo, OH 43605

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical ^F	Cannabis Plant Material, Cannabinoid Infused Products, and Cannabinoid Concentrates	Moisture	Lab Methods (Halogen Lamp Moisture Analyzer)	1 % to 100 %
		Water activity	Lab Methods (Dew Point Hygrometer/ Water Activity Probe)	0.4 aw to 1 aw

- The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location. Example: Outside Micrometer ^F would mean that the laboratory performs this testing at its fixed location.

