

# Schedule of Accreditation



Organisation Name	ALS Life Sciences Ltd
Trading As	ALS
INAB Reg No	166T
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Accreditation Standard	ISO 17025 T
Date of award of accreditation	04/07/2005
Scope Classification	Biological and veterinary testing
Scope Classification	Chemical testing
Services available to the public <sup>1</sup>	Yes

<sup>1</sup> Refer to document on interpreting INAB Scopes of Accreditation

Sites from which accredited services are delivered		
(the detail of the accredited services delivered at each site are on the Scope of Accreditation)		
	Name	Address
1	ALS	Carrigeen Business Park, Clonmel, Tipperary, E91 PF63
2	Head Office	ALS Life Sciences Limited trading as ALS, 33 Eastgate Drive, Little Island, Cork, T45C446

# Scope of Accreditation

## ALS

### Biological and Veterinary Testing

Category: A

Biology/veterinary field - Tests	Test name	Technique	Matrix	Equipment	Std. reference	
803 Culture of organisms in liquid or agar based culture media with visual or instrument monitoring for growth - .01 Culture of bacteria	Aerobic colony count (48 hours)	Culture of bacteria	Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry	N/A	SP048 based on EN ISO 4833-1: 2013	

		Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes Product contact surfaces Production animals Soups, broths and sauces Surfaces			
	Aerobic colony count (72 hours)	Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes Product contact surfaces	N/A	SP030 based on EN ISO 4833-1: 2013	

		Production animals Soups, broths and sauces Surfaces			
Coliforms and E.coli Filters/Membrane Filtration	Membrane Filtration	Waters - Environmental water Waters - Industrial Waters - Potable water Waters - Swimming pools and spas Waters - Trade waste Waters - Waste water treatment plant effluent (WWTP effluent)	N/A	SP217 based on EN ISO 9308-1:2014 A1:2016	
Counting of Air Settle Plates by TVC or Yeasts and Moulds	Culture of bacteria	Air	N/A	SP197 based on an In House method	
Detection and Enumeration of Pseudomonas aeruginosa	Membrane Filtration	Non-alcoholic beverages	N/A	SP084 based on ISO 16266:2006	
		Waters - Environmental water Waters - Industrial Waters - Potable water Waters -Swimming pools and spas Waters - Trade waste Waters - Waste water treatment plant effluent (WWTP effluent)	N/A	SP084 based on ISO 16266:2006	
Detection of Clostridium Perfringens	Culture of bacteria	Dairy products	N/A	SP223 based on Practical Food Microbiology (Roberts and Greenwood) 3rd Edition & ISO 7937: 2004	

	Detection of Coagulase Positive Staphylococci		Dairy products Product contact surfaces Surfaces	N/A	SP233 based on ISO 6888-3:2003	
	Detection of Cronobacter species		Dairy products Foodstuffs intended for special nutritional uses Surfaces	N/A	SP096 based on BAM Chapter 29 2012 and EN ISO 22964:2017	
	Detection of E.coli O157 using the immunomagnetic separation technique	Culture of bacteria and immunomagnetic separation technique	Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes Product contact surfaces Production animals Soups, broths and	N/A	SP041 based on ISO 16654:2001 Amendment A1:2017	

			sauces Surfaces			
Detection of E.coli O157:H7 by Neogen Reveal	Reveal® test system	Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Herbs and spices Meat and meat products, game and poultry product contact surfaces Production animals Surfaces	N/A	SP052 based on Neogen 8 hour Reveal		
Detection of Listeria Species	Culture of bacteria	Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Compost and related materials Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages	N/A	SP039/SP181 based on EN ISO 11290-1:2017		

			<p>Nuts and nut products, snacks          Pet foods          Prepared dishes          Product contact surfaces          Production animals          Soups, broths and sauces          Surfaces</p>			
	<p>Detection of Listeria Species using the ALOA One Day Method</p>		<p>Alcoholic beverages (other than wine)          Animal feeds          Cereals and bakery products          Cocoa and cocoa preparations, coffee and tea          Compost and related materials          Confectionery          Dairy products          Egg and egg products          Fats and Oils          Fish, shellfish and molluscs          Foods/stockfoods and their additives          Foodstuffs intended for special nutritional uses          Fruit and vegetables          Herbs and spices          Ices and desserts          Meat and meat products, game and poultry          Non-alcoholic beverages          Nuts and nut products, snacks          Pet foods          Prepared dishes          Product contact</p>	N/A	<p>SP142/SP181 based on AES ALOA One Day Method for Listeria and EN ISO11290-1:2017 (AFNOR Approved)</p>	

		surfaces Production animals Soups, broths and sauces Surfaces			
	Detection of Listeria Spp by Solus Listeria ELISA	Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes Product contact surfaces Production animals Soups, broths and sauces Surfaces	DSX™ and DS2™ Automated ELISA Systems	SP154/SP181 based on Solus Listeria ELISA Kit instructions (AFNOR approved) and EN ISO 11290- 1:2017	



	Detection of presence or absence of Coliforms in food and animal feedingstuffs		Fish, shellfish and molluscs Meat and meat products, game and poultry	N/A	SP180 based on ISO 4831:2006	
	Detection of presumptive E.coli		Dairy products Product contact surfaces Surfaces	N/A	SP225 based on ISO 7251:2005	
	Detection of presumptive Enterobacteriaceae (Presumptive & Confirmed)		Dairy products Product contact surfaces Surfaces	N/A	SP224 based on EN ISO 21528-1:2017	
	Detection of Salmonella spp		Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Compost and related materials Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut	N/A	SP038/SP178 based on ISO 6579-1:2017 A1:2020 and BEIC method.	

		<ul style="list-style-type: none"> <li>products, snacks</li> <li>Pet foods</li> <li>Prepared dishes</li> <li>Product contact surfaces</li> <li>Production animals</li> <li>Dust, boot swabs and faecal matter</li> <li>Soups, broths and sauces</li> <li>Surfaces</li> </ul>			
	<p>Detection of Salmonella spp by Solus Salmonella ELISA</p>	<ul style="list-style-type: none"> <li>Alcoholic beverages (other than wine)</li> <li>Animal feeds</li> <li>Cereals and bakery products</li> <li>Cocoa and cocoa preparations, coffee and tea</li> <li>Compost and related materials</li> <li>Confectionery</li> <li>Dairy products</li> <li>Egg and egg products</li> <li>Fats and Oils</li> <li>Fish, shellfish and molluscs</li> <li>Foods/stockfoods and their additives</li> <li>Foodstuffs intended for special nutritional uses</li> <li>Fruit and vegetables</li> <li>Herbs and spices</li> <li>Ices and desserts</li> <li>Meat and meat products, game and poultry</li> <li>Non-alcoholic beverages</li> <li>Nuts and nut products, snacks</li> <li>Pet foods</li> <li>Prepared dishes</li> </ul>	<p>DSX™ and DS2™ Automated ELISA Systems</p>	<p>SP102/SP178 based on Solus Salmonella ELISA kit instructions (AFNOR approved) and ISO6579-1:2017 A1:2020</p>	

		Product contact surfaces Production animals Soups, broths and sauces Surfaces			
Detection, Enumeration and Identification of Legionella sp. (presumptive) by Latex agglutination (Legionella pneumophila serogroup 1, Legionella pneumophila serogroup 2-14, Legionella Sp.)	Membrane Filtration & Latex Agglutination	Waters - Industrial Waters - Potable water Waters -Swimming pools and spas Waters - Trade waste	N/A	SP182 based on EN ISO 11731:2017 Procedures 8, 9 and 10	
Enumeration and confirmation of coagulase-positive staphylococci	Culture of bacteria	Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and	N/A	SP036 based on EN ISO 6888-1-1999 A2:2018	

			poultry Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes Product contact surfaces Production animals Soups, broths and sauces Surfaces			
	Enumeration of Coliforms (Presumptive & Confirmed)		Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes	N/A	SP035 based on ISO 4832:2006	

		Product contact surfaces Production animals Soups, broths and sauces Surfaces			
Enumeration of a heterotrophic plate count		Waters - Industrial Waters - Potable water	N/A	SP089 based on APHA 9215:2017	
Enumeration of a heterotrophic plate count by membrane filtration	Membrane Filtration	Waters - Industrial Waters - potable water	N/A	SP090 based on APHA 9215:2017	
Enumeration of a heterotrophic plate count in potable and industrial waters by the membrane filtration method at 30°C for 5 days		Waters - Industrial Water - Potable water	N/A	SP191 based on EN ISO 15883-1:2009 A1:2014 and APHA 9215:2017	
Enumeration of aerobic and anaerobic mesophilic spore forming bacteria	Culture of bacteria	Dairy products	N/A	SP113 based on ISO 4833-1: 2013	
Enumeration of aerobic and anaerobic thermophilic spore forming bacteria		Dairy products	N/A	SP220 based on ISO/TS 27265:2009	
Enumeration of Anaerobic Microorganisms by colony count technique (Anaerobic Total Viable Count)		Alcoholic beverages (other than wine) Cereals and bakery products Dairy products Egg and Egg products Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Meat and Meat	N/A	SP129 based on EN ISO 4833- 1:2013	

		products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes Soups, broths and sauces			
Enumeration of <i>Campylobacter</i>		Meat and meat products, game and poultry	N/A	SP213 based on EN ISO 10272-2:2017	
Enumeration of <i>Clostridium perfringens</i> in water	Membrane Filtration	Waters - Environmental water Waters - Industrial Waters - Potable water Waters -Swimming pools and spas Waters - Trade waste Waters - Waste water treatment plant effluent (WWTP effluent)	N/A	SP207 based on Microbiology of Drinking Water 2020, Part 6B and ISO 14189:2013	
Enumeration of <i>Clostridium perfringens</i>	Culture of bacteria	Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices	N/A	SP042 based on EN ISO 7937 (2004)	

		Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Others- Mixed foods Pet foods Prepared dishes Product contact surfaces Production animals Soups, broths and sauces Surfaces			
Enumeration of Coagulase Positive Staphylococci by RPF		Dairy products Product contact surfaces Surfaces	N/A	SP234 based on EN ISO 6888-2:1999+A1:2003	
Enumeration of culturable micro-organisms (22oC for 72hrs, 37oC for 24/48hrs)		Waters - Environmental water Waters - Industrial Waters - Potable water Waters -Swimming pools and spas Waters - Trade wastes Waters - Waste water treatment plant effluent (WWTP effluent)	N/A	SP031 based on ISO 6222- (1999) and on The Microbiology of Drinking Water (2012) - Part 7	
Enumeration of E. coli in shellfish- Most Probable Number Method	Most Probable Number method	Fish, shellfish and molluscs	N/A	SP153 based on EN ISO 16649-3 (2015)	
Enumeration of E.coli and Coliforms in Water	Membrane Filtration	Waters - Environmental water Waters - Industrial Waters - Potable water Waters -Swimming	N/A	SP140 based on Microbiology of Drinking Water Part 4, B 2016	

		<p>pools and spas Waters - Trade wastes Waters - Waste water treatment plant effluent (WWTP effluent)</p>			
Enumeration of Enterobacteriaceae (Presumptive & Confirmed)	Culture of bacteria	<p>Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes Product contact surfaces Production animals Soups, broths and sauces Surfaces</p>	N/A	SP033 based on EN ISO 21528-2:2017	



Enumeration of Enterococci		Dairy products Meat and meat products, game and poultry Product contact surfaces Production animals Surfaces	N/A	SP058 based on BS 4285 Section 3.11 1985	
		Waters - Environmental water Waters - Industrial Waters - Potable water Waters -Swimming pools and spas Waters - Trade wastes Waters - Waste water treatment plant effluent (WWTP effluent)	N/A	SP071 based on ISO 7899-2 (2000)	
Enumeration of Escherichia coli and Coliform bacteria - Most Probable Number method (Colilert)	Most Probable Number method	Waters - Environmental water Waters - Industrial Waters - Potable water Waters -Swimming pools and spas Waters - Trade wastes Waters - Waste water treatment plant effluent (WWTP effluent)	N/A	SP196 based on ISO 9308-2:2012 and the IDEXX Colilert 18 test kit	
Enumeration of Listeria monocytogenes and Listeria Species	Culture of bacteria	Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Compost and related materials	N/A	SP040/SP181 based on EN ISO 11290-2:2017	

			Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes Product contact surfaces Production animals Soups, broths and sauces Surfaces			
	Enumeration of mesophilic Lactic acid bacteria		Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods	N/A	SP068 based on ISO 15214:1998	

		<p>and their additives  Foodstuffs intended for special nutritional uses  Fruit and vegetables  Herbs and spices  Ices and desserts  Meat and meat products, game and poultry  Non-alcoholic beverages  Nuts and nut products, snacks  Pet foods  Prepared dishes  Product contact surfaces  Production animals  Soups, broths and sauces  Surfaces</p>			
	Enumeration of presumptive <i>Bacillus cereus</i>	<p>Alcoholic beverages (other than wine)  Animal feeds  Cocoa and cocoa preparations, coffee and tea  Confectionery  Egg and egg products  Fats and Oils  Fish, shellfish and molluscs  Foods/stockfoods and their additives  Foodstuffs intended for special nutritional uses  Fruit and vegetables  Herbs and spices  Ices and desserts  Meat and meat products, game and poultry</p>	N/A	SP045 based on EN ISO 7932:2004 A1:2020	

		<p>Non-alcoholic beverages</p> <p>Nuts and nut products, snacks</p> <p>Pet foods</p> <p>Prepared dishes</p> <p>Product contact surfaces</p> <p>Production animals</p> <p>Soups, broths and sauces</p> <p>Surfaces</p>			
	Enumeration of presumptive <i>Bacillus cereus</i> and presumptive <i>Bacillus</i> species	<p>Cereals and bakery products</p> <p>Dairy products</p>	N/A	SP045 based on EN ISO 7932:2004 A1:2020	
	Enumeration of presumptive <i>Pseudomonas</i> spp	<p>Alcoholic beverages (other than wine)</p> <p>Animal feeds</p> <p>Cereals and bakery products</p> <p>Cocoa and cocoa preparations, coffee and tea</p> <p>Confectionery</p> <p>Dairy products</p> <p>Egg and egg products</p> <p>Fats and Oils</p> <p>Fish, shellfish and molluscs</p> <p>Foods/stockfoods and their additives</p> <p>Foodstuffs intended for special nutritional uses</p> <p>Fruit and vegetables</p> <p>Herbs and spices</p> <p>Ices and desserts</p> <p>Meat and meat products, game and poultry</p> <p>Non-alcoholic beverages</p>	N/A	SP046 based on EN ISO 13720: 2010	

			<p>Nuts and nut products, snacks          Pet foods          Prepared dishes          Product contact surfaces          Production animals          Soups, broths and sauces          Surfaces</p>			
	<p>Enumeration of presumptive <math>\beta</math>-glucuronidase positive <i>E. coli</i></p>		<p>Alcoholic beverages (other than wine)          Animal feeds          Cereals and bakery products          Cocoa and cocoa preparations, coffee and tea          Confectionery          Compost and related materials          Dairy products          Egg and egg products          Fats and Oils          Fish, shellfish and molluscs          Foods/stockfoods and their additives          Foodstuffs intended for special nutritional uses          Fruit and vegetables          Herbs and spices          Ices and desserts          Meat and meat products, game and poultry          Non-alcoholic beverages          Nuts and nut products, snacks          Pet foods          Prepared dishes          Product contact</p>	N/A	SP049 based on ISO 16649-2:2001	

		surfaces Production animals Soups, broths and sauces Surfaces			
	Enumeration of Sulphite Reducing Clostridia	Dairy products Meat and meat products, game and poultry Product contact surfaces Production animals Surfaces	N/A	SP110 based on BS ISO 15213: 2003	
	Enumeration of Thermotolerant bacteria	Dairy products Product contact surfaces Surfaces	N/A	SP057 based on BS4285-3.2: 1991	
	Enumeration of thermophilic bacteria	Dairy products Product contact surfaces Surfaces	N/A	SP222 based on ISO/TS 27265:2009	
	Enumeration of Yeasts & Moulds in Milk and Milk products	Dairy products	N/A	SP216 based on ISO 6611:2004	
	Enumeration of Yeasts and Moulds - products with water activity greater than 0.95	Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses	N/A	SP133 based on ISO 21527-1:2008	

		<ul style="list-style-type: none"> <li>Fruit and vegetables</li> <li>Herbs and spices</li> <li>Ices and desserts</li> <li>Meat and meat products, game and poultry</li> <li>Non-alcoholic beverages</li> <li>Nuts and nut products, snacks</li> <li>Pet foods</li> <li>Prepared dishes</li> <li>Product contact surfaces</li> <li>Production animals</li> <li>Soups, broths and sauces</li> <li>Surfaces</li> </ul>			
	Enumeration of Yeasts and Moulds - products with water activity less than 0.95	<ul style="list-style-type: none"> <li>Animal feeds</li> <li>Cereals and bakery products</li> <li>Cocoa and cocoa preparations, coffee and tea</li> <li>Confectionery</li> <li>Dairy products</li> <li>Egg and egg products</li> <li>Fats and Oils</li> <li>Fish, shellfish and molluscs</li> <li>Foods/stockfoods and their additives</li> <li>Foodstuffs intended for special nutritional uses</li> <li>Fruit and vegetables</li> <li>Herbs and spices</li> <li>Ices and desserts</li> <li>Meat and meat products, game and poultry</li> <li>Non-alcoholic beverages</li> <li>Nuts and nut</li> </ul>	N/A	SP136 based on ISO 21527-2:2008	

			products, snacks Pet foods Prepared dishes Soups, broths and sauces			
Faecal Coliforms MPN Colilert	Most Probable Number method		Waters - Environmental water Waters - Industrial Waters - Potable water Waters -Swimming pools and spas Waters - Trade waste Waters - Waste water treatment plant effluent (WWTP effluent)	N/A	SP200 based on the IDEXX Colilert 18 test kit	
Lactobacillus enumeration	Culture of bacteria		Animal feeds Cocoa and cocoa preparations, coffee and tea Confectionery Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Herbs and spices Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Others - Raw Pastry Pet foods	N/A	SP177 based on Oxoid Manual	
Method for the Detection of Thermotolerant Campylobacter			Alcoholic beverages (other than wine) Animal feeds Cereals and bakery products Cocoa and cocoa	N/A	SP043 based on EN ISO 10272-1:2017, procedures A and B	



			preparations, coffee and tea Confectionery Dairy products Egg and egg products Fats and Oils Fish, shellfish and molluscs Foods/stockfoods and their additives Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes Product contact surfaces Production animals Soups, broths and sauces Surfaces			
805 Detection and/or identification of bacterial, parasite, fungal and viral nucleic acids using appropriate techniques - .01 Nucleic acid probe hybridization, CE marked commercial systems	Method for the isolation and confirmation of Shiga Toxin Producing E. coli (STEC) Serogroups (O157, O111, O26, O103, O145, O45 and O121) following PCR detection of virulence genes	Gene amplification and detection by real-time PCR	Meat and meat products, game and poultry Product contact surfaces Production animals Surfaces	Bio-Rad CFX96™ real-time PCR detection system	SP210 based on MLG 5C.00	

	Method for the real-time PCR detection of virulence genes in Shiga Toxin Producing E. coli (STEC) and of 7 major serogroups (O157, O111, O26, O103, O145, O45 and O121)		Meat and meat products, game and poultry Product contact surfaces Production animals Surfaces	Bio-Rad CFX96™ real-time PCR detection system	SP209 based on MLG 5C.00	
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## Chemical Testing

Category: A

Chemistry Field - Tests	Test name	Analyte	Range of measurement	Matrix	Equipment/technique	Standard reference/SOP
751 Food testing - .02 Nutritional analysis	Ash	Ash	0.1 to 15g/100g	Cereals and bakery products Cocoa and cocoa preparation, coffee and tea Confectionery Dairy products Fish, shellfish and molluscs Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Nuts and nut products, snacks Pet foods Prepared dishes Soups, broths and sauces	By Furnace	SP149 based on BS4401 Part 1 1998, ISO 936: 1998 and AOAC 21st Edition, 2019 - Method 923.03 (32.1.05)
	Determination of Nitrates & Nitrites by IC	Nitrate	5-200 mg/kg NO <sub>3</sub> , equivalent to 7-275 mg/kg NaNO <sub>3</sub>	Meat and meat products, game and poultry	Anion Exchange Chromatography	SP118 based on Dionex Application Note 112, 1998, ISO 2918 (1975) and ISO 3091 (1975)
		Nitrite	5 to 200 mg/kg NO <sub>2</sub> , equivalent to 7.5-300 mg/kg as NaNO <sub>2</sub>	Meat and meat products, game and poultry	Anion Exchange Chromatography	SP118 based on Dionex Application Note 112, 1998, ISO 2918 (1975) and ISO 3091 (1975)

Determination of Salt by IC	Chloride	0.5-7.5% NaCl	Meat and meat products, game and poultry	Anion Exchange Chromatography	SP117 based on ISO 1841 (1996) and Dionex Application Note 112, 1998
Determination of Salt by Titration		1 to 10% NaCl	Dairy products - cheese Fish, shellfish and molluscs Meat and meat products, game and poultry	Titration	SP091 based on ISO 1841-1 (1996)
Fat	Fat	0.3 to 100% Fat 0.3 to 100% Fat  0.3 to 100% Fat  0.3 to 100% Fat 0.3 to 100% Fat 0.3 to 100% Fat	Fats and oils Meat and meat products, game and poultry Pet foods Prepared dishes Soups, broths and sauces	Nuclear Magnetic Resonance	SP192 (NMR) Analyser Based on CEM Smart Trac Operation Manual, Rev. 2, 2001. Keeton Et AL.: "Rapid Determination of Fat in Meats by Microwave and Nuclear Magnetic Resonance Analysis", Journal of AOAC International, Vol. 86, No.6, 2003
Meat Content and Added water	Added water	N/A	Meat and Meat Products, game and Poultry	Calculation	SP232 based on Stubbs and More 1919 and Pearson's Composition and Analysis of Foods
	Meat Content	N/A	Meat and Meat Products, game and Poultry	Calculation	SP232 based on Stubbs and More 1919 and Pearson's Composition and Analysis of Foods
Moisture and Total Solids	Moisture	3.0 to 99.0g/100g	Cereals and bakery products Cocoa and cocoa preparation, coffee and tea Confectionery Dairy products Fish, shellfish and	Oven Drying	SP148 based on BS 4401-3 1997, ISO1442:1997 Pearsons, Composition and Analysis of Foods 9th Edition 1991, pages 383, 566

				molluscs Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and desserts Meat and meat products, game and poultry Nuts and nut products, snacks Pet foods Prepared dishes Soups, broths and sauces		& 600. AOAC 21st Edition, 2019 - Official Method 950.46 (39.1.02-B).
pH	pH	2 to 10 pH units	Alcoholic beverages (other than wine) Cereals and bakery products Dairy products Egg and egg products Foodstuffs intended for special nutritional uses Fruits and vegetables Meat and meat products, game and poultry Non-alcoholic beverages Nuts and nut products, snacks Pet foods Prepared dishes Soups, broths and sauces	pH Meter	SP125 based on AOAC Official Methods 981.12 and 943.02, ISO 2917-19 and BS 770-5:1996	
Protein	Nitrogen	0.01% to 18% Nitrogen	Cereals and bakery products Confectionery	LECO analyser	SP226 based on LECO TruMac N analyser instructions	

				Dairy products Fish, shellfish and molluscs Foodstuffs intended for special nutritional uses Meat and meat products, game and poultry Nuts and nut products, snacks Pet foods Prepared dishes Soups, broths and sauces		and AOAC 21st Edition, 2019 - Method 992.15 (39.1.16)
	Protein		0.1% to 100% Protein	Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Fish, shellfish and molluscs Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and deserts Meat and meat products, game and poultry Nuts and nut products, snacks Pet foods Prepared dishes Soups, broths and sauces	LECO analyser	SP226 based on LECO TruMac N analyser instructions and AOAC 21st Edition, 2019 - Method 992.15 (39.1.16)
	Salt	Na	0.01 to 10.0% Salt	Cereals and bakery products Cocoa and cocoa preparations,	By Calculation From Sodium	SP198 By Calculation from Sodium

				coffee and tea Confectionery Dairy products Fish, shellfish and molluscs Foodstuffs intended for special nutritional uses Fruit and Vegetables Herbs and spices Ices and deserts Meat and meat products, game and poultry Nuts and nut products, snacks Pet Foods Prepared dishes Soups, broths and sauces		
	Sodium		0.004 to 4.0% Na	Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Confectionery Dairy products Fish, shellfish and molluscs Foodstuffs intended for special nutritional uses Fruit and vegetables Herbs and spices Ices and deserts Meat and meat products, game and poultry Nuts and nut products, snacks Pet Foods Prepared dishes	Flame Photometry	SP198 - Model 410 Classic Flame Photometer Operator Manual, Issue 1, October 2006.

				Soups, broths and sauces		
	Total Carbohydrate and energy	Total Carbohydrate and Energy	N/A	Meat and Meat Products, game and Poultry Pet foods Prepared dishes Soups, broths and sauces	Calculation	SP231 based on EU1169 2011 and Pearson's Composition and Analysis of Foods
	Water Activity	Water Activity	0.04 Aw to 1.00 Aw	Cereals and bakery products Cocoa and cocoa preparations, coffee and tea Dairy products Egg and egg products Fish, shellfish and molluscs Foodstuffs intended for special nutritional uses Fruits and vegetables Ices and desserts Meat and meat products, game and poultry Nuts and nut products, snacks Pet foods Prepared dishes Soups, broths and sauces	Water Activity Meter	SP228 based on BS ISO 18787:2017 and Novasina LabMaster-Aw Meter
766 Environmental testing (inc waters) - .02 Biochemical oxygen demand	BOD and CBOD (Nitrification suppressed BOD)	BOD and cBOD	1.0 to 10,000 mg/l O2	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent)	Dissolved Oxygen Meter	P280 (DO Meter) based on "Methods for the Examination of Waters and Associated Materials", HMSO 1988 5 Day BOD 11 7522120, "APHA 23rd edition 2017, Standard Methods for the



				Waters for potable and domestic purposes		Analysis of Water and Wastewater 5210 and 4500-C" and HACH HQ Series Portable meters user manual.
766 Environmental testing (inc waters) - .03 Chemical oxygen demand	Chemical Oxygen Demand	COD	5 - 15,000 mg/l O2	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Spectrophotometer	P210 Spectrophotometer method based on APHA 23rd edition 2017 5220-D
766 Environmental testing (inc waters) - .05 Inorganic	Alkalinity	CaCO3	10.0 - 500.0 mg/l CaCO3	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Titration	P214 Titrimetric Method based on APHA 23rd edition 2017 2320-B
	Ammonia	NH3N	0.02 - 80.0 mg/l NH3N	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Gallery Autoanalyser	P281 based on APHA 23rd edition 2017 and automated colorimetry In-house Method using Gallery Analyser following manufacturer's instructions
	Chloride	Cl	4 - 20000 mg/l Cl	Bore waters Ground waters Surface waters Sewage	Gallery Autoanalyser	P281 based on APHA 23rd edition 2017 and automated colorimetry In-house Method using

			Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes		Gallery Analyser following manufacturer's instructions
Colour	Colour	2 to 500 Hazen	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Gallery Autoanalyser	P237 based on APHA 23rd edition 2017 Method 2120B + C
Fluoride	F	0.08 to 2.0 mg/l F	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Spectrophotometer	P228 SPADNS method based on APHA 23rd edition 2017 4500-F-D
Nitrate calculated from T.O.N and Nitrite	NO3N	1.0 - 100 mg/l NO3N	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Gallery Autoanalyser	P281 based on APHA 23rd edition 2017 and automated colorimetry In-house Method using Gallery Analyser following manufacturer's instructions

Nitrite	NO <sub>2</sub> N	0.01 - 7.5 mg/l NO <sub>2</sub> N	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Gallery Autoanalyser	P281 based on APHA 23rd edition 2017 and automated colorimetry In-house Method using Gallery Analyser following manufacturer's instructions
Orthophosphate	P	0.02 - 40 mg/l	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Gallery Autoanalyser	P281 based on APHA 23rd edition 2017 and automated colorimetry In-house Method using Gallery Analyser following manufacturer's instructions
Sulphate	SO <sub>4</sub>	5.0 - 500 mg/l SO <sub>4</sub>	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Turbidity Meter	P243 Turbidimetric Method based on APHA 23rd edition 2017 4500 - SO <sub>4</sub> 2-E
Total Hardness	CaCO <sub>3</sub>	5.0 - 1000 mg/l CaCO <sub>3</sub>	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent)	Titration	P213 Titrimetric Method based on APHA 23rd edition 2017 2340-C

				Waters for potable and domestic purposes		
Total Kjeldahl Nitrogen (By Calculation)	Kjeldahl Nitrogen	1.0 - 75 mg/l N	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Calculation	P285 based on Hach Company Standard Method 10071 10th edition 2014	
Total Nitrogen (Hach)	N	1.0 - 150 mg/l N	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Spectrophotometer	P285 based on Hach Company Standard Method 10071 10th edition 2014	
Total Oxidised Nitrogen	TON	0.25 - 100 mg/l	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Gallery Autoanalyser	P281 based on APHA 23rd edition 2017 and automated colorimetry In-house Method using Gallery Analyser following manufacturer's instructions	
Total Phosphorus	P	0.1 - 50 mg/l P	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water	Spectrophotometer	P207 Ascorbic Acid Method based on APHA 23rd edition 2017 4500 - P - E	

				treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes		
	Turbidity	Turbidity	0.1 to 1000	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Turbidity Meter	P239 based on APHA 23rd edition 2017 Method 2130B
767 Physical test/measurement - .01 pH	pH	pH	4.0 - 10.0	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	pH Meter	P233 Electrometric Method based on APHA 23rd edition 2017 4500-H+ - B
767 Physical test/measurement - .02 Conductivity	Conductivity	Conductivity	2 - 6000 $\mu$ S/cm	Bore waters Ground waters Surface waters Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes	Conductivity Meter	P284 Based on APHA 23rd edition 2017 Method 2510
767 Physical test/measurement - .03 Suspended Solids	Total Suspended Solids	Total Suspended Solids	5 - 15,000 mg/l	Bore waters Ground waters Surface waters	Gravimetry	P202 Gravimetric Method based on

				Sewage Trade wastes Waste water treatment plant effluent (WWTP effluent) Waters for potable and domestic purposes		APHA 23rd edition 2017 2540-D
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Biological and Veterinary Testing

Category: A

Biology/veterinary field - Tests	Test name	Technique	Matrix	Equipment	Std. reference	
803 Culture of organisms in liquid or agar based culture media with visual or instrument monitoring for growth - .01 Culture of bacteria	Detection, Enumeration and Identification of Legionella sp. (presumptive) by Latex agglutination (Legionella pneumophila serogroup 1, Legionella pneumophilla serogroup 2-14, Legionella Sp.)	Membrane Filtration & Latex Agglutination	Waters - Industrial Waters - Potable water Waters -Swimming pools and spas Waters - Trade waste	SP182 based on EN ISO 11731:2017 Procedures 8, 9 and 10		