



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ACS LABORATORY, INC.
 721 Cortaro Drive,
 Sun City Center, FL 33573
 Karen Mooney Phone: 813-634-4529

CHEMICAL

Valid To: December 31, 2024

Certificate Number: 6786.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests and sampling on cannabis and hemp flowers/plants, derivatives, edibles, and ingredients:

Test(s)	Range and Detection Limit	Test Method(s) / Technology
Cannabinoids: Cannabidivarin (CBDV) Cannabidiolic acid (CBDA) Cannabigerolic acid (CBGA) Cannabigerol (CBG) Cannabidiol (CBD) Cannabinol (CBN) Cannabinolic Acid (CBNA) Cannabidivarinic Acid(CBDVA) 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 Delta-10 THC Exo-THC TOTAL CBD TOTAL THC THC-O-Acetate Delta 8 THC-O-Acetate	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 = 0.000 2 % w/w LOD = 0.000 04 % w/w LOD = 0.000 003 % w/w LOD = 0.000 23 % w/w LOD = 0.000 054 % w/w LOD = 0.000 032 % w/w LOD = 0.000 077 % w/w LOD = 0.000 027 % w/w	LCUV SOP13.001 SOP13.002 SOP13.052 SOP14.001
Cannabinoids: Cannabidivarin (CBDV) Cannabidiolic acid (CBDA) Cannabigerolic acid (CBGA) Cannabigerol (CBG) Cannabidiol (CBD) Cannabinol (CBN) Cannabinolic Acid (CBNA) Cannabidivarinic Acid(CBDVA)	LOD = 9.75 x 10-08 % w/w LOD = 7.78 x 10-08 % w/w LOD = 4.71 x 10-08 % w/w LOD = 4.00 x 10-07 % w/w LOD = 3.37 x 10-07 % w/w LOD = 1.25 x 10-06 % w/w LOD = 8.95 x 10-08 % w/w LOD = 9.87 x 10-08 % w/w	LCMS SOP13.030

Test(s)	Range and Detection Limit	Test Method(s) / Technology
Cannabinoids (cont.) 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 6R9S-Delta-10 THC Exo-THC THC-O-Acetate	LOD = 4.02 x 10 ⁻⁰⁷ % w/w LOD = 1.93 x 10 ⁻⁰⁶ % w/w LOD = 5.08 x 10 ⁻⁰⁷ % w/w LOD = 1.51 x 10 ⁻⁰⁷ % w/w LOD = 1.36 x 10 ⁻⁰⁶ % w/w LOD = 1.24 x 10 ⁻⁰⁶ % w/w LOD = 8.36 x 10 ⁻⁰⁷ % w/w LOD = 2.98 x 10 ⁻⁰⁵ % w/w LOD = 3.51 x 10 ⁻⁷ % w/w LOD = 2.10 x 10 ⁻⁷ % w/w LOD = 4.90 x 10 ⁻⁰⁶ % w/w LOD = 3.57 x 10 ⁻⁰⁶ % w/w LOD = 9.65 x 10 ⁻⁰⁷ % w/w	LCMS SOP13.030
Filth and Foreign Matter	Presence/Absence	SOP13.020
Flavonoids: Apigenin Baicalin Beta sitosterol Cannflavin A Cannflavin B Cannflavin C Chrysin Fisetin Kaempferol Luteolin Orientin Pelargonidin-3-O-glucoside Quercetin Rutin Vitexin Wogonin	LOQ = 4 µg/g LOQ = 8 µg/g LOQ = 5 µg/g LOQ = 3.912 µg/g LOQ = 4.84 µg/g LOQ = 2.363 µg/g LOQ = 2.5 µg/g LOQ = 5 µg/g LOQ = 1 µg/g LOQ = 2.5 µg/g LOQ = 5 µg/g LOQ = 2.89 µg/g LOQ = 2.234 µg/g LOQ = 7.809 µg/g LOQ = 4 µg/g LOQ = 0.5 µg/g	LCMS SOP13.011
Heavy Metals: Arsenic Cadmium Lead Mercury	LOD = 4.83 µg/kg LOD = 0.64 µg/kg LOD = 0.58 µg/kg LOD = 12 µg/kg	ICPMS SOP13.048 SOP14.004
Micronutrients: Aluminum (Al) Antimony (Sb) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Magnesium (Mg) Manganese (Mn)	LOQ = 5 µg/kg LOQ = 0.5 µg/kg LOQ = 0.5 µg/kg LOQ = 0.5 µg/kg LOQ = 0.5 µg/kg LOQ = 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	ICPMS SOP13.012

Test(s)	Range and Detection Limit		Test Method(s) / Technology
Micronutrients (cont.): Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na) Strontium (Sr) Thallium (Tl) Tin (Sn) Titanium (Ti) Uranium (U) Vanadium (V) Zinc (Zn)	LOQ = 0.5 µg/kg LOQ = 1 µg/kg LOQ = 15 µg/kg LOQ = 50 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		ICPMS SOP13.012
Moisture Content Analysis	0-100 %		Moisture Analyzer SOP.013.015; SOP.014.009
Mycotoxins: Aflatoxins B1 Aflatoxins B2 Aflatoxins G1 Aflatoxins G2 Ochratoxin A	µg/kg SOP13.007 LOD = 0.304 LOD = 0.077 LOD = 0.304 LOD = 0.271 LOD = 0.754	µg/kg SOP14.003 LOD = 0.37 LOD = 0.007 LOD = 0.012 LOD = 0.034 LOD = 0.190	LCMS SOP13.007 SOP14.003 SOP14.010
Pesticides: Abamectin Acephate Acequinocyl Acetamiprid Aldicarb Allethrin Atrazine Azadirachtin Azoxystrobin Benzovindiflupyr Bifenazate Bifenthrin Boscalid Buprofezin Captan Carbaryl Carbofuran Chlorantraniliprole Chlordane Chlorfenapyr Chlormequat Chloride Chlorpyrifos Clofentezine Clothianidin Coumaphos	µg/kg SOP13.007 LOD = 0.288 LOD = 0.023 LOD = 9.564 LOD = 0.052 LOD = 0.026 LOD = 0.081 LOD = 0.043 LOD = 1.415 LOD = 0.055 LOD = 31.057 LOD = 0.022 LOD = 0.034 LOD = 0.033 LOD = 9.671 LOD = 5.0 LOD = 0.108 LOD = 0.035 LOD = 0.119 LOD = 5.0	µg/kg SOP14.003 LOD= 0.0003 LOD= 0.039 LOD= 0.0576 LOD=3.38x10 ⁻¹⁰ LOD = 0.0227 LOD = 0.4724 LOD = 0.3799 LOD = 0.0030 LOD = 0.0132 LOD = 0.0125 LOD=2.17 x10 ⁻⁸ LOD = 0.0008 LOD=4.33 x10 ⁻⁶ LOD=1.66 x10 ⁻⁹ LOD=1.38 x10 ⁻⁵ LOD=7.76 x10 ⁻⁵ LOD =0.135592 LOD=15.37 LOD =9.09 x10 ⁻⁵ LOD =3.71 x10 ⁻⁷ LOD = 0.0003 LOD =9.86 x10 ⁻⁵	LCMS SOP13.007 SOP14.003 SOP14.010 SOP13.027



Test(s)	Range and Detection Limit		Test Method(s) / Technology
Pesticides (cont.):			LCMS
Cyantraniliprole		LOD = 0.0060	SOP13.007
Cyfluthrin	LOD = 7.908	LOD=28.13	SOP14.003
Cypermethrin	LOD = 1.449	LOD =1.19 x10 ⁻⁶	SOP14.010
Cyprodinil		LOD = 0.0011	SOP13.027
Daminozide	LOD = 0.885	LOD = 0.3040	
DDVP (Dichlorvos)	LOD = 2.182	LOD = 1.1405	
Deltamethrin		LOD = 0.4928	
Diazinon	LOD = 0.044	LOD =3.91x10 ⁻¹⁰	
Dimethoate	LOD = 0.021	LOD =2.84 x10 ⁻⁶	
Dimethomorph	LOD = 5.0	LOD = 0.0001	
Dinotefuran		LOD = 0.2369	
Diquat	LOD = 0.42		
Diuron		LOD = 0.0068	
Dodemorph		LOD =6.47x10 ⁻¹²	
Endosulfan sulfate		LOD = 0.8837	
Endosulfan-alpha		LOD =12.22	
Endosulfan-beta		LOD =22.76	
Ethoprop(hos)	LOD = 0.36	LOD=1.59 x10 ⁻⁵	
Etofenprox	LOD = 0.116	LOD = 0.0083	
Etoxazole	LOD = 0.095	LOD = 0.08355	
Etridiazole		LOD =4.02	
Fenhexamid	LOD = 7.484	LOD = 1.0946	
Fenoxycarb	LOD = 0.107	LOD = 0.3450	
Fenpyroximate	LOD = 0.138	LOD =4.48x10 ⁻⁷	
Fensulfothion		LOD = 0.0007	
Fenthion		LOD = 4.9113	
Fenvalerate		LOD = 0.5977	
Fipronil	LOD = 0.107	LOD = 0.0288	
Flonicamid	LOD = 0.517	LOD = 0.0697	
Fludioxonil	LOD = 0.136	LOD = 0.0134	
Fluopyram		LOD =1.12x10 ⁻⁹	
Glyphosate	LOD = 3.76		
Hexythiazox	LOD = 0.049	LOD =6.19x10 ⁻⁵	
Imazalil	LOD = 0.248	LOD = 0.0002	
Imidacloprid	LOD = 0.094	LOD = 0.0001	
Iprodione		LOD = 0.1055	
Kinoprene		LOD=3.4	
Kresoxim-methyl	LOD = 0.042	LOD = 0.0001	
Lambda Cyhalothrin		LOD = 0.1168	
Malathion	LOD=0.082	LOD = 0.0001	
Metalaxyl	LOD = 0.81	LOD =4.86x10 ⁻⁵	
Methiocarb	LOD = 0.032	LOD = 0.0022	
Methomyl	LOD = 0.022	LOD =1.15x10 ⁻⁶	
Methoprene		LOD = 1.1484	
Methyl-parathion	LOD = 10	LOD=4.24	
Mevinphos	LOD = 5.0	LOD =4.42x10 ⁻⁵	
MGK-264		LOD = 0.0020	
Myclobutanil	LOD = 1.029	LOD = 0.7000	
Naled	LOD = 0.095	LOD =5.85x10 ⁻⁶	
Novaluron		LOD = 0.0002	

<u>Test(s)</u>	<u>Range and Detection Limit</u>		<u>Test Method(s) / Technology</u>
Pesticides (cont.)			LCMS
Oxamyl	LOD = 0.025	LOD = 0.0016	SOP13.007
Paclobutrazol	LOD = 0.065	LOD = 6.93x10 ⁻⁸	SOP14.003
Paraquat	LOD = 4.02		SOP14.010
Pentachloronitrobenzene (Quintozene)	LOD = 7.95	LOD=4.39	SOP13.027
Permethrin	LOD = 0.343	LOD = 0.0162	
Phenothrin		LOD = 2.12x10 ⁻⁷	
Phosmet	LOD = 0.082	LOD = 0.0096	
Piperonyl butoxide	LOD = 0.029	LOD = 1.34x10 ⁻⁷	
Pirimicarb		LOD = 5.66x10 ⁻⁵	
Prallethrin	LOD = 0.798	LOD = 0.1673	
Propiconazole	LOD = 0.07	LOD=2.13x10 ⁻¹⁴	
Propoxur	LOD = 0.046	LOD = 0.3508	
Pyraclostrobin		LOD = 5.31x10 ⁻⁷	
Pyrethrins	LOD = 23.593	LOD = 0.0021	
Pyridaben	LOD = 0.032	LOD=8.75x10 ⁻¹⁵	
Pyriproxyfen		LOD = 9.58x10 ⁻⁵	
Resmethrin		LOD = 0.0680	
Spinetoram	LOD = 6.314	LOD = 0.0236	
Spinosad	LOD = 0.088	LOD = 0.4644	
Spirodiclofen		LOD = 0.3737	
Spiromesifen	LOD = 0.261	LOD = 0.3218	
Spirotetramat	LOD = 0.089	LOD = 0.0427	
Spiroxamine	LOD = 0.131	LOD = 1.2172	
Tebuconazole	LOD = 0.067	LOD=1.48x10 ⁻¹⁴	
Tebufenozide		LOD = 0.1812	
Teflubenzuron		LOD = 0.0166	
Tetrachlorvinphos		LOD = 0.8391	
Tetrametrin		LOD = 9.92x10 ⁻⁵	
Thiabendazole		LOD = 0.0012	
Thiacloprid	LOD = 0.064	LOD = 1.12x10 ⁻⁵	
Thiamethoxam	LOD = 0.05	LOD = 2.25x10 ⁻⁶	
Thiophanate-methyl		LOD = 0.0002	
Trifloxystrobin	LOD = 0.037	LOD=2.17x10 ⁻¹³	
Pesticides:	µg/kg SOP13.007	µg/kg SOP.014.003	GCMS SOP13.007 SOP14.003
Captan	LOD = 6.12		
Chlorfenapyr	LOD = 0.08	LOD = 15.37	
Clordane	LOD = 11.8		
Coumaphos	LOD = 3.77		
Cyfluthrin	LOD = 3.11	LOD = 28.13	
Dimethomorph	LOD = 5.83		
Endosulfan-alpha		LOD = 12.22	
Endosulfan-beta		LOD = 22.76	
Etridiazole		LOD = 4.02	
Fludioxonil	LOD = 1.74		
Kinoprene		LOD = 3.4	
Methyl-parathion	LOD = 1.71	LOD = 4.24	
Mevinphos	LOD = 2.15		
Pentachloronitrobenzene	LOD = 1.32	LOD = 4.39	

Test(s)	Range and Detection Limit		Test Method(s) / Technology
	mg/kg SOP13.024/039	mg/kg SOP13.034	
Residual Solvents:			GCMS
1,1-Dichloroethene	LOD = 0.0094		SOP13.024 – LQ
1,2-Dichloroethane	LOD = 0.0003		SOP13.039 –HS
1,2-Dimethoxyethane		LOD = 0.004	SOP13.034 –LQ
1,2-Dimethylbenzene (o-xylene)		LOD = 0.0002	SOP14.007 – HS
1,3-Dimethylbenzene (m-xylene)		LOD = 0.0003	SOP14.010
1,4-Dioxane		LOD = 0.0022	
1,4-dimethylbenzene (p-xylene)		LOD = 0.0003	
1-Butanol		LOD = 0.0103	
1-Pentanol (Pentyl alcohol)		LOD = 0.0103	
1-Propanol (Propyl alcohol)		LOD = 0.0003	
2,2-dimethylbutane (Neohexane)		LOD = 0.0016	
2,3-dimethylbutane (Diisopropyl)		LOD = 0.0011	
2-Butanol		LOD = 0.0002	
2-Butanone		LOD = 0.0092	
2-Ethoxyethanol		LOD = 0.0013	
2-methylbutane (Isopentane)		LOD = 0.0108	
2-Methylpentane		LOD = 0.0005	
2-Propanol (IPA)		LOD = 0.111	
3-Methylpentane		LOD = 0.0003	
Acetone	LOD = 0.0151	LOD = 0.0009	
Acetonitrile	LOD = 0.0596	LOD = 0.0011	
Benzene	LOD = 0.0002	LOD = 0.0003	
Butane	LOD = 0.4167	LOD = 0.0028	
Chloroform	LOD = 0.0001		
Cumene (isopropylbenzene)		LOD = 0.0002	
Cyclohexane		LOD = 0.0024	
Dichloromethane		LOD = 0.0006	
Dimethyl Sulfoxide (DMSO)		LOD = 0.001	
Ethanol	LOD = 0.0021	LOD = 0.0044	
Ethyl Acetate	LOD = 0.0012	LOD = 0.0017	
Ethyl Ether	LOD = 0.0049	LOD = 0.0004	
Ethylbenzene		LOD = 0.0002	
Ethylene Glycol		LOD = 0.0013	
Ethylene Oxide	LOD = 0.0038	LOD = 0.149	
Heptane	LOD = 0.0013	LOD = 0.0022	
Hexane	LOD = 0.0678		
Isopropyl Acetate		LOD = 0.0012	
Isopropyl Alcohol	LOD = 0.0048		
Methanol	LOD = 0.0005	LOD = 0.0021	
Methylene Chloride	LOD = 0.0029		
Methylpropane (Isobutane)		LOD = 0.0366	
N,N-dimethylacetamide (DMA)		LOD = 0.0229	
N,N-dimethylformamide (DMF)		LOD = 0.005	
n-Hexane		LOD = 0.0008	
Pentane	LOD = 0.0371	LOD = 0.0167	
Propane	LOD = 0.0308	LOD = 0.0849	
Pyridine		LOD = 0.0014	
Sulfolane (Tetramethylene sulfone)		LOD = 0.0518	
Tetrahydrofuran		LOD = 0.0006	

Test(s)	Range and Detection Limit	Test Method(s) / Technology
Terpene Analysis (cont.) Ocimene (mix of isomers) Pulegone (R)-Endo-(+) Fenchyl Alcohol R-Limonene Sabinene Sabinene Hydrate Terpineol (mix of isomers) Terpinolene Trans-Nerolidol Trans-Caryophyllene Valencene	LOQ = 0.005 % w/w LOQ = 0.0025 % w/w LOQ = 0.0025 % w/w LOQ = 0.0025 % w/w LOQ = 0.0025 % w/w LOQ = 0.0025 % w/w LOQ = 0.0025 % w/w LOQ = 0.0025 % w/w LOQ = 0.0025 % w/w LOQ = 0.0025 % w/w LOQ = 0.0025 % w/w LOQ = 0.0025 % w/w	GC-FID/GCMS SOP13.045
Triterpene: Friedelin 2,3-Butanedione Acetic Anhydride	LOD = 0.000 05 mg/kg LOD = 0.00036 mg/kg LOD = 0.527 mg/kg	LCMS SOP13.036 GCMS SOP13.024 SOP13.039 GC-FID SOP13.046
Vitamin E Acetate – Tocopheryl Acetate	LOD = 0.705 ug/kg	LCMS SOP13.007
Water Activity	0.00 aw to 0.98 aw	Water Activity Meter SOP13.016

BIOLOGICAL

Test(s)	Test Method(s)/Technology(ies)
Microbials (Presence /Absence) LOQ=1 CFU/g <i>Aspergillus flavus</i> <i>Aspergillus fumigatus</i> <i>Aspergillus niger</i> <i>Aspergillus terreus</i> <i>Listeria monocytogenes</i> <i>Listeria</i> spp. <i>Pseudomonas aeruginosa</i> <i>Salmonella</i> spp. Shiga Toxin-producing <i>Escherichia coli</i> <i>Staphylococcus aureus</i>	Microarray SOP13.019 SOP14.005 PCR SOP13.029 SOP13.032 SOP14.006
Microbials (Quantitative) LOQ=1 CFU/g Bile Tolerant Gram Negative <i>E. coli</i> / Coliform Total Aerobic Plate Count Total Enterobacteriaceae Total Yeast / Mold Plate Count	3M Petrifilm Plate Counting SOP13.003 SOP14.002 PCR SOP13.017



Accredited Laboratory

A2LA has accredited

ACS LABORATORY, INC.

Sun City Center, FL

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).



Presented this 17th day of May 2023.

A blue ink signature of Mr. Trace McInturff, written in a cursive style.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 6786.01
Valid to December 31, 2024

For the tests to which this accreditation applies, please refer to the laboratory's Chemical Scope of Accreditation.