



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

EUROFINS FOOD CHEMISTRY TESTING MADISON, INC.
6304 Ronald Reagan Ave.
Madison, WI 53704-2523
Hollis Cloninger Phone: 608-949-3073

CHEMICAL

Valid to: October 31, 2025

Certificate Number: 2918.01

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 the 2018 "AOAC International Guidelines for Laboratories Performing Microbiological and Chemical Analyses of Food, Dietary Supplements, and Pharmaceuticals", and with applicable U.S. FDA Current Good Manufacturing Practice (cGMP) regulations per 21 CFR 210 and 211 as well as the FDA Laboratory Accreditation for Analyses of Foods, contained in FDA Document Number 2021-257161), accreditation is granted to this laboratory to perform the following tests on Food, Dietary Supplements and Pharmaceuticals:

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
ABLACT	Determination of α -lactalbumin and β -lactoglobulin is applicable to bovine milk-based infant formula and bovine milk based ingredients.	Anne J. Kleinnijenhuis, Martine P. van Gool, Frédérique L. van Holthoorn, Maarten van den Noort, Thom Huppertz. Quantification of bovine α -lactalbumin in infant milk formula using LC-MS. International Dairy Journal, Volume 113, 2021,104899
ACMS	Determination of Acrylamide by HPLC-LC/MS/MS	Musser, SM, "Detection and Quantitation of Acrylamide in Foods," U.S. Department of Health and Human Services, Food and Drug Administration [Online] (February 2003) (Modified); Scheuerell C.R., Hughes, D.L., Sullivan, D.M., Wehrmann, J.R. "The Analysis of Acrylamide in Foods using LC- MS/MS," Presented at the 116th AOAC International Annual Meeting & Exposition (September 2002)
ACMS2	Determination of Acrylamide in Foods by HPLC-LC/MS/MS	European Standard EN 16618:2015. Food Analysis – Determination of Acrylamide in Food by Liquid Chromatography Tandem Mass Spectrometry (LC-ESI- MS/MS) (Modified)
ADLT_AMZ	Screening and Quantification of Four Weight Loss Pharmaceutical Adulterants in Dietary Supplements	Internally developed method.

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
ADLT2AMZ	Screening and Quantification of Weight Loss Pharmaceutical Adulterants and Stimulants in Dietary Supplements, Ingredients, Honey, Coffee, and Tea	Internally Developed Method
AMZ_BUFF	Screening and Quantification of Pharmaceutical Adulterants in Sports Nutrition Supplements	Internally Developed Method
AN_2FL	2' Fucosyllactose Determination by HPAEC/PAD	Client Supplied Method
AN_AAULC	Amino Acid Profile and Absence Verification Analysis in Metabolic Products and Premixes by UHPLC	Client Supplied Method
AN_CAR	Determination of B-Carotene and Lycopene by HPLC	Client Supplied Method
AN_FSIE	Fluoride by Selective Ion Electrode	Client Supplied Method
AN_GOSIF	GOS in Infant Formula by HPAEC-PAD	Internally Developed Method
AN_HMB	Hydroxy-3-methylbutyric Acid by HPLC	Client Supplied Method
AN_LUT	Lutein Determination by HPLC	Client Supplied Method
AN_PMX	Cr, Mn, Fe, Cu, Zn, Se, and Mo in Premixes by ICP/MS	Internally Developed Method
AN_VITAE	Simultaneous Determination of 13-Cis, all-Trans Vitamin A Palmitate, 13-Cis, all Trans Vitamin A Acetate, Alpha Vitamin E Acetate, Alpha Tocopherol by HPLC and Column Switching	AOAC 2012.09
ANID	P-Anisidine Value	AOCS Cd 18-90; USP <401>
ANNUC_EQ	Determination of Ribonucleotide Equivalents in Nutritional Products	Client Supplied Method
AOACVITC	Vitamin C in Infant Formula and Adult/Pediatric Nutritional Formula	AOAC Official Method 2012.22, Vitamin C in Infant Formula and Adult/Pediatric Nutritional Formula. Liquid Chromatography with Ultraviolet Detection (LCUV) First Action 2012, Final Action 2016 (Modified)



<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
AS_SPEC	Arsenic by IC-ICP-MS	FDA Elemental Analysis Manual [Internet]. Silver Spring (MD): Food and Drug Administration (US); Section 4.11 [Version 1.1; 2012 November]. Arsenic Speciation in Rice and Rice Products using High Performance Liquid Chromatography-Inductively Coupled Plasma-Mass Spectrometric Determination; Kutscher, D., McSheehy, S., Wills, J., Jensen, D., "IC-ICP- MS Speciation Analysis of As in Apple Juice using the Thermo Scientific iCAP Q ICP-MS", Thermo Scientific Application Note 43099, (2012)
ASHM	Ash	AOAC 923.03 (Modified)
B12_LCMS	Analysis of Cyanocobalamin by LC_MS/MS	Internally Developed Method
B12F	Cyanocobalamin (Vitamin B12)	AOAC 952.20, 960.46 (Modified) Methods of Analysis for Infant Formulas, Infant Formula Council, Atlanta, GA, Section C-3 (1985) (Modified), AOAC 2011.10 (Modified)
B12LC	Vitamin B12 in Infant Formulas, Adult Nutritionals and Dietary Supplements by HPLC	AOAC 2011.10 (Modified)
B1B2B6	Thiamine, Riboflavin and Pyridoxine by HPLC	Client Supplied Method
B2FV	Riboflavin (B2)	AOAC 940.33, 960.46 (Modified)
B6A	Pyridoxine Hydrochloride/Pyridoxine Free Base by Microbiological Method	AOAC 961.15 (Modified); Atkins, L. Schultz, A.S., Williams, W.L. and Frey, C.N., "Yeast Microbiological Methods for Determination of Vitamins," Industrial and Engineering Chemistry, Analytical Edition, 15:141-144 (1943)
BCAN	Beta-Glucan: Rapid Enzymatic Procedure	AOAC 995.16 (Modified); McCleary. (2014). "Mixed-Linkage Beta Glucan, Assay Procedure (McCleary Method)," (K-BGLU). Megazyme, 1-19. Accessed from http://secure.megazyme.com/files/Booklet/K-BGLU_1411_DATA.pdf (Modified); McCleary, B.V., Bugford, D.C., "Determination of beta-D- Glucan in Barley and Oats by Streamlined Enzymatic Method", Journal of AOAC INTERNATIONAL. 80:580-583, (1997) (Modified)

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
BCLC	Carotenes (Alpha, Beta, Lycopene) by HPLC	AOAC 2005.07 (Modified); Quackenbush, F. W., "Reverse Phase HPLC Separation of cis- and trans-Carotenoids and its Application to Beta Carotenes in Food Materials," <i>Journal of Liquid Chromatography</i> , 10:643- 653 (1987) (Modified)
BHAL	BHA, BHT, and TBHQ by GC	AOAC 968.17 (Modified)
BIDE	Thiamin (B1)	AOAC 942.23, 953.17, and 957.17 (Modified)
BIOM	Biotin (Total Biotin/Free Biotin) by the Microbiological Method	Scheiner, J. and DeRitter, "Biotin Content of Feedstuffs, <i>Journal of Agricultural Food Chemistry</i> ", 23(6):1157-1162 (1975) (Modified); Wright, L.D. and Skeggs, H.R., "Determination of Biotin with <i>Lactobacillus arabinosis</i> ," <i>Procedures of the Society of Experimental Biology and Medicine</i> , 56:95-98 (1944). (Modified); Free Biotin, Section C-13, <i>Methods of Analysis for Infant Formulas</i> , Infant Formula Council, (1985). (Modified); Scheiner, J., "Extraction of Added Biotin From Animal Feed Premix," <i>Journal of the AOAC</i> , 49:882m (1996) (Modified)
BLCMS	Analysis of B-Vitamins by LC/MS/MS in Infant Formula and Dietary Supplement	Internally Developed Method
BUFF2AMZ	Screening and Quantification of Pharmaceutical Adulterants in Sports Nutrition Dietary Supplements	Internally Developed Method
CAFR	Caffeine, Theobromine, and Theophylline by High Performance Liquid Chromatography	Blauch, J.L., Tarka, S.M., "HPLC Determination of Caffeine and Theobromine in Coffee, Tea, and Instant Hot Cocoa Mixes", <i>Journal of Food Science</i> , 48(3):745-747 (1983) (Modified)
CALC_EU	CALC_EU: Calories Calculation for Europe	Regulation EU 1169/2011 of the European Parliament and of the Council, <i>Official Journal of the European Union</i> . 22.11.2011

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
CALL	Vitamin C and Erythorbic Acid	AOAC 967.22; Fontannaz, P., Kilinc, T., Heudi, O., “HPLC – UV Determination of Total Vitamin C in a Wide Range of Fortified Food Products”, Food Chemistry 94: 626-631, (2006) (Modified); Capellmann, M., Bolt. H., “Simultaneous Determination of Ascorbic Acid and Dehydroascorbic Acid by HPLC with Postcolumn Derivatisation and Fluorometric Detection”, Fresenius’ Journal of Analytical Chemistry 342:462-466, (1992) (Modified)
CANN_SOL	Determination of Gases and Solvents in Hemp Based Matrices by Headspace Gas Chromatography with Mass Spectrometry Detection: 1,2-Dichloroethane 1-Propanol 2,2,3-Trimethylbutane 2,2-Dimethylbutane 2,2-Dimethylpentane 2,3-Dimethylbutane 2,3-Dimethylpentane 2,4-Dimethylpentane 2-Methylhexane 2-Methylpentane 3,3-Dimethylpentane 3-Ethylpentane 3-Methylhexane 3-Methylpentane Acetone Acetonitrile Benzene Chloroform Diethyl Ether Ethanol Ethyl Acetate Ethylene Oxide Isobutane (2-Methylpropane) Isopropanol (2-Propanol) Methanol Methylene Chloride n-Butane n-Heptane n-Heptane n-Hexane n-Pentane n-Pentane Propane Toluene Trichloroethylene Xylenes-1 (Ethylbenzene) Xylenes-2 (m-, p-Xylene) Xylenes-3 (o-Xylene)	Internally Developed Method
CARCOL	Free and Total Carnitine and Choline by LC/MS/MS	AOAC 2015.10
CFAT CALC	Calories and Calories from Fat	Code of Federal Regulations, Title 21, Part 101.9, pp. 24-25
CHLORATE	Determination of Chlorate and Perchlorate by Liquid Chromatography Tandem Mass Spectrometry	Internally Developed Method

Test Method	Test and Technology	References
CHO	Carbohydrates	United States Department of Agriculture, "Energy Value of Foods," Agriculture Handbook No. 74, pp. 2-11 (1973)
CHOLSTRL	Cholesterol	AOCS Official Method Ce 12-16, Sterols and Stanols in Foods and Dietary Supplements Containing Added Phytosterols (Modified).
COL4_PM	Choline in Premixes and Dietary Supplements by Enzymatic Colorimetry	Official Methods of Analysis, Method 999.14, AOAC INTERNATIONAL, (Modified).
Density	Density of Liquid Matrices using a Density Meter	AOAC Official Method 988.06, Specific Gravity of Beer and Wort Digital Density Meter Method. (Modified)
DGEN	Protein Dumas Method	AOAC 968.06, 992.15 (Modified)
DTC	DTC LCMS/MS Analysis of Dithiocarbamate Pesticides for USP_EP Limit Compliance	Hayama, T. and Takada, M., "Simple and Rapid Method for the Determination of Ethylenebisdithiocarbamate Fungicides in Fruits and Vegetables using Liquid Chromatography with Tandem Mass Spectrometry," Analytical and Bioanalytical Chemistry, 392(5):969-976 (2008), (Modified)
EO_2CE	Determination of Ethylene Oxide Residues by GC-MS/MS	Internally developed method.
FAALC	Amino Acids by HPLC	R. Schulster, "Determination of Amino Acids in Biological, Pharmaceutical, Plant and Food Samples by Automated Precolumn Derivatization and HPLC", Journal of Chromatography. 1988, 431, 271-284; Henderson, J. W., Richer, R.D. Bidlingmeyer, B.A., Woodward, C., "Rapid, Accurate, Sensitive, and Reproducible HPLC Analysis of Amino Acids, Amino Acid Analysis using Zorbax Eclipse-AAA columns and the Agilent 1100 HPLC," Agilent Publication, 2000
FAME	Fatty Acid Profile with Trans	AOAC 996.06; AOCS Ce 1h-05, Ce 2-66, Ce 2b- 11 and Ce 1j-07
FASTVIT	Fat Soluble Vitamins by Coupled Supercritical Fluid Extraction Chromatography	Internally Developed Method
FAT_AH	Fat by Acid Hydrolysis	AOAC 922.06, 954.02, 925.32, and 933.05 (Modified)
FAT_BH	Fat by Alkaline Hydrolysis	AOAC 932.06, 989.05, 986.25, and 945.48B (Modified)
FLEX_AMZ	Screening and Quantification of Pharmaceutical Adulterants in Joint Care Dietary Supplement Products	Internally Developed Method

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
FOAN	Folic Acid by the Microbiological Method	AOAC 992.05 (Low Level), 960.46, 944.12 (High Level) (Modified); Methods of Analysis for Infant Formulas, Infant Formula Council, Atlanta, GA, Section C-2 (1985) (Modified)
FOAP	Folic Acid by the Microbiological Method	AOAC 944.12, 960.46 (Modified)
FOS_IF	Determination of Total Fructans in Infant Formula by HPAEC-PAD	Haselberger, P., Jacobs, W., "Determination of Fructans in Infant, Adult, and Pediatric Nutritional Formulas: Single Laboratory Validation, First Action 2016.06", Journal of AOAC INTERNATIONAL 99 (6): 1576-1588 (2016) (Modified)
FOSR-MA	Fructooligosaccharides by HPAEC with PAD	AOAC 997.08 (Modified); Stöber, P., Bénet, S., and Hischenhuber, C., Simplified Enzymatic High-Performance Anion Exchange Chromatographic Determination of Total Fructans in Food and Pet Food– Limitations and Measurement Uncertainty," <i>Journal of Agricultural and Food Chemistry</i> , 52 (8):2137- 2146 (2004) (Modified)
GLRL	Glycerol Analysis by Gas Chromatography	Internally Developed Method
GLY_AMPA	Quantification of Glyphosate and AMPA in Raw Agricultural and Finished Products	Internally Developed Method
GOSINT	GOS in Infant Formula by HPAEC-PAD	Coulier et al., "In-Depth Characterization of Prebiotic Galactooligosaccharides by a Combination of Analytical Techniques", <i>J. Agric. Food Chem.</i> 57(18): 8488-8495 (2009)"
GOSRAW	GOS in Raw Material by HPAEC-PAD	Official Method No. 2001.02, Official Methods of Analysis of AOAC INTERNATIONAL (Modified), 18th Ed., AOAC INTERNATIONAL: Gaithersburg, Maryland (2005); Dionex/Thermo Application Note 155: Determination of Trans- Galactooligosaccharides in Foods by AOAC Method 2001.02 2003 (Modified)

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
HMOS	Analysis of 7 Human Milk Oligosaccharides in Infant Formula, Adult Nutritionals, Dietary Supplements and Commodities by 2AB Labeling and Quantification with HILIC-FLD	Official Methods of Analysis, Method 2022.02, AOAC INTERNATIONAL Austin, S., Cuany D., Michaud, J., Diehl, B. & Casado B., "Determination of 2'Fucosyllactose and Lacto-Nneotetraose in Infant Formula," Molecules, 23(10): 2650 (2018). Ruhaak, R., Steenvoorden, E., Koeleman, C., Deelder, A. & Wuhler M., "2-Picoline-borane: A Non-Toxic Reducing Agent for Oligosaccharide Labelling by Reductive Amination," Proteomics, 10: 2330-2336 (2010)
ICP	Ca, Cu, Fe, K, Mg, Mn, Na, P, and Zn by ICP	AOAC 984.27, 985.01 and 2011.14 (Modified)
ICP MS	As, Cd, Pb, Hg, Sn, Sb and Ni by ICP/MS	AOAC 2011.19 (Modified), 993.14 (Modified), AOAC 2015.01 (Modified)
IHCBD IHCBD_CO	Cannabinoids by LC with DAD-UV Detection: Cannabidiol Cannabidiol Cannabidiolic Acid Cannabigerolic Acid Cannabigerol Cannabidiol Tetrahydrocannabivarin Tetrahydrocannabivarinic Acid Cannabinolic Acid Cannabinol delta9-Tetrahydrocannabinol delta8-Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabicyclol Cannabichromenic Acid Cannabichromene	Official Methods of Analysis, AOAC 2018.11, AOAC International, Gaithersburg, MD (Modified)
INOSAOAC	Myo-Inositol by HPLC, Column Switching and Pulsed Amperometry	AOAC 2011.18 (Modified)
IODICPMS	Iodine by ICP/MS	AOAC 2012.15
IODISE	Iodine by Ion Selective Electrode	AOAC 992.24 (Modified)
ISDF	Insoluble, Soluble and Total Dietary Fiber (Lee)	AOAC 991.43 (Modified)
KRST	Resistant Starch	AOAC 2002.02
LACTOFRN	Lactoferrin in Infant Formula by HPLC-MS_MS	Internally Developed Method

Test Method	Test and Technology	References
LCAT	Vitamin E, Tocopherols, and Tocotrienols by Ultra or High-Performance Liquid Chromatography	Speek, A.J., Schijver, J., and Schreurs, W.H.P. 1985. Vitamin E Composition of Some Seed Oils as Determined by High- Performance Liquid Chromatography with Fluorometric Detection. Journal of Food Science, 50: 121-124 (Modified); Cort, W.M., Vincente, T.S., Waysek, E.H., and Williams, B.D. 1983. Vitamin E Content of Feedstuffs Determined by High- Performance Liquid Chromatographic Fluorescence. Journal of Agricultural Food Chemistry, 31: 1330-1333 (Modified); McMurray, C.H., Blanchflower, W.J., and Rice D.A. 1980. Influence of Extraction Techniques on Determination of α - Tocopherol in Animal Feedstuffs. Journal of the Association of Official Analytical Chemists, 63:1258-1261 (Modified)
LLPAH	Determination of 9 polycyclic Aromatic Hydrocarbons by GC/MS/MS	Internally Developed Method
LOLA	Low Level Lactose and Lactulose Analysis by HPAEC-PAD	Dionex/Thermo Technical Note 146: Fast Determinations of Lactose and Lactulose in Milk Products using HPAEC-PAD, 2013, (Modified); Dionex/Thermo Technical Note 248: Determination of Lactose in Lactose-Free Milk Products by High-Performance Anion-Exchange Chromatography with Pulsed Amperometric Detection, 2014, (Modified); Dionex/Thermo CarboPac Combined Column Manual: Document No 031824-08, 2010, (Modified)
LUTE_IF	Lutein in Infant Formula and Adult Nutritional by HPLC	Internally Developed Method
M100_T100 AN_MS_TS	Moisture	AOAC 925.09, 926.08 (Modified)
M60_T60	Moisture	AOAC 925.45 (Modified)
M70_T70	Moisture	AOAC 934.06 (Modified)
MCPD_TOT	Bound Monochloropropanediol (MCPD) and Bound 2,3-Epoxy- 1-Propanol (Glycidol) in Edible Oils and Fats by GC/MS/MS	AOCS Official Method Cd 29b-13 (2013) (Modified), AOCS Official Method Cd 29a-13 (2013) (Modified)
MEBR	Bromine Containing Fumigants Determined as Total Inorganic Bromide	Community Reference Laboratory for Single Residue Methods, CVUA, Stuttgart, Schaflandstr. 3/2, 70736 Fellbach, Germany
MELCYA	Cyanuric Acid and Melamine by UHPLC-MS/MS	Internally Developed Method
MUDA	Moisture in Meat	AOAC 950.46 (Modified)

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
MYCO_IF	Regulated Mycotoxins in Infant Formula and Infant Cereals by UHPLC-MS/MS	Varga, E., Glauner, T., Koppen, R., Mayer, K., Sulyok, M., Schuhmacher, R., Krska, R. and Berthiller, F., "Stable Isotope Dilution Assay for the Accurate Determination of Mycotoxins in Maize by UHPLC-MS/MS," Analytical and Bioanalytical Chemistry, 402:2675-2686 (2012)
MYCO_REG	Regulated Mycotoxins in Raw Material including Hemp and Hemp Products	Varga, E., Glauner, T., Koppen, R., Mayer, K., Sulyok, M., Schuhmacher, R., Krska, R. and Berthiller, F., "Stable Isotope Dilution Assay for the Accurate Determination of Mycotoxins in Maize by UHPLC-MS/MS," Analytical and Bioanalytical Chemistry, 402:2675-2686 (2012)
NIAP	Niacin/Niacinamide (Nicotinic Acid/Nicotinamide) by the Microbiological Method	AOAC 944.13, 960.46 (Modified)
NO2NO3	Nitrite and Nitrate in Food and Beverages	Internally Developed Method
NUTD	Nucleotides by HPLC	Internally Developed Method
ORG1	Benzoic Acid and Sorbic Acid Analysis by HPLC	Bui, L.V., and Cooper, C., "Reverse-phase Liquid Chromatographic Determination of Benzoic and Sorbic Acid in Foods," Journal of the Association of Official Analytical Chemists, 70(5): 892-896 (1987), (Modified).
OSMO	Osmolality	Vapro Operating Manual for Vapor Pressure Osmometer Model 5600 (2010)
PANN	Vitamin B5 by the Microbiological Method	AOAC 945.74, 992.07, 960.46 (Modified)
PATULIN	Patulin Screen in Raw Fruits and Finished Products Containing Fruits by UHPLC-MS/MS	Internally Developed Method
PDE5_AMZ	Screening and Quantification of Five PDE5 Inhibitors in Dietary Supplements	Internally developed method.
PDE52AMZ	Screening and Quantification of Male Enhancement Pharmaceutical Adulterants in Dietary Supplements, Ingredients, Honey, Coffee, and Tea	Internally developed method.
PEST_IF	Pesticide Screen Panel in Hemp and Infant Formula	Internally Developed Method
PEST_SCRN	Multi-residue Analysis of Over 500 Pesticides by GC- MS/MS and LC- MS/MS	Internally Developed Method
PEST_SCRN	Pesticide Screen Panel in Hemp and Infant Formula for BCC USP List	Internally Developed Method



<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
	<p> Acephate Alachlor Aldrin Azinphos-ethyl Azinphos-methyl Bromophos-ethyl Bromophos-methyl Bromopropylate Chlordane, cis- Chlordane, trans- Chlorfenvinphos (E- and Z- isomers) Chlorpyrifos Chlorpyrifos-methyl Cyfluthrin Cyhalothrin - lambda Cypermethrin Dacthal (Chlorthal- dimethyl,DCPA) DDD, o,p'- DDD, p,p'- DDE, o,p'- DDE, p,p'- DDT, o,p'- DDT, p,p'- Deltamethrin Diazinon Dichlofluamid Dichlorvos Dicofol Dieldrin Dimethoate Ethion Etrimfos Fenchlorphos (Ronnel) Fenitrothion Fenpropathrin Fensulfathion Fenthion Fenvalerate/Esfenvalerate (sum of isomers) Flucythrinate (sum of isomers) Fluvalinate, tau- (sum of isomers) Fonofos Heptachlor Hexachlorobenzene (HCB) Lindane (gamma-HCH, gamma-BHC) Malathion Mecarbam Methacrifos Methamidophos Methidathion Methoxychlor Mirex Monocrotophos Oxychlordane Paraoxon Paraoxon-methyl Parathion Parathion-methyl Pendimethalin Pentachloroanisole Permethrin (sum of isomers) Phosalone </p>	

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	Phosmet Piperonyl butoxide Pirimiphos-ethyl Pirimiphos-methyl Procymidone Profenofos Prothiofos Pyrethrum (total) Quinalphos Quintozene (Pentachloronitrobenzene) S421 Tecnazene Tetradifon Vinclozolin	
PEST_SCRN (PEST_HEMP)	Multi-Residue Analysis of over 500 Pesticides by GC-MS/MS and LC-MS/MS in Hemp Products Including Dried Plant, Finished Products and Oils: Abamectin Acephate Acequinocyl Acetamiprid Acetochlor Acibenzolar-S-methyl Aclonifen Acrinathrin Alachlor Aldicarb Aldicarb sulfone (Aldoxycarb) Aldicarb sulfoxide Aldrin Allethrin Ametryn Aminocarb Amitraz metabolite DMF Anilofos Atrazine Azaconazole Azamethiphos Azoxystrobin Beflubutamid Benalaxyl Bendiocarb Benfluralin Benoxacor Benzoximate Bifenazate Bifenox Bifenthrin Bitertanol Bixafen Boscalid Bromacil Bromophos-ethyl Bromophos-methyl Bromopropylate Bromoconazole (2 diastereoisomers) Bupirimate Buprofezin Buprofezin Butachlor Butafenacil Butocarboxim sulfoxide Butylate Cadusafos Captan (as THPI - Tetrahydrophalimide) Carbaryl Carbendazim Carbetamide Carbofuran Carbofuran-3-hydroxy-	Official Methods of Analysis, AOAC Official Method 2007.01, Pesticides Residues in Foods by Acetonitrile Extraction and Partitioning with Magnesium Sulfate, AOAC INTERNATIONAL CEN Standard Method EN 15662: Food of Plant Origin - Determination of Pesticide Residues using GC-MS and/or LCMS/MS Following Acetonitrile Extraction/Partitioning and Clean-up by Dispersive SPE - QuEChERS Method

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
	Carbophenothion Carboxin Carfentrazone-ethyl Chlorantraniliprole Chlorbromuron Chlordane, cis- Chlordane, trans- Chlorfenapyr Chlorfenvinphos (E- and Z- isomers) Chloridazon (Pyrazon) Chlorobenzilate Chlorotoluron (Chlortoluron) Chloroxuron Chlorpropham Chlorpyrifos Chlorpyrifos-methyl Clodinafop- propargyl Clofentezine Clomazone Cloquintocet-mexyl Clothianidin Coumaphos Cyanazine Cyanofenphos Cyazofamid Cycloate Cycluron Cyflufenamid Cyfluthrin Cymoxanil Cypermethrin Cyproconazole (2 diastereoisomers) Cyprodinil Dacthal (Chlorthal-dimethyl) Daminozide DDD, o,p'- DDD, p,p'- DDE, o,p'- DDE, p,p'- DDT, o,p'- DDT, p,p'- Demeton-O Demeton-S Demeton-S- methyl Demeton-S-methyl sulfone Desmedipham Dialifos (Dialifor) Diazinon Diazinon oxon Dichlobenil Dichlofenthion Dichlofluanid Dichlorvos Diclobutrazol Diclocymet (2 diastereoisomers) Dicloran Dicrotophos Dieldrin Diethofencarb Difenoconazole (2 diastereoisomers) Dimethachlor Dimethametryn Dimethenamid Dimethoate Dimethomorph (E- and Z- isomers)	



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	Dimetilan Dimoxystrobin Diniconazole Dinitramine Dinotefuran Dioxacarb Diphenamid Diphenylamine Dipropetryn Disulfoton Disulfoton sulfone Disulfoton sulfoxide DMST (Dimethylaminosulfotoluidide) Endosulfan I (alpha- isomer) Endosulfan II (beta-isomer) Endosulfan sulfate EPN Epoxiconazole Ethaboxam Ethalfluralin Ethidimuron (Sulfadiazole) Ethiofencarb Ethiofencarb sulfone Ethiofencarb sulfoxide Ethion Ethiprole Ethirimol Ethoprophos (Ethoprop) Etofenprox Etoxazole Etrimfos Famoxadone Fenamidone Fenamiphos Fenamiphos sulfone Fenamiphos sulfoxide Fenarimol Fenazaquin Fenbuconazole Fenchlorphos (Ronnel) Fenchlorphos oxon Fenhexamid Fenitrothion Fenobucarb Fenoxanil (sum of isomers) Fenoxycarb Fenpropathrin Fenpyroximate Fensulfothion Fensulfothion oxon Fensulfothion oxon sulfone Fensulfothion sulfone Fenthion Fenthion oxon Fenthion oxon sulfone Fenthion oxon sulfoxide Fenthion sulfone Fenthion sulfoxide Fentrazamide Fenuron Fenvalerate/Esvalerate (sum of isomers) Fipronil Fipronil desulfinyl Fipronil sulfone	



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	Flonicamid Fluazifop-butyl Fludioxonil Flufenacet Flufenoxuron Flumioxazin Fluometuron Fluopicolide Fluopyram Fluoxastrobin Fluquinconazole Fluridone Flusilazole Flutolanil Flutriafol Fluvalinate, tau- (sum of isomers) Fluxapyroxad Fonofos Forchlorfenuron Formothion Fosthiazate (sum of isomers) Furalaxyl Furathiocarb Griseofulvin Haloxyfop-methyl HCH, alpha- (alpha-BHC) HCH, beta- (beta-BHC) HCH, delta- (delta- BHC) Heptachlor Heptachlor endo epoxide Heptachlor exo epoxide Hexachlorobenzene (HCB) Hexaconazole Hexaflumuron Hexazinone Hexythiazox Hydroprene, S- (sum of isomers) Imazalil Imazamethabenz-methyl Imidacloprid Indoxacarb Ipconazole Iprovalicarb Isocarbamid Isocarbophos Isofenphos Isofenphos- methyl Isoprocarb Isoprothiolane Isoproturon Isoxaben Isoxadifen-ethyl Isoxaflutole Isoxathion Kresoxim-methyl Lactofen Lenacil Lindane (gamma-HCH, gamma- BHC) Linuron Lufenuron Malaixon Malathion Mandipropamid Mecarbam Mepanipyrim Mepanipyrim-2-hydroxypropyl Mephosfolan	



<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
	Metalaxyl Metamitron Metazachlor Metconazole Methabenzthiazuron Methacrifos Methamidophos Methidathion Methiocarb Methiocarb sulfone Methiocarb sulfoxide Methomyl Methoprotryne Methoxychlor Methoxyfenozide Metobromuron Metolachlor Metolcarb Metoxuron Metrafenone Metribuzin Mevinphos (E- and Z- isomers) MGK 264 (sum of isomers) Mirex Molinate Monocrotophos Monolinuron Myclobutanil Naled (Dibrom) Napropamide Neburon Nitrofen Nonachlor, cis- Nonachlor, trans- Norflurazon Norflurazon-desmethyl Novaluron Nuairimol Ofurace Omethoate Oxadiazon Oxadixyl Oxamyl Oxamyl oxime Oxycarboxin Oxychlordane Oxydemeton-methyl Paclobutrazol Paraoxon Paraoxon-methyl Parathion Parathion-methyl Penconazole Pencycuron Pendimethalin Pentachloroaniline Pentachloroanisole Pentachlorobenzene Pentachlorobenzonitrile Pentachlorothioanisole Permethrin (sum of isomers) Perthane Phenmedipham Phenthoate Phorate Phorate sulfone Phorate sulfoxide Phosalone Phosmet Phosmet oxon Phosphamidon (E- and Z- isomers) Picoxystrobin Piperonyl butoxide Piperophos Pirimicarb Pirimicarb-desmethyl Pirimiphos- ethyl Pirimiphos-methyl Pirimiphos-methyl, N-desethyl- Prallethrin	



<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
	Pretilachlor Prochloraz Procymidone Prodiamine Profenofos Promecarb Prometon Prometryn Propanil Propaquizafop Propargite Propetamphos (Safrotin) Propham Propiconazole (sum of isomers) Propoxur Propyzamide (Pronamide) Prosulfocarb Prothioconazole- desthio Prothiofos Pymetrozine Pyracarbolid Pyraclostrobin Pyraflufen-ethyl Pyrazophos Pyrethrum (total) Pyridaben Pyridaphenthion Pyrimethanil Pyriproxyfen Pyroquilon Quinalphos Quinoclamine Quinoxifen Quintozene Quizalofop-ethyl Rotenone S421 Schradan (Octamethylpyrophosphoramide) Secbumeton Siduron Simazine Simeconazole Simetryn Spinetoram (spinosyns J and L) Spinosad (spinosyns A and D) Spirodiclofen Spiromesifen Spirotetramat Spiroxamine (2 diastereoisomers) Sulfallate Sulprofos Tebuconazole Tebuconazole Tebufenpyrad Tebupirimfos Tebuthiuron Tecnazene Tefluthrin Terbacil Terbufos Terbufos sulfone Terbufos sulfoxide Terbumeton Terbuthylazine Terbutryn Tetrachloroanisole, 2,3,4,5- Tetrachlorvinphos Tetraconazole Tetradifon Thiabendazole Thiabendazole-5-hydroxy-	



<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
	Thiacloprid Thiamethoxam Thiazopyr Thiobencarb (Benthiocarb) Thiodicarb Thiofanox sulfone Thionazin (Zinophos) Thiophanate-methyl Tolclofos methyl Tolfenpyrad Tolyfluanid Triadimefon Triazophos Tribufos (DEF) Trichlorfon (Metrifonate) Trichloroanisole, 2,4,6- Tricyclazole Trietazine Trifloxystrobin Triflumizole Triflumuron Trifluralin Triforine Trimethacarb Triticonazole Uniconazole Vamidothion Vinclozolin Zoxamide	
PFAS	Determination of Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography-Tandem Mass Spectrometry	Genualdi, S., deJager, L., Determination of 16 Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) in Food using Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS), FDA U.S. Food & Drug, Method number C-010.01 (01 November 2019).(Modified).
PGEN	Protein Kjeldahl Method	Official Methods and Recommended Practices of the American Oil Chemists' Society, Champaign, IL, Official Method Ac 4-91 (2011) (Modified)
PHAL	pH	AOAC 981.12 (Modified); FCC<Appendix II> (Modified); USP <791> (Modified)
PROPINEB	Propineb in Infant Formula, Related Raw Materials and Baby Food	Internally Developed Method
PSHERB1	Acidic Herbicides by UHPLCMS/MS	Internally Developed Method
PTUETU	Propylene Thiourea and Ethylene Thiourea in Infant Formulas, Related Raw Materials and Foods by UHPLCMS/MS	Eurofins Developed Method

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
PVFF	Peroxide Value	AOAC 965.33, 983.23 (Modified); USP<401> (Modified); United States Pharmacopeia, 37th Rev., "Preparation and Standardization", Volumetric Solutions, USP Convention, Rockville, MD, p. 1460-1461, (2014) (Modified)
SALT	Chloride	AOAC 963.05, 971.27, 986.26 (Modified)
SEIF	Simultaneous Determination of Chromium, Selenium and Molybdenum by ICP-MS	AOAC 2011.19
SEMSPLUS	Cr, Mo, Se by ICP/MS	AOAC 2011.19 (Modified)
SFLC	Fibersol by HPLC	AOAC 2001.03 (Modified)
SGIC_2	Sugar Profile by High Performance Anion Exchange Chromatography with Pulsed Amperometric Detection Chromatography	AOAC 2018.16 (Modified)
SGLC	Sugar Profile by HPLC	AOAC 982.14 (Modified)
SO2T	Sulfite	Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Method 990.28, AOAC INTERNATIONAL, Gaithersburg, MD, USA (2005) (Modified)
SPGP	Density	NIST Handbook 133 – Checking the Net Contents of Packaged Goods, 2015 Edition (Modified)
STEROL	Determination of Sterols in Foods and Dietary Supplements by GC-FID	AOCS Official Method Ce 12-16, Sterols and Stanols in Foods and Dietary Supplements Containing Added Phytosterols (Modified)
SUGN	Sugar by GC	Brobst, K. M., "Gas-Liquid Chromatography of Trimethylsilyl Derivatives", Methods in Carbohydrate Chemistry, 6:3-8, Academic Press, New York, NY (1972) (Modified); Mason, B. S., and Stover, H. T., "A Gas Chromatographic Method for the Determination of Sugars in Foods", Journal of Agriculture and Food Chemistry, 19(3):551-554 (1971) (Modified)
SUGT	Sugar by GC	Brobst, K. M., "Gas-Liquid Chromatography of Trimethylsilyl Derivatives", Methods in Carbohydrate Chemistry, 6:3-8, Academic Press, New York, NY (1972) (Modified); Mason, B. S., and Stover, H. T., "A Gas Chromatographic Method for the Determination of Sugars in Foods", Journal of Agriculture and Food Chemistry, 19(3):551-554 (1971) (Modified)
SUGX	Sugar Alcohols by HPAEC	Internally Developed Method

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
SULFI_MS	Determination of Sulfur Dioxide in Food by LC/MS	Robbins, K. S., Shah. R., MacMahon, S., de Jager, L.S., Development of a Liquid Chromatography – Tandem Mass Spectroscopy Method for the Determination of Sulfite in Food, Journal of Agricultural and Food Chemistry, 63: 5126-5132 (2015). (Modified)
TAALC	Total Amino Acids by HPLC	Barkholt and Jensen, “Amino Acid Analysis: Determination of Cystine plus Half-Cystine in Proteins after Hydrochloric Acid A Hydrolysis with a Disulfide Compound as Additive”, Analytical Biochemistry, 177:318-322 (1989); R. Shuster, “Determination of Amino Acids in Biological, Pharmaceutical, Plant and Food Samples by Automated Precolumn Derivitization and HPLC”, Journal of Chromatography, 431:271-284 (1988); Henderson, J.W.M Ricker, R.D., Bidlingmeyer, B.A., Woodward, C., “Rapid, Accurate, Sensitive and Reproducible HPLC Analysis of Amino Acids, Amino Acid Analysis using Zorbax Eclipse-AAA Columns and the Agilent 1100 HPLC,” Agilent Publication, (2000); Henderson, J.W., Books, A., “Improved Amino Acid Methods using Agilent Zorbax Eclipse Plus C18 Columns for a Variety of Agilent LC Instrumentation and Separation Goals,” Agilent Application Note 5990-4547 (2010)
TAUR_LC	Taurine by HPLC	AOAC 999.12 (Modified); R. Schuster, "Determination of Amino Acids in Biological, Pharmaceutical, Plant and Food Samples by Automated Precolumn Derivatization and HPLC", Journal of Chromatography, 431:271-284, (1988) (Modified); Henderson, J.W., Ricker, R.D. Bidlingmeyer, B.A., Woodward, C., "Rapid, Accurate, Sensitive, and Reproducible HPLC Analysis of Amino Acids, Amino Acid Analysis using Zorbax Eclipse-AAA columns and the Agilent 1100 HPLC," Agilent Publication, 2000 (Modified); Henderson, J.W., Books, A., “Improved Amino Acid Methods using Agilent Zorbax Eclipse Plus C18 Columns for a Variety of Agilent LC Instrumentation and Separation Goals,” Agilent Application Note 5990-4547, (2010)

Test Method	Test and Technology	References
TBHQ	Tert-Butylhydroquinone by HPLC	AOAC 983.15 (Modified); The EFSA Journal “Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids, and Materials in Contact with Food on a Request from the Commission Related to TBHQ Question Number EFSA- Q-2003-141, 84:1-50 (Adopted on 12 July 2004)
TBHQ_OIL	Tert-Butylhydroquinone by HPLC	AOAC 983.15 (Modified); The EFSA Journal “Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids, and Materials in Contact with Food on a Request from the Commission Related to TBHQ Question Number EFSA-Q-2003-141, 84:1-50 (Adopted on 12 July 2004)
TDF	Dietary Fiber (Prosky)	AOAC 985.29 (Modified)
TDFM	Insoluble, Soluble, and Total Dietary Fiber (Codex Definition) by Enzymatic Gravimetric Method and Liquid Chromatography	AOAC 2009.01, 2011.25 (Modified)
TDFR	Total Dietary Fiber (LEE)	AOAC 991.43 (Modified)
TERPENES	Terpene Headspace Profile by GCMS: Camphene Carene, (+)-3- Eucalyptol Limonene, (-) Myrcene, beta- Ocimene, (Z)-beta- Pinene, alpha- Pinene, beta- Terpinene, alpha- Terpinene, gamma-	Eurofins Developed Method
TERPENES	Bisabolol, alpha- Caryophyllene, trans- (beta- caryophyllene) Cymene, p- Humulene, alpha- (alpha- caryophyllene) Ocimene, (E)-beta- Linalool Isopulegol, (-) Terpinolene	Eurofins Developed Method



<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
TRPLC	Amino Acid: Total Tryptophan by HPLC	AOAC 988.15 (Modified); R. Shuster, "Determination of Amino Acids in Biological, Pharmaceutical, Plant and Food Samples by Automated Precolumn Derivatization and HPLC", Journal of Chromatography, 431: 271-284 (1988). (Modified); Henderson, J.W.M Ricker, R.D., Bidlingmeyer, B.A, Woodward, C., "Rapid, Accurate, Sensitive and Reproducible HPLC Analysis of Amino Acids, Amino Acid Analysis using Zorbax Eclipse-AAA Columns and the Agilent 1100 HPLC," Agilent Publication, (2000) (Modified)
UPLC_FT	Taurine by UPLC	Laboratory Developed Method
USPR	Class 1, 2a, 2b and 3 Residual Solvent Screen by Headspace GC with Mass Spec. Det., USPR	United States Pharmacopeia, 38th Rev. - National Formulary 33rd Ed., Method <467>, USP Convention, Inc., Rockville, MD (Modified) US Pharmacopeia USP 41, NF 36, Official from May 1, 2018, Residual Solvents <467> Organic Volatile Impurities, Identification, Control and Quantification of Residual Solvents. (Modified)
USPR_DI	Residual Solvents - Class 2 Mix C, Class 3 DMSO	Internally Developed Method
VALC	Determination of Vitamin A by UHPLC/HPLC	AOAC 992.04, 992.06, and 2001.13
VCF	Vitamin C	AOAC 967.22 (Modified)
VD_01	Determination of Veterinary Drug Residues in Infant Formula and its Related Ingredients by HPLCMS/MS	Internally Developed Method
VDMS	Vitamin D by LCMS	AOAC 2011.11 (Modified); Huang, M., Laluzerne, P., Winters, D., Sullivan, D., "Measurement of Vitamin D in Foods and Nutritional Supplements by Liquid Chromatography/Tandem Mass Spectrometry," Journal of AOAC International, Volume (92). No. 5:1327-1335 (2009)
VITAE_IF	Vitamin A and E in Milk- Based Infant Formula by HPLC	AOAC 992.03, 992.06 (Modified)
VKIFAOAC	Trans and Total (cis+trans) Vitamin K1 in Infant Formula, Pediatric, and Adult Nutritionals	AOAC 2015.09 (Modified)
VKTK	Vitamin K1 and K2	AOAC 999.15, 992.27 (Modified)

<u>Test Method</u>	<u>Test and Technology</u>	<u>References</u>
WACT	Water Activity by Chilled- Mirror Dew Point	AOAC 978.18 (Modified)
WN_PHOS	Phospholipids by HPLC/ELSD	<p>Giuffrida F., Braun M., Flück B., Cotting C., Monard F., Quantification of Phospholipids in Infant Formula and Growing Up Milk by High-Performance Liquid Chromatography Coupled to Evaporative Light Scattering Detector, Journal of AOAC INTERNATIONAL Vol.93, No. 3, 2010, page 948 – 955</p> <p>Braun M., Phospholipid Analysis in Infant Formulae by HPLC, R&D Report KR-TR960027, 1996</p> <p>Giuffrida F. and Monard F. NRC; Braun M. and Flück B. PTC/K; Analysis of Phospholipids in Butter Milk Powder: NMR and HPLC-ELSD Method Comparison, NRC NOTE 3. November 2009</p> <p>Braun M., Flück B., Phospholipid Composition HPLC/ELSD, PTC/K Laboratory Instruction AS-INC-096.03, 2008.</p> <p>Mathews BT, Higgins PD, Lyons R, Michell JC, Sach NW, Snowden MJ, Taylor MR, Wright AG, Improving Qualitative Measurements for the Evaporated Light Scattering Detector, Chromatographia, 2004, 60, December No 11/12, page 625-633</p> <p>Heinze T, Kynast G, Dudenhausen JW, Schmitz C, Saling E, Quantitative Determination of Phospholipids in Amniotic Fluid by HPLC, Chromatographia Vol 25, 1988, page 497-503.</p>



¹These methods have been assessed by A2LA according to A2LA's FDA LAAF Program requirements. Please visit <https://datadashboard.fda.gov/ora/fd/laaf.htm> for a list of current LAAF-Accredited Laboratories.

<u>Abbreviations used in References</u>	
AOAC	AOAC International (Association of Analytical Communities)
AOCS	American Oil Chemists' Society
EFSA	European Food Safety Authority
FCC	Food Chemicals Codex
FDA	Food and Drug International
NIST	National Institute of Standards and Technology
USP	U.S. Pharmacopeia





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Presented this 14th day of March 2023.

A blue ink signature of Mr. Trace McInturff, written over a horizontal line.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2918.01
Valid to October 31, 2025

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