



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

ACS Laboratory, LLC
721 Cortaro Drive, Sun City Center, FL 33573

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

**ISO/IEC 17025:2017
& Meets the Requirements of the AOAC International Guidelines for Laboratories Performing Microbiological and Chemical Analyses of Food and Pharmaceutical-2018**

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):

Chemical, Microbiological and Sampling 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

Initial Accreditation Date:

January 10, 2019

Issue Date:

January 21, 2021

Expiration Date:

April 30, 2023

Accreditation No.:

101103

Certificate No.:

L21-41

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

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.pjilabs.com



Certificate of Accreditation: Supplement

ACS Laboratory, LLC

721 Cortaro Drive, Sun City Center, FL 33573

Contact Name: Karen Mooney Phone: 813-634-4529

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

Table with 5 columns: FIELD OF TEST, ITEMS, MATERIALS OR PRODUCTS TESTED, SPECIFIC TESTS OR PROPERTIES MEASURED, SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED, and RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT. It lists chemical testing for Cannabis and Hemp with specific compounds and their LOQs.



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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 Flowers/Plants Derivatives Edibles Hemp Flowers/Plants Derivatives Edibles	Cannabinoids: Cannabidiol (CBD) Cannabidiolic acid (CBDA) Cannabigerolic acid (CBGA) Cannabigerol (CBG) Cannabidiol (CBD) Cannabinol (CBN) Cannabinolic Acid (CBNA) Cannabidiol (CBD) Cannabicyclol (CBL) Cannabichromene (CBC) Cannabichromenic Acid (CBCA) Δ9-Tetrahydrocannabinolic acid A (THCA-A) Tetrahydrocannabivarinic Acid (THCVA) Tetrahydrocannabivarin (THCV) Δ 8-Tetrahydrocannabinoid (Δ8-THC) Δ 9- Tetrahydrocannabinoid (Δ9-THC) Cannabicitran (CBT) Delta 8-THCV Exo-THC Delta-10 THC TOTAL CBD TOTAL THC	Internal SOP.013.001 – LCUV SOP.013.002 - LCUV)	LOD = 0.000 065 % w/w LOD = 0.000 01 % w/w LOD = 0.000 08 % w/w LOD = 0.000 248 % w/w LOD = 0.000 054 % w/w LOD = 0.000 014 % w/w LOD = 0.000 095 % w/w LOD = 0.000 014 % w/w LOD = 0.000 035 % w/w LOD = 0.000 018 % w/w LOD = 0.000 107 % w/w LOD = 0.000 032 % w/w LOD = 0.000 047 % w/w LOD = 0.000 007 % w/w LOD = 0.000 026 % w/w LOD = 0.000 013 % w/w LOD = 0.0002% w/w LOD = 0.000 04 % w/w LOD = 0.000 23 % w/w LOD = 0.000003 % w/w LOD = 0.000054 % w/w LOD = 0.000032 % w/w
		Cannabinoids: Cannabidiol (CBD) Cannabidiolic acid (CBDA) Cannabigerolic acid (CBGA) Cannabigerol (CBG) Cannabidiol (CBD) Tetrahydrocannabivarin (THCV) Tetrahydrocannabivarinic Acid (THCVA) Cannabinol (CBN) Cannabinolic Acid (CBNA) delta 9- Tetrahydrocannabinoid (d9-THC) delta 8- Tetrahydrocannabinoid (d8-THC) Cannabicyclol (CBL) Cannabichromene (CBC) d9-Tetrahydrocannabinolic acid A (THCA-A) Cannabichromenic Acid (CBCA) Cannabicitran (CBT)	LC-MS/MS SOP.013.030 - LCMS	LOD = 6.09E-06% (w/w) LOD = 8.88E-06% (w/w) LOD = 1.10E-05% (w/w) LOD = 9.74E-06% (w/w) LOD = 2.33E-05% (w/w) LOD = 1.60E-05% (w/w) LOD = 1.64E-05% (w/w) LOD = 4.31E-05% (w/w) LOD = 2.66E-06% (w/w) LOD = 8.81E-06% (w/w) LOD = 1.06E-05% (w/w) LOD = 1.03E-05% (w/w) LOD = 2.22E-06% (w/w) LOD = 2.29E-05% (w/w) LOD = 2.44-06%(w/w) LOD = 6.50E-06%(w/w) LOD = 1 x E -5%(w/w)
		Heavy Metals Screening: Cadmium Lead Arsenic Mercury	Internal SOP.013.009 – ICP/MS	LOD = 4.9 µg/kg LOD = 0.64 µg/kg LOD = 0.58 µg/kg LOD = 12 µg/kg



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Chemical ^F	Cannabis Flowers/Plants Derivatives Edibles	Plant Regulators: Chlormequat Chloride 6-Benzylaminopurine Uniconazole Prohexadione	Internal SOP.013.008 - LCMS	LOD = 1 mg/kg
	Hemp Flowers/Plants Derivatives Edibles	Mycotoxins Aflatoxins B1 Aflatoxins B2 Aflatoxins G1 Aflatoxins G2 Ochratoxin A	Internal SOP.013.007 - LCMS	LOD = 0.304 µg/kg LOD = 0.077 µg/kg LOD = 0.304 µg/kg LOD = 0.271 µg/kg LOD = 0.754 µg/kg
		Residual Solvents: Acetone Benzene Chloroform Ethanol Isopropyl Alcohol Methanol Butane Pentane Toluene 1,2-Dichloroethane 1,1-Dichloroethene Acetonitrile Ethyl Acetate Ethyl Ether Ethylene Oxide Heptane Hexane Methylene Chloride Propane Trichloroethylene Total xylenes (m,p,o-xylenes)	Internal SOP.013.024 – GCMS-LQ SOP.013.039 – GCMS-HS	LOD = 0.067 mg/kg LOD = 0.009 mg/kg LOD = 0.032 mg/kg LOD = 0.061 mg/kg LOD = 0.019 mg/kg LOD = 0.494 mg/kg LOD = 0.192 mg/kg LOD = 0.045 mg/kg LOD = 0.013 mg/kg LOD = 0.028 mg/kg LOD = 0.023 mg/kg LOD = 0.006 mg/kg LOD = 0.076 mg/kg LOD = 0.242 mg/kg LOD = 0.209 mg/kg LOD = 0.034 mg/kg LOD = 0.036 mg/kg LOD = 0.035 mg/kg LOD = 2.407 mg/kg LOD = 0.055 mg/kg LOD = 0.196 mg/kg



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Chemical ^F	Cannabis Flowers/Plants Derivatives Edibles Hemp Flowers/Plants Derivatives Edibles	Pesticides: Abamectin Acephate Acequinocyl Acetamiprid Aldicarb Azoxystrobin Bifenazate Bifenthrin Chlorfenapyr Chlorpyrifos Clofentezine Coumaphos Cyfluthrin Cypermethrin Daminozide Diazinon DDVP (Dichlorvos) Dimethoate Dimethomorph Ethoprop(hos) Etofenprox Etoxazole Fenhexamid Fenoxycarb Fenpyroximate Fipronil Flonicamid Fludioxonil Hexythiazox Imazalil Imidacloprid Kresoxim-methyl Malathion Metalaxyl Methiocarb Methomyl Methyl-parathion Mevinphos Myclobutanil Naled Oxamyl Paclobutrazol Pentachloronitrobenzene	Internal SOP's (LCMS/MS) SOP.013.007 – LCMS - GCMS	LOD = 0.288 µg/kg LOD = 0.023 µg/kg LOD = 9.564 µg/kg LOD = 0.052 µg/kg LOD = 0.026 µg/kg LOD = 0.081 µg/kg LOD = 0.043 µg/kg LOD = 1.415 µg/kg LOD = 5 µg/kg LOD = 0.035 µg/kg LOD = 0.119 µg/kg LOD = 5 µg/kg LOD = 7.908 µg/kg LOD = 1.449 µg/kg LOD = 0.885 µg/kg LOD = 0.044 µg/kg LOD = 2.182 µg/kg LOD = 0.021 µg/kg LOD = 5 µg/kg LOD = 0.36 µg/kg LOD = 0.116 µg/kg LOD = 0.095 µg/kg LOD = 7.484 µg/kg LOD = 0.107 µg/kg LOD = 0.138 µg/kg LOD = 0.107 µg/kg LOD = 0.517 µg/kg LOD = 0.136 µg/kg LOD = 0.049 µg/kg LOD = 0.248 µg/kg LOD = 0.094 µg/kg LOD = 0.042 µg/kg LOD = 0.082 µg/kg LOD = 0.81 µg/kg LOD = 0.032 µg/kg LOD = 0.022 µg/kg LOD = 10 µg/kg LOD = 5 µg/kg LOD = 1.029 µg/kg LOD = 0.095 µg/kg LOD = 0.025 µg/kg LOD = 0.065 µg/kg LOD = 7.95 µg/kg



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Chemical ^F	Cannabis Flowers/Plants Derivatives Edibles	Pesticides: Permethrin Phosmet Piperonyl butoxide Prallethrin Propiconazole	Internal SOP's (LCMS/MS) SOP.013.007 - LCMS	LOD = 0.343 µg/kg LOD = 0.082 µg/kg LOD = 0.029 µg/kg LOD = 0.798 µg/kg LOD = 0.07 µg/kg
	Hemp Flowers/Plants Derivatives Edibles	Propoxur Pyrethrins Pyridaben Spinetoram Spinosyn A Spinosyn D Spiromesifen Spirotetramat Spiroxamine Tebuconazole Thiacloprid Thiamethoxam Trifloxystrobin Boscalid Captan Carbaryl Carbofuran Chlorantraniliprole Chlordane Chlormequat Chloride Diquat Glyphosate Paraquat		LOD = 0.046 µg/kg LOD = 23.593 µg/kg LOD = 0.032 µg/kg LOD = 6.314 µg/kg LOD = 0.088 µg/kg LOD = 0.088 µg/kg LOD = 0.261 µg/kg LOD = 0.089 µg/kg LOD = 0.131 µg/kg LOD = 0.067 µg/kg LOD = 0.064 µg/kg LOD = 0.05 µg/kg LOD = 0.037 µg/kg LOD = 0.055 µg/kg LOD = 31.057µg/kg LOD = 0.022 µg/kg LOD = 0.034 µg/kg LOD = 0.033 µg/kg LOD = 9.671 µg/kg LOD = 0.108 µg/kg LOD = 0.42 µg/kg LOD = 3.76 µg/kg LOD = 4.02 µg/kg
		Pesticides: Fludioxonil Parathion-methyl Dimethomorph Chlorfenapyr Mevinphos Coumaphos Pentachloronitrobenzene Cyfluthrin Captan Clordane (Cis and Trans)	GCMS/MS SOP.013.007 - GCMS	LOD = 1.74 ug/kg LOD = 1.71 ug/kg LOD = 5.83 ug/kg LOD = 0.08 ug/kg LOD = 2.15 ug/kg LOD = 3.77 ug/kg LOD = 1.32 ug/kg LOD = 3.11 ug/kg LOD = 6.12 ug/kg LOD = 11.8 ug/kg



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Chemical ^F	Cannabis Flowers/Plants Derivatives Edibles Hemp Flowers/Plants Derivatives Edibles	Micronutrients:	Internal SOP's (ICPMS) SOP.013.012 – ICP/MS	LOQ = 0.5 µg/kg LOQ = 0.5 µg/kg LOQ = 0.5 µg/kg LOQ = 0.5 µg/kg LOQ = 10 µg/kg LOQ = 1 µg/kg LOQ = 0.5 µg/kg LOQ = 1 µg/kg LOQ = 2 µg/kg LOQ = 15.5 µg/kg LOQ = 1 µg/kg LOQ = 0.5 µg/kg LOQ = 1 µg/kg LOQ = 15 µg/kg LOQ = 0.5 µg/kg LOQ = 0.4 µg/kg LOQ = 12 µg/kg LOQ = 2 µg/kg LOQ = 10 µg/kg LOQ = 0.5 µg/kg LOQ = 1 µg/kg LOQ = 0.5 µg/kg LOQ = 1 µg/kg LOQ = 1.5 µg/kg LOQ = 5 µg/kg LOQ = 5 µg/kg LOQ = 50 µg/kg
		Flavonoids:		



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Chemical ^F	Cannabis Flowers/Plants Derivatives Edibles	Water Activity	Internal SOP's 013.016 Water Activity Meter	0 a _w to 0.98 a _w
		Moisture Content Analysis	SOP.013.015 Moisture Analyzer	0 % to 100 %
	Hemp Flowers/Plants Derivatives Edibles	Tocopheryl acetate (Vitamin E acetate)	Internal SOP 013.007 LCMS/MS	LOD = 0.705 ug/kg
		Polynuclear aromatic hydrocarbons (PAHs): Acenaphthene Acenaphylene Anthracene Benz[a]anthracene Benzo[a]pyrene Benzo[b]fluoranthene Benzo[g,h,i]perylene Benzo[k]fluoranthene Chrysene Dibenz[a,h]anthracene Fluoranthene Fluorene Indeno[1,2,3-cd]pyrene 1-Methylnaphthalene 2-Methylnaphthalene Naphthalene Phenanthrene Pyrene	Internal SOP.013.042 GCMS	LOD = 0.477 4 ug/kg LOD = 0.362 8 ug/kg LOD = 0.834 6 ug/kg LOD = 0.963 2 ug/kg LOD = 0.599 9 ug/kg LOD = 0.7664 ug/kg LOD = 0.630 2 ug/kg LOD = 0.617 2 ug/kg LOD = 0.4933 ug/kg LOD = 0.544 ug/kg LOD = 0.985 3 ug/kg LOD = 1.961 4 ug/kg LOD = 0.504 6 ug/kg LOD = 0.401 1 ug/kg LOD = 0.431 7 ug/kg LOD = 0.776 ug/kg LOD = 0.809 ug/kg
		Triterpene: Friedelin	Internal SOP.013.036 LCMS	LOD = 0.000 05 mg/kg
		2,3-Butanedione: 2,3-Butanedione	Internal SOP.013.024 GCMS	LOD = 0.024 mg/kg



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Microbiological ^F	Cannabis Flowers/Plants Derivatives Edibles	Escherichia Coli/Coliform Total Yeast/Mold Total Aerobic Total Enterobacteriaceae	Internal SOP 3 M Petrifilm Plate culture PCR 013.003	LOQ = 10 CFU/g
	Hemp Flowers/Plants Derivatives Edibles	Pathogenic: Shiga toxin producing Escherichia coli Salmonella species Aspergillus fumigatus Aspergillus Flavus Aspergillus niger Aspergillus terreus Clostridium botulinum Listeria species Listeria Monocytogenes Staphylococcus aureus Pseudomonas aeruginosa	Internal SOP PCR DNA Microarray SOP.013.027 – PCR SOP.013.032 – PCR SOP.013.019 - Microarray	Presence/Absence
Non-Destructive ^F		Filth and Foreign Material	Internal SOP 013.020	Presence/Absence
		Stability and Shelf Life	Internal SOP 013.026 Stability Chamber	N/A
		Sampling for: Pesticides Microbiology Heavy Metals Residual Solvents Water Activity Moisture Flavonoids Micronutrients Terpenes Mycotoxins Cannabinoids Plant Regulators Tocopheryl acetate Filth & Foreign Material Stability and Shelf Life	Internal SOP - Sampling per MSP-7.3.1 – Sampling Plan and Method Florida MMTC	

- 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.