



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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CHEMICAL

Valid To: August 31, 2022

Certificate Number: 4057.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on food, animal feed, and animal products:

<u>Test/Technology</u>	<u>Test Method</u>
Antibiotics Residues by LC-MS/MS Determination in Seafood Products (Fish Tissues, Fish Feed, Fish Meal Flour, and Fish Oil), Poultry Products (Feather Flour, Blood and Visceras) and Feed Products (Quinolones, Tetracyclines, Anthelmintics, Chloramphenicol, Florfenicol, Sulfonamides, and β -lactam)	CQ-CROM-034-T
Antiparasitics by LC-MS/MS (Colorant) Determination in Seafood Products (Fish Tissues, Fish Feed, Fish Meal Flour, and Fish Oil), Poultry Products (Feather Flour, Blood, and Viscera) and Feed Products (Malachite Green, Leuco-malachite Green, Violet Crystal, Leuco-violet Crystal, Brilliant Green)	CQ-CROM-024-T
Nitrofurans Metabolites by LC-MS/MS Determination in Seafood Products (Fish Tissues, Fish Feed, Fish Meal Flour, and Fish Oil), Poultry Products (Flour of Feather, Blood and Visceras) and Feed Products (AOZ, AMOZ, AHD, SEM.)	CQ-CROM-027-T
Veterinary Drugs in Animal Tissue by LC-MS/MS	
B-Agonists (Cimaterol, Salbutamol, Terbutalina, Zilpaterol, Ractopamina, Clenbuterol, Mapenterol)	CQ-CROM-016-T
Nitroimidazol (Metronidazole, Dimetridazole, Hidroxidimetridazole Ipronidazole, Ronidazole)	CQ-CROM-019-T
Steroids (Boldenona, Trenbolona, Methyltestosterona, Nortestosterone (Nandrolona), Progesterona)	CQ-CROM-033-T

<u>Test/Technology</u>	<u>Test Method</u>
Nutritional Facts Determination in Food, Food Processed, and Raw Materials	
Ash	CQ-QCA-007-T
Dietary Fiber	CQ-QCA-040-T
Fat	CQ-QCA-006-T
Moisture	CQ-QCA-017-T
Protein by Kjeldahl	CQ-QCA-030-T
Sodium by EAA Flame	CQ-QCA-024-T
Total Sugars by UV-VIS	CQ-QCA-002-T
Cholesterol by GC-FID Determination in Food and Processed Foods, Raw Materials, and Oils	CQ-QCA-022-T
Fatty Acid Profile GC-FID Determination in Food, Oils, Processed Foods, and Raw Materials (See Annex 01)	CQ-QCA-074-T
BHA, BHT, and TBHQ by GC-MSD Determination in Seafood Products	CQ-QCA-088-T
Ethoxyquine by HPLC-PDA Determination in Seafood Products	CQ-QCA-010-T
Histamine by HPLC-PDA Determination in Seafood Products	CQ-QCA-100-T
Total Volatile Basic Nitrogen (TVB-N) Determination in Fish, Fishmeal and Seafood Products	NCh 2668.Of2018
Trimethylamine Nitrogen Determination in Fish, Fishmeal, and Seafood Products	NCh 2757.Of2002
Nitrites by UV-VIS Determination in Fish, Fishmeal, Bovine Meat and its By-products	CQ-CROM-038-T
Bromate by LC-MS/MS Determination in Drinking Water	CQ-CROM-018-T
Peroxide Index Determination in Oils, Vegetable Oils and Olive Oils	CQ-QCA-152-T
Free Acidity Determination in Oils, Vegetable Oils and Olive Oils	CQ-QCA-153-T
Extinction Coefficient (K232, K270 y ΔK) Determination in Oils, Vegetable Oils and Olive Oils	CQ-QCA-154-T
Refractive Index Determination in Oils, Vegetable Oils and Olive Oils	CQ-QCA-156-T

<u>Test/Technology</u>	<u>Test Method</u>
Pesticide Residues (Polar and Non-polar) by GC-MSD, GC-MS/MS and LC-MS/MS Determination in Food, Fruits, Vegetables, Wine, Fats, Animal Tissue, Flour and Juice (See Annex 02)	CQ-CROM-023-T
Dithiocarbamates by GC-MSD Determination in Residues in Food	CQ-CROM-035-T
Acrylamide by HPLC-MS/MS Determination in Food Products (Dried and Dehydrated Fruits, Fried and Baked Foods, Seeds and Cereals)	CQ-CROM-037-T
Patulin LC-MS/MS Determination in Fresh Fruit, Pulps and Fruit Purees, Juices, and Concentrated Juices of Fruit	CQ-CROM-041-T
Heavy Metals and Metals by Atomic Absorption Spectrometry by Flame, Hydride Generation and Graphite Furnace Determination in Food, Processed Food, Juice, Wine, Seafood Products, Grains, Milk, Flour, and Feed Products	
Arsenic	CQ-QCA-025-T
Cadmium	CQ-QCA-021-T
Calcium	CQ-QCA-028-T
Iron	CQ-QCA-055-T
Lead	CQ-QCA-021-T
Mercury	CQ-QCA-023-T
Sodium	CQ-QCA-024-T
Tin, Copper and Zinc	CQ-QCA-055-T
Mycotoxins by ELISA (Total Aflatoxins, Ochratoxins, DON, Zearalenone and Fumonisin,) Determination in Dried Fruits, Poultry Products, and Food Products	CQ-CROM-028-T

<u>Test/ Technology</u>	<u>Internal Method</u>
Alcohol-Extract Ratio Determination in Fermented Drinks and Vinegars	CQ-QCA-101-T
Free and Total Sulphur Anhydrous Determination in Fermented Drinks and Vinegars	CQ-QCA-102-T
Volumetric Mass at 20°C and Relative Density at 20°C Determination in Fermented Drinks and Vinegars	CQ-QCA-103-T
Fixed Acidity Determination in Fermented Drinks and Vinegars	CQ-QCA-104-T
Total Acidity Determination in Fermented Drinks and Vinegars	CQ-QCA-105-T
Volatile Acidity Determination in Fermented Drinks and Vinegars	CQ-QCA-106-T
Free and Total Sulphur Anhydrous Determination in Fermented Drinks and Vinegars	CQ-QCA-107-T
Artificial Colorants Determination in Fermented Drinks and Vinegars	CQ-QCA-109-T
Reduced Dry Extract Determination in Fermented Drinks and Vinegars	CQ-QCA-110-T
Total Dry Extract Determination in Fermented Drinks and Vinegars	CQ-QCA-111-T
Presence of Irons (Ferrocyanide) Determination in Fermented Drinks and Vinegars	CQ-QCA-112-T
Potential Alcoholic Degree Determination in Fermented Drinks and Vinegars	CQ-QCA-113-T
Real Alcoholic Degree Determination in Fermented Drinks and Vinegars	CQ-QCA-114-T
Total Alcoholic Degree Determination in Fermented Drinks and Vinegars	CQ-QCA-115-T
Malvidine Diglucosides Determination in Fermented Drinks and Vinegars	CQ-QCA-116-T
Sulfates Determination in Fermented Drinks and Vinegars	CQ-QCA-117-T
Alcohol-Acid Sum Determination in Fermented Drinks and Vinegars	CQ-QCA-118-T
Reducing Substances Determination in Fermented Drinks and Vinegars	CQ-QCA-120-T
Reducing Substances Determination in Fermented Drinks and Vinegars	CQ-QCA-122-T
Sorbic and Benzoic Acid Determination in Fermented Drinks and Vinegars	CQ-QCA-123-T
pH Determination in Fermented Drinks and Vinegars	CQ-QCA-124-T
Chromatic Characteristics Determination in Fermented Drinks and Vinegars	CQ-QCA-144-T
Alkalinity of Ash in Wine Determination in Fermented Drinks and Vinegars	CQ-QCA-145-T
Invert Sugars Determination in Fermented Drinks and Vinegars	CQ-QCA-146-T
Ashes Determination in Fermented Drinks and Vinegars	CQ-QCA-147-T

<u>Test/ Technology</u>	<u>Internal Method</u>
Chlorides Determination in Fermented Drinks and Vinegars	CQ-QCA-148-T
Folin-Ciocalteau Index Determination in Fermented Drinks and Vinegars	CQ-QCA-126-T
Turbidity in Wines Determination in Fermented Drinks and Vinegars	CQ-QCA-141-T
Soluble Ferrocyanide based on the reaction with Ferric Alum Determination in Fermented Drinks and Vinegars	CQ-QCA-164-T
Methanol Determination in Fermented Drinks, Vinegars, Piscos and Liquors	CQ-QCA-121-T
Sorbic Acid Determination in Fermented Drinks, Vinegars and Musts	CQ-QCA-142-T
Total Dry Matter Determination in Red and Rosé Wines	CQ-QCA-143-T

ANNEX 01
Fatty Acid Profile

C04:0	METHYL BUTYRATE	BUTYRIC ACID
C05:0	METHYL PENTANOATE	PENTANOIC ACID
0C6:0	METHYL HEXANOATE	CAPROIC ACID
C7:0	METHYL HEPTANOATE	HEPTANOIC ACID
C8:0	METHYL OCTANOATE	CAPRIL ACID
C9:0	METHYL NONANOATE	NONANOIC ACID
C10:0	METHYL DECANOATE	CAPRIC ACID
C11:0	METHYL UNDECANOATE	UNDECANOIC ACID
C11:1	METHYL UNDECENOATE	UNDECENOIC ACID
C12:0	METHYL LAURATE	LAURIC ACID
C12:1	METHYL DODECENOATE	DODECENOIC ACID
C14:0	METHYL MYRISTATE	MIRYSTIC ACID
C14:1	METHYL MYRISTOLEATE	MIRISTOLEIC ACID
C15:0	METHYL PENTADECANOATE	PENTADECANOIC ACID
C15:1	METHYL PENTADECENOATE	PENTADECENOCIDE ACID
C15:1W5c		PENTADECENOIC ACID
C16:0	METHYL PALMITATE	PALMITIC ACID
C16:1W7c	METHYL PALMITOLEATE	PALMITOLEIC ACID
C16:1W7t	METHYL PALMITELAIDATE	PALMITOELAIDIC ACID
C17:0	METHYL HEPTADECANOATE	HEPTADECANOIC ACID
C17:1W7c	METHYL 10-HEPTADECENOATE	HEPTADECENOIC ACID
C18:0	METHYL STEARATE	ESTEARIC ACID
C18:1W9c	METHYL OLEATE	OLEIC ACID CIS
C18:1W9t	METHYL ELAIDATE	ELAID ACID
C18:1W6c	METHYL PETROSELINATE	PETROCENILLINE ACID
C18:1W7c	METHYL VACCENATE	VACCINIC ACID
C18:1W7t	METHYL TRANS VACCENATE	TRANSVACENIC ACID
C18:2W6c	METHYL LINOLEATE	LINOLEIC ACID CIS
C18:2W6t	METHYL LINOELAIDATE	LINOELAID ACID
C18:3W6	METHYL GAMMA LINOLENATE	LINOLENIC ACID
C18:3W3	METHYL LINOLENATE	LYNOLIC ACID
C20:0	METHYL ARACHIDATE	ARAQUIDIC ACID
C20:1W12	METHYL 8-EICOSENOATE	EICOSENOIC ACID
C20:1W9	METHYL 11-EICOSENOATE	EICOSENOIC ACID
C20:2W6	METHYL 11-14 EICOSADIENOATE	EICOSADIENOIC ACID
C20:3W6	METHYL HOMMOGAMMA LINOLENATE	EICOSATRIENOIC ACID
C20:4W3	METHYL ARACHINODATE	ARAQUIDONIC ACID
C20:4W6		ARAQUIDONIC ACID
C20:3W3	METHYL EICOSATRIENOATE	EICOSATRIENOIC ACID
C20:5W3	METHYL EICOSAPENTAENOATE	EICOSAPENTANOIC ACID (EPA)
C22:0	METHYL BEHENATE	BEHENIC ACID
C22:1W9	METHYL ERUCATE	ERUCICO ACID
C22:2W6	METHYL DOCOSADIENOATE	DOCOSADIENOIC ACID
C22:3	METHYL DOCOSATRIENOATE	DOCOSATRIENOIC ACID

C22:4	METHYL DOCOSATETRAENOATE	DOCOSATETRANOIC ACID
C24:0	METHYL LIGNOCERATE	
C22:5W3	METHYL DOCOSAPENTAENOATE	DOCOSAPENTANOIC ACID (DPA)
C22:6W3	METHYL DOCOSAHEXAENOATE	DOCOSAHEXANOIC ACID (DHA)
C24:0		LIGNOCERIC ACID
C24:1W9	METHYL NERVONATE	NERVIONIC ACID
TOTAL OMEGA 3	TOTAL OMEGA 6	

ANNEX 02
Pesticide Residues

Non-Polar

1-naphthylacetic	Chlorpyrifos ethyl	Etofenprox	Isoxathion	Propiconazole
2,4 D	Chlorpyrifos methyl	Etofumesato	Kresomin methyl	Propisochlor
2,4 DB	Chlorsulfuron	Etoazole	Lactofen	Propoxur
2-naphthylloxyacetic	Chlorthiamid	Etoxiquine	Lenacil	Propoxycarbazone
2-phenylphenol	Chromafenozide	Etridiazole	Lindane	Propyzamide
6-bencyladenine	Cinidon ethyl	Etrimfos	Linuron	Prosulfocarb
8-hydroxyquinoline	Cletodim	Famoxadone	Lufenuron	Prosulfuron
Abamectin	Clodinafop	Famphur	Malathion	Protioconazole
Acephate	Clomazona	Fenamidone	Maleic hydrazide	Pymetrozin
Acequinocyl	Clopyralid	Fenamiphos	Mandipropamid	Pyraclostrobin
Acetamiprid	Clordimeform	Fenarimol	MCPA	Pyraflufen ethyl
Acetochlor	Cloridazona	Fenazaquin	Mecarbam	Pyrasulfotole
Acibenzolar-S-Mhetyl	Clorocresol	Fenbuconazole	Mecoprop	Pyrethrins
Aclonifeno	Cloroneb	Fenclorphos	Mepanipirim	Pyridaben
Acrinathrin	Cloropropilato	Fenhexamid	Mepronil	Pyridate
Alachlor	Clortion	Fenitrothion	Meptyldinocap	Pyriproxifen
Aldicarb	Clothianidin	Fenoxaprop-P-ethyl	Mesosulfuron methyl	Pyroxsulam
Aldicarb sulfone	Coumaphos	Fenoxycarb	Mesotrione	Quinalphos
Aldicarb sulfoxido	Cyanazine	Fenpropathrin	Metaflumizole	Quinmerac
Aldrin	Cyantraniliprole	Fenpropidin	Metalaxyl	Quinoclamine
Aletrine	Cyazofamid	Fenpropimorph	Metamitron	Quinomethionate
Ametoctradin	Cyclanilide	Fenpyrazamine	Metazachlor	Quinoxifen
Ametrina	Cycloxidym	Fenpyroximate	Metconazole	Quintozene
Amidosulfuron	Cyflufenamid	Fenson	Methabenzthiazuron	Quizalofop ethyl
Aminopyralid	Cyfluthrin	Fensulfotion	Methacrifos	Resmethrin
Amisulbrom	Cyhalofop butyl	Fenthion	Methamidophos	Rimsulfuron
Amitrol	Cyhalothrine L	Fenvalerate	Methidathion	Rotenone
Alinazine	Cyhalothrine G	Fipronil	Methiocarb	Saflufenacil
Aramite	Cyhexatin	Flocoumafen	Methoprene	Silthiofam
Asulam	Cymoxanil	Flonicamid	Methoxychlor	Simazine

Non-Polar

Atrazine	Cypermethrin	Florasulam	Methoxyfenozide	Sodium 5-nitroguaiacolate
Azadiractine	Cyproconazole	Fluazifop-p-butilo	Metolachlor	Spinetoram
Azimsulfuron	Cyprodinil	Fluazinam	Metomyl	Spinosad
Azinphos ethyl	Cyromazine	Flubendiamine	Metosulam	Spiridiclofen
Azinphos methyl	Daminozide	Flucitrinate	Metrafenone	Spiromesifen
Azociclotin	Dazomet	Flucloraline	Metribuzin	Spirotetramat
Azoxistrobin	DDAC – C10	Flucycloxuron	Metsulfuron methyl	Spiroxamine
Azufre	DDD op	Fludioxinil	Mevinphos	Sulcotrione
BAC – C10	DDD pp	Flufenacet	Mirex	Sulfosulfuron
BAC – C12	DDE op	Flufenoxuron	Molinate	Sulfotep
BAC – C14	DDE pp	Flufenzine	Monocrotophos	Sulfoxaflor
Barban	DDT op	Flumetralin	Monolinuron	Tebuconazole
Beflubutamid	DDT pp	Flumioxazina	Monosultap	Tebufenozide
Benalaxil	Deltamethrin	Fluometuron	Monuron	Tebufenpyrad
Benflunarín	Demeton S	Fluopicolide	Myclobutanil	Tebupirimiphos
Benomyl	Desetilatrizona	Fluopyram	Napropamide	Tecnazene
Bensulfuron methyl	Desisopropilatrazina	Fluoroacetamide	Nicosulfuron	Teflubenzuron
Bensultap	Desmedifam	Fluoxastrobin	Nicotine	Tefluthrin
Bentazon	Desmetrina	Flupyrulfuron methyl	Nitenpyram	Tembotrione
Bentiavalicard isopropilo	Di-Allate	Fluquinconazole	Nitrofen	TEPP
Beta-Ciflutrin	Diazinon	Flurocloridone	Novaluron	Tepraloxdim
BHC alpha	Dicamba	Fluroxypyr	Nuarimol	Terbacil
BHC beta	Dichlobenil	Flurprimidole	Omethoate	Terbufos
BHC delta	Dichofluanid	Flurtamone	Orthosulfamuron	Terbuthylazine
Bifenazate	Dichlorprop	Flusilazole	Oryzalin	Tetraconazole
Bifenox	Dichlorvos	Flutolanil	Oxadiargyl	Tetradifon
Bifenthrin	Diclobutrazol	Flutriafol	Oxadiazon	Thiabendazole
Binapacryl	Diclofop	Fluvalinate	Oxadixyl	Thiacloprid
Bioaletrin	Diclofop Methyl	Fluxapyroxad	Oxamyl	Thiamethoxam
Biphenyl	Dicloran	Folpet	Oxasulfuron	Thidiazuron
Bitertanol	Dicofol op	Fomesafen	Oxathiapiprolin	Thifensulfuron methyl
Bixafen	Dicrotophos	Fonofos	Oxycarboxin	Thiobencarb
Boscalid	Dieldrin	Foramsulfuron	Oxydemeton methyl	Thidicarb
Brodifacoum	Dietofencarb	Forchlorfenurum	Oxyfluorfen	Thiofanox
Bromacil	Difenoconazole	Formetanate	Paclobutrazole	Thiometon
Bromadiolone	Diflubenzuron	Formothion	Parathion ethyl	THPI
Bromophos ethyl	Diflufenican	Fosthiazate	Parathion methyl	Thiocyclam
Bromophos methyl	Dimetametrina	Fuberidazole	Penconazole	Thiofanate methyl
Bromopropylate	Dimethachlor	Furalaxilo	Pencycuron	Tolclofos methyl
Bromoxinile	Dimethenamid	Glufosinate	Pendimethalin	Tolyfluanid
Bromuconazole	Dimethipin	Halosulfuron methyl	Pentachlorobenzene	Topramezone
Bupiramate	Dimethoate	Haloziop methyl	Penthiopyrad	Toxaphene
Buprofezine	Dimethomorph	Heptachlor	Permethrin	Tralkoxydim
Butraline	Dimoxystrobin	Heptachlor epoxide	Pethoxamid	Triadimefon
Butylate	Diniconazole	Heptenophos	Phenmedipham	Triadimenol

Non-Polar

Caduzafos	Dinocap	Hexachlorobenzene	Phenothrin	Tri-allate
Captafol	Dinoseb	Hexaconazole	Phorate	Triasulfuron
Captan	Dinotefuran	Hexazinone	Phosalone	Triazophos
Carbaryl	Dinoterb	Hexyiazox	Phosmet	Tribenuron methyl
Carbendazim	Dioxathion	Hymexazole	Phosphamidon	Tributyltin oxide
Carbetamide	Diphenylamine	Imazalil	Phoxim	Trichlorfon
Carbofuran	Disulfoton	Imazamox	Picloram	Triclopyr
Carbophenothion	Ditianon	Imazapic	Picolinafen	Tricyclazole
Carboxin	Diuron	Imazaquin	Picoxystrobin	Tridemorph
Carfentrazone ethyl	DNOC	Imazosulfuron	Pinoxaden	Trifloxystrobin
Cartap HCL	Dodemorph	Imidacloprid	Pirazophos	Triflumizole
Chlofentezine	Dodine	Indoxacarb	Pirimethanil	Triflumoron
Chlorantranilipole	Emamectin	Iodosulfuron-methyl	Pirimicarb	Trifluralin
Chlorbenside	Endosulfan I	Ioxinyl	Pirimphos methyl	Triflusulfuron
Chlorbufam	Endosulfan II	IPBC	Pirimphos ethyl	Triforine
Chlordane cis	Endosulfan Sulfate	Ipconazole	Prochloraz	Trinexapac
Chlordane trans	Endrin	Iprobenfos	Procymidone	Triticonazole
Chlordecone	EPN	Iprodione	Profenofos	Tritosulfuron
Chlordene	Epoconazole	Iprovalicarb	Profoxydim	Uniconazole
Chlorfenapyr	EPTC	Isofenphos	Prohexadione	Valifenalate
Chlorfenson	Esfenvalerate	Isofetamid	Propachlor	Vamidothion
Chlorfenvinphos	Ethalfuralin	Isoprocarb	Propamocarb	Vinclozolin
Chlormephos	Ethiofencarb	Isoprothiolane	Propanil	Warfarin
Chlorobenzilate	Ethion	Isoproturon	Propaquizafop	Zoxamide
Chlorothalonil	Ethirimol	Isopyrazam	Propargite	
Chlorotoluron	Ethoprosfos	Isoxaben	Propetamphos	
Chlorpropham	Ethoxysulfuron	Isoxaflutole	Propham	

Polar

Chlorate and Perchlorate	Etephon	Glufosinate – Ammonium	Paraquat	Phosphonic Acid and their Salts
Diquat	Fosetyl Aluminum	Glyphosate		



Accredited Laboratory

A2LA has accredited

CORTHORN QUALITY

Huechuraba, Santiago, CHILE

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 9th day of October 2020.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 4057.01
Valid to August 31, 2022

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