



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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CHEMICAL

Valid To: February 28, 2024

Certificate Number: 3851.01

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the laboratory's compliance with the A2LA Food Testing Program Requirements, containing 2018 “*AOAC Guidelines for Laboratories Performing Microbiological and Chemical Analyses of Food, Dietary Supplements, and Pharmaceuticals*”), accreditation is granted to this laboratory to perform the following tests on dietary supplements, crude plant matter, plant extracts, oils, raw materials, finished products, fungal, algal species, and cannabis:

| <u>Test/Technology</u> | <u>Official Methods Used</u> | <u>In-house Test Method(s)</u> |
|--|---|---|
| <u>Dietary Supplement Testing</u> ¹ | | |
| <u>Dietary Supplement Identification and Qualitative Analysis by High Performance Thin-Layer Chromatography (HPTLC)</u> ¹ | <ul style="list-style-type: none"> • European Pharmacopoeia, Ph.Eur. • British Herbal Pharmacopoeia, BHP • American Herbal Pharmacopoeia, AHP • United States Pharmacopoeia, USP • Pharmacopoeia of the People’s Republic of China, PPRC • Official Methods of Analysis of AOAC International | IDT-SOP-54-07 IDT-SOP-55-11 IDT-SOP-55-13 IDT-SOP-55-14 IDT-SOP-55-27 IDT-SOP-55-28 IDT-SOP-57-01 IDT-SOP-72-01 IDT-SOP-72-03 IDT-SOP-510-06 |
| <u>Botanical Identification and Qualitative Analysis by Microscopy</u> ¹ | <ul style="list-style-type: none"> • European Pharmacopoeia, Ph.Eur. • British Herbal Pharmacopoeia, BHP • American Herbal Pharmacopoeia, AHP • United States Pharmacopoeia, USP • Pharmacopoeia of the People’s Republic of China, PPRC • Official Methods of Analysis of AOAC International | MIC-SOP-54-04 MIC-SOP-54-05 MIC-SOP-54-06 MIC-SOP-510-07 |

¹This portion of the scope meets the A2LA P112 Flexible Scope Policy.

| <u>Test/Technology</u> | <u>Official Method Used</u> | <u>In-house Test Method</u> |
|---|-------------------------------------|-----------------------------|
| <u>Cannabis Testing</u> | | |
| <u>Cannabinoids Content by UPLC/UV in Powdered and Liquid Extracts of Cannabis and Hemp Oils (Cannabidiol (CBD), Cannabidiolic Acid (CBD-A), Δ^9-Tetrahydrocannabinol (THC), Δ^9-Tetrahydrocannabinolic Acid (THC-A), Cannabigerol (CBG))</u> | In-house Developed Test Method only | ATM-815-0229 |
| <u>Quantification of 12 Cannabinoids by HPLC (LOD/LOQ) in Crude Hemp Materials, Hemp Powdered Extracts and Softgels (Cannabidiol (CBD), Cannabidiol (CBDV), Cannabidiolic Acid (CBDVA), Cannabidiol (CBD), Cannabigerol (CBG), Tetrahydrocannabivarin (THCV), Cannabidiolic Acid (CBDA), Cannabigerolic Acid (CBGA), Cannabinol (CBN), Δ^9-Tetrahydrocannabinol (Δ^9-THC), Δ^8-Tetrahydrocannabinol (Δ^8-THC), Cannabichromene (CBC), Δ^9-tetrahydrocannabinolic Acid A (THCA-A))</u> | In-house Developed Test Method only | ATM-815-0302 |
| <u>Terpenes Content by GC-FID in Hemp Crude Raw Materials (α-Pinene, Camphene, β-Pinene, Myrcene, α-Phellandrene, Carene, α-Terpinene, Limonene, β-Ocimene, γ-Terpinene, Terpinolene, Linalool, (+)-Fenchol, 2-Ethylfenchol, α-Terpineol, β-Caryophyllene, α-Humulene, and Caryophyllene Oxide)</u> | In-house Developed Test Method only | ATM-815-0301 |

| <u>Test/Technology</u> | <u>Official Method Used</u> | <u>In-house Test Method</u> |
|--|-------------------------------------|-----------------------------|
| <u>Pesticide Testing</u> | | |
| <u>Determination of Pesticide Content by LC-MS/MS and GC-MS/MS in botanicals (roots and aerial parts), hemp, extracts, and finished dietary supplement products (List of Analytes same as USP-NF 561) (List of Analytes in Appendix A)</u> | In-house Developed Test Method only | ATM-815-0308 |
| <u>Heavy Metals Testing</u> | | |
| <u>Determination of Heavy Metals Content by ICP-MS in to aerial part, root, extract and crude hemp (List of Elements same as USP-NF 561) (List of Elements in Appendix A)</u> | In-house Developed Test Method only | ATM-815-307 |

Appendix A:
Pesticide Testing
Pesticides by USP <561> List

| <u>Analytes</u> |
|---|
| Acephate |
| Alachlor |
| Aldrin |
| Dieldrin |
| Aldrin and dieldrin (sum of) |
| Azinphos-ethyl |
| Azinphos-methyl |
| Bromophos-ethyl |
| Bromophos-methyl |
| Bromopropylate |
| a-Chlordane (cis-Chlordane) |
| g-Chlordane (trans-Chlordane) |
| Oxychlordane Isomer |
| Chlordane (sum of cis-, trans-, and oxychlordane) |
| Chlorfenvinphos |
| Chlorpyrifos-ethyl |
| Chlorpyrifos-methyl |
| Chlorthal-dimethyl |
| Cyfluthrin (sum of) (mix of isomers) |
| λ-Cyhalothrin |
| Cypermethrin and isomers (sum of) |
| o,p'-DDE |
| p,p'-DDE |
| o,p'-DDT |

| |
|---|
| p,p'-DDT |
| o,p'-DDD (syn. o,p'-TDE) |
| p,p'-DDD (syn. p,p'-TDE) |
| DDT (sum of o,p'-DDE, p,p'-DDE, o,p'-DDT, p,p'-DDT, o,p'-TDE, and p,p'-TDE) |
| Deltamethrin (mix of isomers) |
| Diazinon |
| Dichlofluanid |
| Dichlorvos |
| Dicofol |
| Dimethoate |
| Omethoate |
| Dimethoate and omethoate (sum of) |
| Endosulfan I |
| Endosulfan II |
| Endosulfan sulfate |
| Endosulfan (sum of isomers and endosulfan sulphate) |
| Endrin |
| Ethion |
| Etrimphos |
| Fenchlorphos |
| Fenchlorphos-oxon |
| Fenchlorphos (sum of fenchlorphos and fenchlorphos-oxon) |
| Fenitrothion |
| Fenpropathrin |
| Fensulfothion |
| Fensulfothion-oxon |
| Fensulfothion-oxon sulfone |
| Fensulfothion sulfone |
| Fensulfothion (sum of fensulfothion, fensulfothion-oxon, fensulfothion-oxon sulfone, and fensulfothion sulfone) |
| Fenthion |
| Fenthion-oxon |
| Fenthion-oxon sulfone |
| Fenthion-oxon sulfoxide |
| Fenthion sulfone |
| Fenthion sulfoxide |
| Fenthion (sum of fenthion, fenthion-oxon, fenthion-oxon sulfone, fenthion-oxon sulfoxide, fenthion sulfone, and fenthion-sulfoxide) |
| Fenvalerate |
| Flucythrinate |
| τ -Fluvalinate |
| Fonophos |
| Heptachlor |
| cis-Heptachlorepoxyde (Heptachlor epoxyde (Isomer B)) |
| trans-Heptachlorepoxyde (Heptachlor epoxyde (Isomer A)) |
| Heptachlor (sum of heptachlor, cis-heptachlorepoxyde, and trans-heptachlorepoxyde) |
| Hexachlorbenzene |
| a-BHC or α -HCH (α -Hexachlorocyclohexane) |
| b-BHC or β -HCH (β -Hexachlorocyclohexane) |
| d-BHC or δ -HCH (δ -Hexachlorocyclohexane) |
| e-BHC or ϵ -HCH (ϵ -Hexachlorocyclohexane) |
| Hexachlorocyclohexane (sum of isomers α -, β -, δ -, and ϵ -) |
| Lindan (γ -hexachlorocyclohexane) |
| Malathion |
| Malaoxon |

| |
|--|
| Malathion and malaoxon (sum of) |
| Mecarbam |
| Methacriphos (methacrifos) |
| Methamidophos |
| Methidathion |
| Methoxychlor |
| Mirex |
| Monocrotophos |
| Parathion-ethyl |
| Paraxon-ethyl |
| Parathion-ethyl and paraoxon-ethyl (sum of) |
| Paration-methyl |
| Paraoxon-methyl |
| Parathion-methyl and paraoxon-methyl (sum of) |
| Pendimethalin |
| Pentachloranisole |
| Permethrin and isomers (sum of) |
| Phosalone |
| Phosmet |
| Piperonyl butoxide |
| Pirimiphos-ethyl |
| Pirimiphos-methyl |
| N-desethyl-pirimiphos-methyl |
| Pirimiphos-methyl (sum of pirimiphos-methyl and N-desethyl-pirimiphos-methyl) |
| Procyimidone |
| Profenophos |
| Prothiophos |
| Cinerin I |
| Cinerin II |
| Jasmolin I |
| Jasmolin II |
| Pyrethrin I |
| Pyrethrin II |
| Pyrethrum (sum of cinerin I, cinerin II, jasmolin I, jasmolin II, pyrethrin I, and pyrethrin II) |
| Quinalphos |
| Quintozene |
| Pentachloroanisole |
| Methyl Pentachlorophenyl Sulfide |
| Quintozene (sum of quintozene, pentachloraniline, and methyl pentachlorophenyl sulfide) |
| S-421 |
| Tecnazene |
| Tetradifon |
| Vinclozolin |
| Bromide, inorganic (calculated as bromide ion) |
| Dithiocarbamates (expressed as CS ₂) |

Heavy Metals Testing

Heavy Metals by USP <561> List

| |
|-----------------|
| Elements |
| Arsenic |
| Cadmium |
| Lead |
| Mercury (total) |



Accredited Laboratory

A2LA has accredited

ALKEMIST LABS

Garden Grove, CA

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 laboratory also meets the requirements of A2LA R204 - *Specific Requirements - Food and Pharmaceutical Testing Laboratory Accreditation Program*. 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 12th day of January 2022

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3851.01
Valid to February 28, 2024

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