

Schedule of Accreditation



Organisation Name	Advanced Laboratory Testing Ltd.
Trading As	
INAB Reg No	315T
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Accreditation Standard	ISO 17025 T
Date Initially Awarded	10/09/2013
Scope Classification	Biological and veterinary testing
Scope Classification	Chemical testing
Services available to the public ¹	Yes

¹ 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	Advanced Laboratory Testing – Chemical Testing Lab	Unit T, M7 Business Park, Newhall, Naas, Kildare
2	Head Office	Unit 4, Boxer House, Newbridge Industrial Estate, Newbridge, Kildare, W12 XC83

Scope of Accreditation

Advanced Laboratory Testing – Chemical Testing Lab

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	FCTM005 Determination of Nitrate, Nitrite and Salt using Anion Exchange Chromatography	Nitrate	7-275mg/kg NaNO ₃	Meat and meat products, game and poultry	Anion Exchange Chromatography	Dionex application note 112, 1998 ISO 2918(1975) Meat and meat products- Determination of Nitrite content ISO 3091 (1975) Meat and meat products - Determination of Nitrate content
		Nitrite	7.5-300 mg/kg as NaNO ₂ by IC	Meat and meat products, game and poultry	Anion Exchange Chromatography	Dionex application note 112, 1998 ISO 2918(1975) Meat and meat products- Determination of Nitrite content ISO 3091 (1975) Meat and meat products - Determination of Nitrate content

		Salt	Salt: 0.1 - 6 g/100g	Meat and meat products, game and poultry	Anion Exchange Chromatography	Dionex application note 112, 1998 ISO 2918(1975) Meat and meat products- Determination of Nitrite content ISO 3091 (1975) Meat and meat products - Determination of Nitrate content
	FCTM006 DETERMINATION OF TOTAL FAT AND MOISTURE IN FOODS	Moisture	Moisture 0.5 - 100%	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods	CEM NMR Analyser	SMART Trac II CEM Operation Manual, 600153 Rev 0 Smart6™ Operation Manual AOAC Official Method of Analysis 21st Edition, 2019 (39.1.39, Chapter 39 p. 30).
		Total Fat	Dairy 10-85%	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods	CEM NMR Analyser	SMART Trac II CEM Operation Manual, 600153 Rev 0 Smart6™ Operation Manual AOAC Official Method of Analysis 21st Edition, 2019 (39.1.39, Chapter 39 p. 30).

			Low dairy 0.1 -10%	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods	CEM NMR Analyser	SMART Trac II CEM Operation Manual, 600153 Rev 0 Smart6™ Operation Manual AOAC Official Method of Analysis 21st Edition, 2019 (39.1.39, Chapter 39 p. 30).
			Meat 4 - 30%	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods	CEM NMR Analyser	SMART Trac II CEM Operation Manual, 600153 Rev 0 Smart6™ Operation Manual AOAC Official Method of Analysis 21st Edition, 2019 (39.1.39, Chapter 39 p. 30).
			Meat Low 0.1 - 4%	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit	CEM NMR Analyser	SMART Trac II CEM Operation Manual, 600153 Rev 0 Smart6™ Operation Manual AOAC Official Method of Analysis 21st Edition, 2019 (39.1.39, Chapter 39 p. 30).

				and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods		
			Sauce 0.1 - 100%	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods	CEM NMR Analyser	SMART Trac II CEM Operation Manual, 600153 Rev 0 Smart6™ Operation Manual AOAC Official Method of Analysis 21st Edition, 2019 (39.1.39, Chapter 39 p. 30).
	FCTM006 DETERMINATION OF TOTAL FAT AND MOISTURE IN FOODS		Fat: 0.1-100%	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products , Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods	CEM NMR Analyse	SMART Trac II CEM Operation Manual, 600153 Rev 0 Smart6™ Operation Manual AOAC Official Method of Analysis 21st Edition, 2019 (39.1.39, Chapter 39 p. 30).

	FCTM007 DETERMINATION OF ASH IN FOODS	ASH	0.1 - 100 g/100g	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods	CEM Microwave Furnace	CEM Application note for ashing using Microwave Furnace SOP 025. AOAC Official method of analysis 21st Edition, 2019 923.03 (32.105), Chapter 32, p.2 Phoenix Operating Manual 600134 Rev. 12.
	FCTM008 DETERMINATION OF SODIUM (SALT) IN FOODS	SODIUM (SALT)	0.02 - 4.0 g/100g	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes	Atomic Absorption Spectrometry	AOAC Official Method 2011.14. 21st Edition 2019 (50.1.37, Chapter 50 p.58). AOAC Official Method 987.03 21st Edition 2019 (27.1.47, Chapter 27 p.21). CEM Application note UK SOP 023. Regulation (EU) No.1169:2011 of the European Parliament & of the Council of 25 October 2011.
	FCTM009 DETERMINATION OF TOTAL SUGARS IN FOOD by Luff Schoorl Method	SUGARS	0.2 - 100 g/100g	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables,	Inversion (Acid Hydrolysis)	Pearson's Composition and Analysis of Foods 9th Edition, Ronald S Kirk and Ronald Sawyer (page 198). Official Journal Of The European Union, COMMISSION REGULATION (EC) No 152/2009 Using HPLC

				Confectionery, Nuts and nut products, snacks, Prepared dishes		
	FCTM010 DETERMINATION OF NITROGEN (PROTEIN) IN FOOD by Dumas Method	NITROGEN (PROTEIN)	0.02 - 6 g/100g (%)	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet Food	Leco Nitrogen Analyser	Nitrogen Determinator Instruction Manual FP628. Pearson's Composition and Analysis of Foods, 9th Edition pg.20. AOAC Official Method 992.15 21st edition, 2019, - Section 39.1.16, Chapter 39, pg.8 LECO Organic Application Note - Nitrogen in Oil/Amines Royal Society of Chemistry 2001- AMC Technical Brief - No.7 May 2001
	FCTM011 DETERMINATION OF FATTY ACID COMPOSITION IN FOODS	Saturated fatty Acids Mono unsaturated Fatty Acids Poly unsaturated Fatty Acids Trans Fatty Acids	0.1 - 100 g/100g	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes	GC-FID	I.S. EN ISO 12966- 4:2015 Animal and vegetable fats and oils – Gas Chromatography of fatty acid methyl esters Preparation of Fatty acid Methyl Esters with GC analysis. CEM Corp. Application Note UKSOP016v1.2 MARS 6 – User Guideline, 600288 Rev 2 McCance and Widdowson's Composition of Foods 7th Summary edition and integrated data base.
	FCTM012 DETERMINATION	TOTAL DIETARY FIBRE	0.5 - 100 g/100g	Dairy products, Meat and meat	ANKOM Analyser	ANKOMTDF Dietary Fibre Analyzer Operator's

	OF TOTAL DIETARY FIBRE IN FOODS			products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes		Manual, Rev E 11/7/16 Official AOAC method 991.43. 21st Edition, 2019, Chapter 32, Page 7 McCance and Widdowson's Composition of Foods 7th Summary Edition.
	FCTM013 ENERGY CALCULATIONS FOR FOODS	ENERGY	N/A	Dairy products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Confectionery, Nuts and nut products, snacks, Prepared dishes	Calculation	Regulation (EU) No 1169/2011 on nutrition labelling for foodstuffs. McCance and Widdowson- The composition of foods Seventh Summary Edition. Food Safety Authority Ireland, Accuracy of Nutrition Labelling of Pre-Packaged Food in Ireland, 2010.
	FCTM014A Added Water. FCTM014B Apparent Total Meat Content by Stubbs and More method.	Added Water Apparent Total Meat	N/A	Meat and meat products, game and poultry	Calculation	Regulation (EU) No 1169/2011 on EU provision of Food Information for consumers Regulation. Ronald S Kirk and Ronald Sawyer - Pearson's Composition and Analysis of Food, 9th Edition. (Chapter 13) Meat and meat products - the calculation of meat content, added water and connective tissue from

						analytical data 2nd Ed 2007 (Campden BRI) Royal Society of Chemistry, AMC technical briefs – Meat and Poultry Nitrogen factors 2014 Royal Society of Chemistry, Analytical Methods Committee Report – A Reassessment of Pork Nitrogen Factors 2015.
	FCTM014C Collagen. FCTM014D Connective Tissue (Wet Fat Free).	Collagen Connective Tissue (Wet Fat Free)	n/a	Meat and meat products, game and poultry	Calculation	Regulation (EU) No 1169/2011 on EU provision of Food Information for consumers Regulation. Ronald S Kirk and Ronald Sawyer - Pearson's Composition and Analysis of Food, 9th Edition. (Chapter 13) Meat and meat products - the calculation of meat content, added water and connective tissue from analytical data 2nd Ed 2007 (Campden BRI) Royal Society of Chemistry, AMC technical briefs – Meat and Poultry Nitrogen factors 2014 Royal Society of Chemistry, Analytical Methods Committee Report – A Reassessment of Pork Nitrogen Factors 2015.
	FCTM015 DETERMINATION OF	Hydroxyproline	0.1 - 0.75 g/100g	Meat and meat products, game and poultry	Spectrophotometry	AOAC Official Method 2019. 21st Edition (39.1.27, Chapter 39

	HYDROXYPROLINE IN FOODS					p.18). CEM Application note UK SOP 022. Swedish Meat research institute – Microwave Hydrolysis for rapid determination of hydroxyproline in meat and meat products – 1990-04-17 KK/BaK 0924A
	FCTM016 DETERMINATION OF pH IN FOODS	pH	The practical pH range is 2 to 14. The calibrated range of this method is pH 4 to 11.	Meat and meat products, game and poultry Dairy, Confectionary, Soups, broths and sauces, Prepared dishes, Cereals and bakery products	Measurement of the electrochemical potential of a cell which is responsive to the hydrogen ion activity. The 'EMF' of the cell is measured at 20°C, with a pH meter, which is a high impedance voltmeter calibrated using buffer solutions of known pH.	AOAC Official Method 2019. 21st Edition 981.12 pH of Acidified Foods. Pearson's Composition and Analysis of Foods, 9th Edition pg. 295, 350 and 503
	FCTM017 DETERMINATION OF WATER ACTIVITY IN FOODS	Water activity	The range of application is 0.080 to 1.000, where 1.000 is pure water.	Meat and meat products, game and poultry Dairy, Confectionary, Soups, broths and sauces, Prepared dishes, Cereals and bakery product,	The procedure involves the direct determination of water activity @ 25°C using the Novasina LabMaster - Aw water activity meter.	BS ISO 21807:2004 Novasina Instrument manual Doc-No: 005739.00
	FCTM019 DETERMINATION OF SULPUR DIOXIDE	Sulfur dioxide (SO ₂)	10 – 2000 mg/kg	Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fruit & Vegetables, Confectionary, Prepared dishes.	BUCHI - Distillation/Titration	BUCHI - Short Note No.090/2012 Determination of Total SO ₂ in Certified Potato Powder Reference BUCHI - Short Note No.169/2014, Sulfur Dioxide Determination in Shrimp BUCHI - SO ₂

						determination - Quick and easy distillation & determination of total SO ₂ in foods and beverages AOAC Official Method 21st Edition 990.28 (47.3.43, Chapter 47 p.38), "Sulfites in Foods"
751 Food testing - .06 Allergens	ACTM001 DETECTION OF HYDROLYSED GLUTEN USING R5-SANDWICH ELISA (MENDEZ METHOD)	Gluten	5 - 80 mg/Kg	Dairy products, Meat and meat products, game and poultry, Prepared dishes, Others: Swabs, Fruit and Veg, Confectionary, Rinse Waters, Soups Broths and Sauces, Cereals and Bakery Products, Nut and Nut products, Fish	ELISA	AOAC Official Method 21st Edition, 2019 Chapter 32 P41, - Section 32.1.44. Ridascreen Gliadin R7001 Kit insert 15-10-09
	ACTM002 DETECTION OF CASEIN USING SANDWICH ELISA	Casein	Foods: 2.5 – 67.5 mg/Kg; Swabs 0.25 – 6.75ppm	Meats, Prepared Dishes, Cereals and Bakery, Swabs, Confectionary and Dairy Products	SANDWICH ELISA	RIDASCREEN FAST CASEIN R4612 Kit Insert 16-10-24
752 Chemical residue testing - .01 Drugs and drug metabolites	VCTM005 - Quantification of β -Agonists and Trenbolone using LC/MS/MS	17 alpha Trenbolone	1.08 - 7.5 ppb	Bovine Urine	LC/MS/MS	Agilent Technologies Application Note - Analysis of Veterinary Drugs in Meat with the Agilent 6495 Triple Quadrupole LC/MS, Agilent Technologies, Inc., 2017 Application Note - Determination of Beta

						agonists in animal tissues and urine using LC TQMS, June 2017. Agilent Technologies Application Note – Multi residue screening of residue drugs 1 and 2 in meats according to the Japan positive list using Cartridge – Based SPE and LCMS/MS. September 27th 2011. Simultaneous Determination of 11 b-Agonists in Human Urine Using High-Performance Liquid Chromatography/Tandem Mass Spectrometry with Isotope Dilution. Journal of Analytical Toxicology 2015; 39:213–218, December 25, 2014. Food Safety and Inspection Service, Department of Agriculture USA - “Screening, Determination and confirmation of Beta-Agonists by LC/MS/MS revision 10”
		Brombuterol	0.09 - 0.5 ppb	Bovine Urine	LC/MS/MS	Agilent Technologies Application Note - Analysis of Veterinary Drugs in Meat with the Agilent 6495 Triple Quadrupole LC/MS, Agilent Technologies, Inc., 2017 Application Note - Determination of Beta agonists in animal tissues

						<p>and urine using LC TQMS, June 2017. Agilent Technologies Application Note – Multi residue screening of residue drugs 1 and 2 in meats according to the Japan positive list using Cartridge – Based SPE and LCMS/MS. September 27th 2011. Simultaneous Determination of 11 b-Agonists in Human Urine Using High-Performance Liquid Chromatography/Tandem Mass Spectrometry with Isotope Dilution. Journal of Analytical Toxicology 2015; 39:213–218, December 25, 2014. Food Safety and Inspection Service, Department of Agriculture USA - “Screening, Determination and confirmation of Beta-Agonists by LC/MS/MS revision 10”</p>
		Cimaterol	0.17-1.25 ppb	Bovine Urine	LC/MS/MS	<p>Agilent Technologies Application Note - Analysis of Veterinary Drugs in Meat with the Agilent 6495 Triple Quadrupole LC/MS, Agilent Technologies, Inc., 2017 Application Note - Determination of Beta agonists in animal tissues and urine using LC TQMS, June 2017. Agilent Technologies</p>

						<p>Application Note – Multi residue screening of residue drugs 1 and 2 in meats according to the Japan positive list using Cartridge – Based SPE and LCMS/MS. September 27th 2011.</p> <p>Simultaneous Determination of 11 b-Agonists in Human Urine Using High-Performance Liquid Chromatography/Tandem Mass Spectrometry with Isotope Dilution. Journal of Analytical Toxicology 2015; 39:213–218, December 25, 2014.</p> <p>Food Safety and Inspection Service, Department of Agriculture USA - “Screening, Determination and confirmation of Beta-Agonists by LC/MS/MS revision 10”</p>
		Clenbuterol	0.11 - 0.5 ppb	Bovine Urine	LC/MS/MS	<p>Agilent Technologies Application Note - Analysis of Veterinary Drugs in Meat with the Agilent 6495 Triple Quadrupole LC/MS, Agilent Technologies, Inc., 2017</p> <p>Application Note - Determination of Beta agonists in animal tissues and urine using LC TQMS, June 2017.</p> <p>Agilent Technologies Application Note – Multi residue screening of residue drugs 1 and 2 in</p>

						meats according to the Japan positive list using Cartridge – Based SPE and LCMS/MS. September 27th 2011. Simultaneous Determination of 11 b-Agonists in Human Urine Using High-Performance Liquid Chromatography/Tandem Mass Spectrometry with Isotope Dilution. Journal of Analytical Toxicology 2015; 39:213–218, December 25, 2014. Food Safety and Inspection Service, Department of Agriculture USA - “Screening, Determination and confirmation of Beta-Agonists by LC/MS/MS revision 10”
		Mabuterol	0.14 - 0.5 ppb	Bovine Urine	LC/MS/MS	Agilent Technologies Application Note - Analysis of Veterinary Drugs in Meat with the Agilent 6495 Triple Quadrupole LC/MS, Agilent Technologies, Inc., 2017 Application Note - Determination of Beta agonists in animal tissues and urine using LC TQMS, June 2017. Agilent Technologies Application Note – Multi residue screening of residue drugs 1 and 2 in meats according to the Japan positive list using Cartridge – Based SPE

						and LCMS/MS. September 27th 2011. Simultaneous Determination of 11 b-Agonists in Human Urine Using High-Performance Liquid Chromatography/Tandem Mass Spectrometry with Isotope Dilution. Journal of Analytical Toxicology 2015; 39:213–218, December 25, 2014. Food Safety and Inspection Service, Department of Agriculture USA - “Screening, Determination and confirmation of Beta-Agonists by LC/MS/MS revision 10”
		Mapenterol	0.07 - 0.5 ppb	Bovine Urine	LC/MS/MS	Agilent Technologies Application Note - Analysis of Veterinary Drugs in Meat with the Agilent 6495 Triple Quadrupole LC/MS, Agilent Technologies, Inc., 2017 Application Note - Determination of Beta agonists in animal tissues and urine using LC TQMS, June 2017. Agilent Technologies Application Note – Multi residue screening of residue drugs 1 and 2 in meats according to the Japan positive list using Cartridge – Based SPE and LCMS/MS. September 27th 2011. Simultaneous

						Determination of 11 b-Agonists in Human Urine Using High-Performance Liquid Chromatography/Tandem Mass Spectrometry with Isotope Dilution. Journal of Analytical Toxicology 2015; 39:213–218, December 25, 2014. Food Safety and Inspection Service, Department of Agriculture USA - "Screening, Determination and confirmation of Beta-Agonists by LC/MS/MS revision 10"
		Ractopamine	0.41 - 2.5 ppb	Bovine Urine	LC/MS/MS	Agilent Technologies Application Note - Analysis of Veterinary Drugs in Meat with the Agilent 6495 Triple Quadrupole LC/MS, Agilent Technologies, Inc., 2017 Application Note - Determination of Beta agonists in animal tissues and urine using LC TQMS, June 2017. Agilent Technologies Application Note – Multi residue screening of residue drugs 1 and 2 in meats according to the Japan positive list using Cartridge – Based SPE and LCMS/MS. September 27th 2011. Simultaneous Determination of 11 b-Agonists in Human Urine Using High-Performance

						Liquid Chromatography/Tandem Mass Spectrometry with Isotope Dilution. Journal of Analytical Toxicology 2015; 39:213–218, December 25, 2014. Food Safety and Inspection Service, Department of Agriculture USA - “Screening, Determination and confirmation of Beta-Agonists by LC/MS/MS revision 10”
		Salbutamol	0.35 - 2.5 ppb	Bovine Urine	LC/MS/MS	Agilent Technologies Application Note - Analysis of Veterinary Drugs in Meat with the Agilent 6495 Triple Quadrupole LC/MS, Agilent Technologies, Inc., 2017 Application Note - Determination of Beta agonists in animal tissues and urine using LC TQMS, June 2017. Agilent Technologies Application Note – Multi residue screening of residue drugs 1 and 2 in meats according to the Japan positive list using Cartridge – Based SPE and LCMS/MS. September 27th 2011. Simultaneous Determination of 11 b-Agonists in Human Urine Using High-Performance Liquid Chromatography/Tandem Mass Spectrometry with

						Isotope Dilution. Journal of Analytical Toxicology 2015; 39:213–218, December 25, 2014. Food Safety and Inspection Service, Department of Agriculture USA - “Screening, Determination and confirmation of Beta-Agonists by LC/MS/MS revision 10”
		Terbutaline	0.65 -7.5 ppb	Bovine Urine	LC/MS/MS	Agilent Technologies Application Note - Analysis of Veterinary Drugs in Meat with the Agilent 6495 Triple Quadrupole LC/MS, Agilent Technologies, Inc., 2017 Application Note - Determination of Beta agonists in animal tissues and urine using LC TQMS, June 2017. Agilent Technologies Application Note – Multi residue screening of residue drugs 1 and 2 in meats according to the Japan positive list using Cartridge – Based SPE and LCMS/MS. September 27th 2011. Simultaneous Determination of 11 b-Agonists in Human Urine Using High-Performance Liquid Chromatography/Tandem Mass Spectrometry with Isotope Dilution. Journal of Analytical Toxicology 2015; 39:213–218,

						December 25, 2014. Food Safety and Inspection Service, Department of Agriculture USA - "Screening, Determination and confirmation of Beta-Agonists by LC/MS/MS revision 10"
		Zilpaterol	0.34-2.5 ppb	Bovine Urine	LC/MS/MS	Agilent Technologies Application Note - Analysis of Veterinary Drugs in Meat with the Agilent 6495 Triple Quadrupole LC/MS, Agilent Technologies, Inc., 2017 Application Note - Determination of Beta agonists in animal tissues and urine using LC TQMS, June 2017. Agilent Technologies Application Note – Multi residue screening of residue drugs 1 and 2 in meats according to the Japan positive list using Cartridge – Based SPE and LCMS/MS. September 27th 2011. Simultaneous Determination of 11 b-Agonists in Human Urine Using High-Performance Liquid Chromatography/Tandem Mass Spectrometry with Isotope Dilution. Journal of Analytical Toxicology 2015; 39:213–218, December 25, 2014. Food Safety and Inspection Service,

						Department of Agriculture USA - "Screening, Determination and confirmation of Beta-Agonists by LC/MS/MS revision 10"
766 Environmental testing (inc waters) - .02 Biochemical oxygen demand	ECTM004 Determination of 5 day Biochemical Oxygen Demand (BOD) using dissolved Oxygen Meter	Biochemical Oxygen Demand (BOD)	1.0 - 10000 mg/L O2	Sewage, Trade wastes, Other waters	Dissolved Oxygen Meter	Methods for the Examination of Waters and associated materials, HMSO 1988 ISBN 0 11 7522120, "APHA 23rd edition 2017, Standard Methods for the analysis of water and waste water 5210 and 4500-C", HACH user manual
766 Environmental testing (inc waters) - .03 Chemical oxygen demand	ECTM005 Determination of Chemical Oxygen Demand (Dichromate Value)	Chemical Oxygen Demand	Low-range (5 - 150 mg/L O2) Mid-range (10 - 1500 mg/L O2) High-range (500-15000 mg/L O2)	Sewage, Trade wastes, Other waters	Dichromate Value	"Standard Methods for the Examination of Water and Wastewater", APHA, Method 5220 -D, 23rd Edition, 2017
766 Environmental testing (inc waters) - .05 Inorganic	ECTM001 Determination of Chloride, ammonium, nitrite, total oxidised nitrogen (TON), nitrate, alkalinity, hardness, sulphate, orthophosphate using gallery auto analyser	Alkalinity as CaCO3	5.0 - 5000 mg/L	Potable & domestic, sewage, trade wastes, other waters.	gallery auto analyser	ECTM001A: Thermo-Scientific Method I.D. ALKBpB, Issue 003, 01.07.07
		Ammonia as NH3-N	0.02 - 100 mg/L	Potable & domestic, sewage, trade wastes, other waters.	Gallery auto analyser	ECTM001B: Thermo-Scientific Method ID AMMDIC, Issue 002, 01.01.06
		Chloride as Cl	5 - 10000 mg/L	Potable & domestic,	Gallery auto analyser	ECTM001C: Thermo-Scientific Method ID

				sewage, trade wastes, other waters.		CHLOR, Issue 002, 01.01.06
		Hardness as CaCO ₃	25 - 500 mg/L	Potable & domestic, sewage, trade wastes, other waters.	Gallery auto analyser	ECTM001D: Thermo-Scientific Method ID HAR001, Issue 002, 01.01.06
		Nitrate as NO ₃	1 - 100 mg/L	Potable & domestic, sewage, trade wastes, other waters.	Gallery auto analyser	
		Nitrite as NO ₂	0.01 -10 mg/L	Potable & domestic, sewage, trade wastes, other waters.	Gallery auto analyser	ECTM001E: Thermo-Scientific Method ID NITRI, Issue 002, 01.01.06
		Orthophosphate as P	0.03 - 50 mg/L	Potable & domestic, sewage, trade wastes, other waters.	Gallery auto analyser	ECTM001F: Thermo-Scientific Method ID PHOS, Issue 002, 01.01.06
		Sulphate as SO ₄	5 - 5000 mg/L	Potable & domestic, sewage, trade wastes, other waters.	Gallery auto analyser	ECTM001G: Thermo-Scientific Method ID SULP, Issue 002, 01.01.06
		TON	1 - 110 mg/L	Potable & domestic, sewage, trade wastes, other waters.	Gallery auto analyser	ECTM001H: Thermo-Scientific Method ID TON, Issue 002, 01.01.06
	ECTM003 Determination of Suspended Solids using Gravimetry	Suspended Solids	5 - 15000 mg/L	Sewage, Trade wastes, Other waters	Gravimetry	"Standard Methods for the Examination of Water and Waste water", Method 2540, 23rd Edition, 2017
	ECTM006 Determination of	Total Nitrogen and Kjeldahl Nitrogen	Total Nitrogen 1.0 to 200 mg/l N	Sewage, Trade wastes, Other waters	HACH	Hach Company Standard Method 10071, 2014, 10th Edition.

	Total Nitrogen and Kjeldahl Nitrogen		Kjeldahl Nitrogen 1.0 to 100 mg/l N			
	ECTM008 Determination of Total Phosphorus	Total Phosphorus	0.05 – 40.0 mg/L P	Sewage, Trade wastes, Other waters	HACH	Standard Methods for the Examination of Water and Wastewater, APHA, Method 4500 P - E, 23rd Edition, 2017 HACH Method 8190 06/2017, edition 10.
	ECTM027 Determination of Total and Dissolved Iron and Manganese Using Furnace AAS	Iron	20 - 2000 ug/L	Waters for potable and domestic purposes, Other waters	Furnace	Standard Methods for Examination of Water and Wastewater 23rd Edition 2017, Method 3113. Agilent AA Spectrometer Systems - Site Preparation Guide, Manual Part Number 8510119300, Seventeenth edition, December 2018 CEM Method Note US EPA 3015a (Aqueous Sample)
		Manganese	5 - 2000 ug/L	Water for Potable and Domestic purposes, Other Water – Surface Waters.	Furnace AAS	Standard Methods for Examination of Water and Wastewater 23rd Edition 2017, Method 3113. Agilent AA Spectrometer Systems - Site Preparation Guide, Manual Part Number 8510119300, Seventeenth edition, December 2018 CEM Method Note US EPA 3015a (Aqueous Sample)

767 Physical test/measurement - .01 pH	ECTM007 Determination of pH using Orion Star A211	pH	pH 4 - 10	Waters for potable and domestic purposes, Sewage, Trade wastes, Other waters	pH meter	"Standard Methods for the Examination of Water and wastewater", Method 4500, 23rd Edition, APHA, 2017
767 Physical test/measurement - .02 Conductivity	ECTM002 Determination of Electrical Conductivity	Electrical Conductivity	2-10000 $\mu\text{s}/\text{cm}@20^{\circ}\text{C}$	Waters for potable and domestic purposes, Sewage, Trade wastes, Other waters	Conductivity Meter	"Standard Methods for the Examination of Water and Waste water", Method 2510, 23rd Edition, APHA, 2017

Head Office

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	BTM002 DETECTION OF ANTIBIOTIC RESIDUES - THE SIX PLATE TEST	Screening test for the presence of antibacterial residues in animal tissues Includes identification of specific antibacterial residues - Cefaclor (MRL 100 µg/kg) - Cefotaxime (MRL 100 µg/kg) - Enrofloxacin (MRL 100 µg/kg) - Penicillin G (MRL 50 µg/kg) - Streptomycin (MRL 500 µg/kg) - Sulphadiazine (MRL 100 µg/kg) - Tetracycline (MRL 100 µg/kg) - Tylosin (MRL 100 µg/kg)	Kidney and muscle tissue (Bovine/ Ovine/ Porcine)	SIX-PLATE TEST	USDA MLG 34.03	
	MTM001 DETECTION OF SALMONELLA SPP BY A SELECTIVE ENRICHMENT TECHNIQUE	Isolation of Salmonella spp. is performed by pre-enrichment, followed by selective enrichment in two different broths and plating on to two	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and	Horizontal method for the detection, enumeration and serotyping of Salmonella; Part 1: Detection of Salmonella spp	ISO 6579-1:2017 & ISO 6785:2007.	

		different selective agars.	vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds. Meat Surfaces, Product contact surfaces, Surfaces, Additives.			
	MTM004 DETECTION OF LISTERIA SPP	A double selective enrichment process is followed by plating onto chromogenic agar and Listeria selective agar (Oxford formulation).	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.	Microbiology of food chain – Horizontal method for detection and enumeration of Listeria monocytogenes and of Listeria Spp. Part 1: Detection method.	ISO 11290-1:2017	
	MTM010 ENUMERATION OF MICRO-ORGANISMS: AEROBIC COLONY COUNT	Enumeration of the viable organisms present in a food sample, by the preparation of dilutions followed by a plate count at 30°C for 48 hours (MTM010A) or 30°C	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and	Microbiology of the food chain - Horizontal method for the enumeration of microorganisms - Part 1: Colony count at 30 degrees C by the	ISO 4833:2013	

		for 72 hours (MTM010B). This test can be referred to as the aerobic colony count, total viable count or total plate count.	vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.	pour plate technique.		
	MTM011 ENUMERATION OF PRESUMPTIVE ENTEROBACTERIACEAE	Enumeration of presumptive Enterobacteriaceae organisms using a selective medium (VRBGA). Characteristic colonies are counted after 24 hours incubation at 37°C (foods) or 30°C (dairy).	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.	Horizontal methods for the detection and enumeration of Enterobacteriaceae - Part 2: Colony-count method.	ISO 21528-2:2017	
	MTM012 ENUMERATION OF PRESUMPTIVE COLIFORMS	Enumeration of presumptive Coliform organisms using a selective medium (VRBA). Characteristic colonies are counted after 24 hours incubation at 37°C	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and	Horizontal method for the enumeration of coliforms: Colony-count technique.	ISO 4832:2006	

		(foods) or 30°C (dairy).	vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.			
	MTM013 ENUMERATION OF PRESUMPTIVE E. COLI	<p>MTM013A: Enumeration of presumptive Escherichia coli organisms using a selective medium (TBX). Characteristic colonies are counted after 24 hours incubation at 44°C.</p> <p>MTM013B: in order to detect stressed or damaged organisms a resuscitation procedure is maybe necessary (Membrane onto MMGA 37°C for 4 hours transferred to TBX plate 44°C 24hrs).</p>	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.	Horizontal method for the enumeration of B-glucuronidase-positive Escherichia coli – Part 1: Colony-count technique at 44 °C using membranes and 5-bromo-4-chloro-3-indolyl -D-glucuronide. Part 2: Colony-count technique at 44 °C using 5-bromo-4-chloro-3-indolyl- -D-glucuronide.	ISO 16649-1:2001 & ISO 16649-2:2001	
	MTM014 ENUMERATION AND CONFIRMATION OF COAGULASE POSITIVE STAPHYLOCOCCI	Isolation and enumeration of Staphylococcus aureus using a selective diagnostic medium, with confirmation using a	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery	Horizontal method for the enumeration of coagulase-positive staphylococci (staphylococcus aureus and other species) - Part 1:	ISO 6888-1:1999	

		commercially available latex test.	products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.	Technique using baird-parker agar medium. Amendment 1: Inclusion of precision data.		
	MTM015 ENUMERATION AND CONFIRMATION OF BACILLUS CEREUS	Isolation and enumeration of presumptive Bacillus cereus using a selective diagnostic agar and a colony count technique with a confirmation stage which uses a haemolysis test.	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.	Horizontal method for the enumeration of presumptive Bacillus cereus	ISO 7932:2005	
	MTM016 ENUMERATION OF LISTERIA MONOCYTOGENES AND LISTERIA SPP	Isolation and enumeration of viable confirmed Listeria spp using a selective diagnostic medium and a colony count technique, with	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery	Microbiology of food chain – Horizontal method for detection and enumeration of Listeria monocytogenes and Listeria spp.	ISO 11290-2:2017	

		confirmation using biochemical galleries for Listeria.	products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces , Additives.	Part 2: Enumeration method.		
	MTM017 ENUMERATION OF PRESUMPTIVE PSEUDOMONAS SPP	Enumeration of presumptive Pseudomonas spp. using a spread plate technique.	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives	Presumptive Pseudomonas spp. bacteria which at 25 °C form colonies in cephalothin-sodium fusidate-cetrimide (CFC) agar and which show a positive oxidase reaction when tested according to the method described in the International Standard.	ISO 13720:2010	
	MTM018 ENUMERATION AND CONFIRMATION CLOSTRIDIUM PERFRINGENS	Isolation and enumeration of presumptive Clostridium perfringens using a selective diagnostic medium. The chromogenic	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery	Horizontal method for the enumeration of Clostridium perfringens - Colony-count technique.	ISO 7937:2004	

		reaction relies on the reduction of Sulphite to Sulphide which colours the colonies black in the specified selective medium.	products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.			
	MTM019 ENUMERATION OF PRESUMPTIVE LACTIC ACID BACTERIA	Enumeration of Lactic Acid Bacteria using a selective medium (MRS). Characteristic colonies are counted after 72 hours incubation at 30°C.	Meat and meat products, game and poultry, Cereals and bakery products, , Prepared dishes	Horizontal method for the enumeration of mesophilic lactic acid bacteria - Colony-count technique at 30 °C.	ISO 15214:1998	
	MTM020 ENUMERATION OF PRESUMPTIVE LACTOBACILLUS	A nutrient medium with elective properties is used to culture lactic acid bacteria, which typically belong to the genera Lactobacillus.	Meat and meat products, game and poultry, Cereals and bakery products, , Prepared dishes	Horizontal method	Marks & Spencer Manual of Microbiological Methods, Method 3.11 (June 2015).	
	MTM021 ENUMERATION OF PRESUMPTIVE FAECAL STREPTOCOCCI (ENTEROCOCCI)	Isolation and enumeration of Faecal Streptococci using a pour plate technique with a selective diagnostic medium.	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than	Microbiological examination for dairy purposes — Part 3: Methods for detection and/or enumeration of specific groups of microorganisms Section 3.11: Detection and enumeration of faecal streptococci.	BS 4285 Section 3.11 1985	

			wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.			
	MTM024 ENUMERATION OF COLONY COUNT IN WATER	Test volumes of water sample are mixed with molten Yeast Extract Agar in Petri dishes. After incubation under specified conditions a count is made of the colonies that develop.	Waters - Potable water, Waters - Industrial, Waters - Trade Waste, Waters - Swimming pools and spas, Waters - Environmental water	The Standing Committee of Analysts Microbiology of Drinking Water	The Microbiology of Drinking Water (2012) - Part 7	
	MTM025 ENUMERATION AND CONFIRMATION OF COLIFORMS AND E. COLI IN WATER	Isolation of organisms on a membrane filter placed on MLGA agar medium. Isolation of colonies is followed by confirmation tests.	Waters - Potable water, Waters - Industrial, Waters - Trade Waste, Waters - Swimming pools and spas, Waters - Environmental water	The Standing Committee of Analysts Microbiology of Drinking Water	The Microbiology of Drinking Water (2016) - Part 4.	
	MTM026 ENUMERATION AND CONFIRMATION OF PSEUDOMONAS AERUGINOSA IN WATER	This method is based on the filtration of a water sample through a membrane followed by incubation on a selective, diagnostic medium.	Waters - Potable water, Waters - Industrial, Waters - Trade Waste, Waters - Swimming pools and spas, Waters - Environmental water	The Standing Committee of Analysts Microbiology of Drinking Water.	The Microbiology of Drinking Water (2010) - Part 8.	
	MTM027 ENUMERATION AND CONFIRMATION OF ENTEROCOCCI IN WATER	Filtration of a water sample through a membrane followed by incubation on a selective diagnostic medium.	Waters - Potable water, Waters - Industrial, Waters - Trade Waste, Waters - Swimming pools and spas, Waters - Environmental water	The Standing Committee of Analysts Microbiology of Drinking Water	The Microbiology of Drinking Water (2012) - Part 5	

	MTM028 ENUMERATION AND CONFIRMATION OF CLOSTRIDIUM PERFRINGENS IN WATER	This method is based on the filtration of a water sample through a membrane followed by incubation on a selective, diagnostic medium under anaerobic conditions with subsequent confirmation, if required. This method will enumerate both vegetative cells and spores of Clostridium perfringens.	Waters - Potable water, Waters - Industrial, Waters - Trade Waste, Waters - Swimming pools and spas, Waters - Environmental water	The Standing Committee of Analysts Microbiology of Drinking Water.	The Microbiology of Drinking Water (2015) - Part 6.	
	MTM029 ANALYSIS OF WATER FOR TOTAL VIABLE COUNT (HTM2030)	Enumeration of mesophilic aerobic bacteria which do not have specialised nutritional requirements.	Waters - Potable water, Waters - Industrial, Waters - Trade Waste, Waters - Swimming pools and spas, Waters - Environmental water	GOV.UK	Health Technical Memorandum 2030	
	MTM030 ENUMERATION OF MICRO-ORGANISMS: ANAEROBIC COLONY COUNT	Enumeration of anaerobic micro-organism present in a food sample, by the preparation of dilutions followed by a plate count incubated anaerobically @ 30°C for 48 hours.	Meat and meat products, game and poultry, Prepared dishes, Dairy Lab	In-house developed method.	Documented, validated In-House Method	
	MTM031 DETECTION OF COLIFORMS	Detection and confirmation of the presence or absence of Coliforms in food and animal feeding stuffs. Sample suspensions are inoculated into	Meat and meat products, game and poultry, Prepared dishes	Horizontal method for the enumeration of Coliforms - Most probable number technique.	ISO 4831:2006	

		Lauryl Tryptose Broth (LTB) and incubated at 37±1.0°C for 24±2 hours. Results are expressed as Coliforms Detected or Not Detected in 1g.				
	MTM033 DETECTION OF SALMONELLA SPP FROM CARCASS SWABS USING AN USDA COMPLIANT METHOD	Isolation of Salmonella spp. is performed by pre-enrichment, followed by selective enrichment in two different broths and plating on to two different selective agars.	Meat Surfaces, Product contact surfaces	United States Department of Agriculture Food Safety and Inspection Services (FSIS) Isolation and Identification of Salmonella from Meat, Poultry, Pasteurized Egg, and Siluriformes (Fish) Products and Carcass and Environmental Sponges	MLG 4.10, Effective Date: 01/02/2019	
	MTM034 ENUMERATION OF COLIFORMS AND ESCHERICHIA COLI IN CARCASS SWABS USING AN USDA COMPLIANT METHOD	Enumeration of confirmed numbers of Coliforms and Escherichia coli, using 3M™ Petrifilm™ E.coli/Coliform Count Plates one colony diameter.	Meat Surfaces, Product contact surfaces	3M™ Petrifilm™	Association of Official Analytical Chemists (AOAC) Official Method 998.08	
	MTM036 DETECTION OF LISTERIA SPP USING ALOA® ONE DAY METHOD	The ALOA® ONE DAY method comprises a chromogenic agar medium (ALOA®) which allows detection of Listeria spp. A test portion of sample is enriched with Half-Fraser	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and	ALOA ONE DAY™ (Detection)	AFNOR VALIDATION Certificate N° AES 10/3-09/00	

		Broth and incubated at 30°C for 24 ±2 hours. After inoculation, the plates are incubated at 37C. <i>Listeria</i> spp and <i>Listeria monocytogenes</i> strains form typical colonies within 24 hours	spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Surfaces, Additives, Meat surfaces, Product contact surfaces.			
	MTM039 - ENUMERATION OF THERMODURIC MICRO-ORGANISMS	Enumeration of the thermoduric micro-organisms in food samples, by the preparation of dilutions followed by a plate count at 30°C for 72 hours.	Dairy Products	Microbiological examination for dairy purposes. Part 3: Methods for detection and/or enumeration of specific groups of microorganisms. Section 3.2 Enumeration of thermoduric bacteria.	BS 4285-3.2:1991	
	MTM040 DETECTION AND CONFIRMATION OF CRONOBACTER SPP. (FORMERLY ENTEROBACTER SAKAZAKII)	RAPID' Sakazakii is a selective chromogenic medium used for the detection of <i>Cronobacter</i> spp. (formerly <i>Enterobacter sakazakii</i>).	Dairy products, Meat and meat products, game and poultry, Prepared dishes, Surfaces.	RAPID' Sakazakii	AFNOR Validation Certificate N° BRD 07/22-05/12	
	MTM041 ENUMERATION OF CAMPYLOBACTER SPECIES	Enumeration and confirmation of thermophilic <i>Campylobacter</i> spp in foods. The procedure involves the direct inoculation onto selective culture agar. The agar plates are	Meat and meat products, game and poultry,	Microbiology of food chain - Horizontal method for detection and enumeration of <i>Campylobacter</i> spp. - Part 2: Colony-count technique	ISO 10272-2:2017	

		incubated in a microaerobic atmosphere at 41.5°C for 48 hours. Presumptive <i>Campylobacter</i> spp are confirmed by the use of a range of biochemical and culture characteristics				
	MTM045 - DETECTION OF LISTERIA SPP USING OXOID PRECIS™ METHOD	The OXOID Listeria Precis™ method comprises a chromogenic agar medium (Brilliance™ Listeria Agar) which allows detection of <i>Listeria</i> spp. A test portion of sample is enriched with ONE Broth- <i>Listeria</i> and incubated at 30°C for 24 ±2 hours. After inoculation, the plates are incubated at 37±1°C. <i>Listeria</i> spp and <i>Listeria monocytogenes</i> strains form typical colonies within 24±2 hours.	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.	A test portion of sample is enriched with ONE Broth- <i>Listeria</i> and incubated at 30°C for 24 ±2 hours. After inoculation, the plates are incubated at 37±1°C. <i>Listeria</i> spp and <i>Listeria monocytogenes</i> strains form typical colonies within 24±2 hours.	OXOID Listeria Precis™ (Detection) AFNOR VALIDATION Certificate No UNI 03/04-04/05	
	MTM047 DETECTION OF SALMONELLA SPP USING USING IBISA RAPID CULTURE METHOD	Isolation of <i>Salmonella</i> spp. by <i>Salmonella</i> IBISA® method is performed by enrichment step in Buffered Peptone Water with the addition of (ISS) IBISA® Specific Supplement, followed by isolation	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic	IBISA Selective medium for the detection of <i>Salmonella</i>	AFNOR VALIDATION Certificate N° AES 10/11 – 07/11	

		<p>on IBISA® chromogenic agar. The technology improves recovery of motile and non-motile Salmonella. IBISA®'s principle lies on the use of chromogenic substrates (esterase activities) cleaved specifically by Salmonella and on the simultaneous detection of the β-glucosidase activity, allowing a differentiation of Salmonella among other Enterobacteriaceae. After incubation, Salmonella grow as very characteristic green colonies whereas other micro-organisms not inhibited are either colourless or magenta. Confirmation of any presumptive Salmonella spp. is by biochemical and serological testing.</p>	<p>beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds. Meat Surfaces, Product contact surfaces, Surfaces</p>			
	MTM048 ENUMERATION OF PRESUMPTIVE SULPHITE REDUCING BACTERIA / CLOSTRIDIA	37°C Pour plate using Iron Sulphite agar for 48 hrs	Dairy products, Meat and meat products, game and poultry, Soups, broths and sauces, Prepared dishes, Surfaces, Dairy Lab	Traditional ISO Method	I.S. EN ISO 15213:2003	
	MTM053 DETECTION OF CLOSTRIDIUM PERFRINGENS	Pre-enrichment in CMM (24 hrs at 37°C), streak onto	Dairy products, Meat and meat products, game and poultry, Soups,	Traditional Method	Practical Food Microbiology Third Edition 2003	

		TSC agar and incubate anaerobically (22 hrs, 37°C)	broths and sauces, Prepared dishes, Surfaces, Dairy Lab			
	MTM053 DETECTION OF SULPHITE REDUCING CLOSTRIDIA		Dairy products, Meat and meat products, game and poultry, Soups, broths and sauces, Prepared dishes, Surfaces, Dairy Lab	Traditional Method	Practical Food Microbiology Third Edition 2003	
	MTM054 DETECTION OF PRESUMPTIVE ESCHERICHIA COLI	LSUB 37°C for 24hr±2hr	Dairy products, Meat and meat products, game and poultry, Soups, broths and sauces, Prepared dishes, Surfaces, Dairy Lab	Traditional ISO Method	ISO 7251:2005(E)	
	MTM055 DETECTION OF ENTEROBACTERIACEAE	(BPW) 37°C for 18±2 hours, inoculated to (EE broth) incubated 37°C for 24±2 hours	Dairy products, Meat and meat products, game and poultry, Soups, broths and sauces, Prepared dishes, Surfaces, Dairy Lab	Traditional ISO Method	ISO 21528-1:2017	
	MTM059 DETECTION AND CONFIRMATION OF CRONOBACTER SPP.	Isolation of Cronobacter spp. is performed by pre-enrichment, followed by selective enrichment and plating on to selective chromogenic agar. Confirmation on of any presumptive Cronobacter spp. is by biochemical testing	Dairy Products, Product contact surfaces, Surfaces	Traditional ISO Method	ISO 22964:2017	
	MTM060 ENUMERATION OF COAGULASE POSITIVE STAPHYLOCOCCI USING RABBIT PLAZMA FIBRINOGEN AGAR	Plate count RPF agar at 37°C for 18 - 24hrs hours .	Dairy products	Traditional ISO Method	ISO 6888-2:1999	

	MTM061 ENUMERATION OF YEAST AND MOULD IN MIK AND MILK PRODUCTS	Plate count at 25°C OGYE	Dairy products	Traditional ISO Method	ISO 6611:2004 (Second edition 2004-10-15)	
	MTM062 DETECTION OF COAGULASE POSITIVE STAPHYLOCOCCI	MPN GACB 37°C for 48 hours .	Dairy Products, Prepared dishes	Traditional ISO method	ISO 6888-3:2003	
	MTM063 DETECTION OF SALMONELLA SPP USING BIO-RAD RAPID' CULTURE METHOD	Isolation of Salmonella spp. by Bio-Rad RAPID' Salmonella method is performed by enrichment step in Buffered Peptone Water with the addition of RAPID' Salmonella concentrated supplement (RSS), followed by isolation on RAPID' Salmonella agar plates (RS).	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds , Additives, Meat Surfaces, Product contact surfaces, Surfaces	RAPID' Salmonella	AFNOR VALIDATION Certificate N° BRD: 07/11 – 12/05	
	MTM064 ENUMERATION OF PRESUMPTIVE YEAST AND MOULD IN FOOD BY 3M PETRIFILM RAPID METHOD	3M Petrifilm RYM 25-28°C for 60 hours .	Dairy Products, Meat and meat products, game and poultry, Surfaces, Product contact surfaces	3M Petrifilm	AFNOR No. 3M 01/13 – 07/14	
803 Culture of organisms in liquid or agar based culture media with visual or instrument monitoring for growth - .02 Culture of fungi	MTM022 ENUMERATION OF PRESUMPTIVE YEAST AND MOULD IN FOOD AND SWABS WITH AN Aw GREATER THAN 0.95	Enumeration of yeasts and moulds in products which have a water activity of greater than 0.95 (eggs, meat, dairy products (except	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces,	Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds -	ISO 21527-1:2008	

		milk powder), fruits, vegetables, fresh pastes etc.) and in swab samples by means of a colony count at 25°C.	Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.	Part 1: Colony count technique in products with water activity greater than 0.95.		
	MTM023 ENUMERATION OF PRESUMPTIVE YEAST AND MOULD IN FOOD WITH AN Aw LESS THAN OR EQUAL TO 0.95	Enumeration of yeasts & moulds in products which have a water activity of less than or equal to 0.95 (dry fruits, cakes, dried meat, salted fish, grains, cereals & cereal products) by means of a colony count at 25°C.	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds , Additives.	Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds - Part 2: Colony count technique in products with water activity less than or equal to 0.95.	ISO 21527-2:2008	
804 Detection of bacterial, parasite, viral or fungal antigens using specific antibodies and appropriate techniques - .03 Enzyme immunoassay,	MTM035 DETECTION OF E. COLI 0157 USING VIDAS® UP	A portion of the sample is incubated in an enrichment broth. Part of enrichment broth is dispensed into reagent strip. E.coli O157 including H7 present are captured by the recombinant	Meat and meat products, game and poultry	BIOMERIEUX VIDAS® UP E. coli O157 (including H7) (ECPT)	AFNOR VALIDATION Certificate N° BIO 12/25-05/09	

		phage protein coating the interior of SPR.				
804 Detection of bacterial, parasite, viral or fungal antigens using specific antibodies and appropriate techniques - .04 Immunochromatographic methods,	MTM009 DETECTION AND CONFIRMATION OF E. COLI O157:H7 USING REVEAL® TEST SYSTEM	This detection system utilises an antigen-antibody complex and chromatographic flow.	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.	Reveal ® E. coli O157:H7 Test System	The Reveal ® E. Coli O157:H7 Test Systems are AOAC Official Methods No. 2000.13 (8 hour enrichment).	
805 Detection and/or identification of bacterial, parasite, fungal and viral nucleic acids using appropriate techniques - .03 Nucleic acid amplification tests, CE marked commercial systems	MTM037 DETECTION OF SALMONELLA SPP USING REAL-TIME PCR	The iQ-Check Salmonella II kit is a test based on gene amplification and detection by real-time PCR.	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds. Meat	iQ-Check TM Salmonella II	AFNOR Validation Certificate N° BRD 07/06-07/04	

			Surfaces, Product contact surfaces, Surfaces			
	MTM038 DETECTION OF LISTERIA SPP USING REAL-TIME PCR	The iQ-Check Listeria spp. kit is a test based on gene amplification and detection by real-time PCR.	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds. Meat Surfaces, Product contact surfaces, Surfaces	iQ-Check TM Listeria spp.	AFNOR Validation Certificate N° BRD 07/13-05/07	
	MTM042 DETECTION, IDENTIFICATION AND CONFIRMATION OF SHIGA TOXIN-PRODUCING ESCHERICHIA COLI O26, O45, O103, O111, O121, O145 and O157:H7 (STEC) USING REAL-TIME PCR	The iQ-Check STEC VirX kit, based on a multiplex real-time PCR system, allows the detection of the stx and eae virulence genes in one well, within few hours after the end of the microbiological enrichment. A sample that would be positive for both stx1/2 and eae would then be tested with the iQ-Check STEC SerO real-time PCR kit. The	Meat and meat products, game and poultry, Meat surfaces, Product surfaces, Dairy products, Prepared dishes, Fruit and vegetables	iQ-Check TM STEC VirX Real-Time PCR Determination of the presence, or absence, of the STEC virulence genes in all food products and environmental samples. iQ-Check TM STEC SerO Real-Time PCR Determination of the presence, or absence, of the STEC serogroups in all food products	AOAC® Performed Test: iQ-Check™ STEC VirX Real-Time PCR, Certificate No. 121203	

		iQ-Check STEC SerO kit, based on a multiplex real-time PCR system, allows the detection of these 6 major serogroup, plus E. coli O157:H7, in three wells, within few hours after the iQ-Check STEC VirX result.		and environmental samples.		
	MTM056 DETECTION AND CONFIRMATION OF CRONOBACTER SPP. USING REAL-TIME PCR	Real-time PCR	Dairy products, Foodstuffs intended for special nutritional use, Surfaces	Real-time PCR	iQ-Check TM Cronobacter spp	
	MTM057 DETECTION AND CONFIRMATION OF ENTEROBACTERIACEAE USING REAL-TIME PCR		Dairy products, Prepared dishes, Foodstuffs intended for special nutritional use, Surfaces	Real-time PCR	Real-time PCR	
806 Identification of cultured bacteria and fungi using non-nucleic acid based techniques - .02 Biochemical methods , non-CE marked / in house methods	MTM003 CONFIRMATION OF SALMONELLA SPP	1.2 Confirmation of any presumptive Salmonella spp. is by biochemical and serological testing.	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Dairy Lab	Horizontal method for the detection, enumeration and serotyping of Salmonella; Part 1: Detection of Salmonella spp.	ISO 6579-1:2017 & ISO 6785:2007.	

	MTM006 CONFIRMATION OF LISTERIA SPP	Catalase, Oxidase, Gram, Haemolysis, Biochemical identification kit	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces, Additives.	Microbiology of food chain – Horizontal method for detection and enumeration of <i>Listeria monocytogenes</i> and of <i>Listeria Spp.</i>	11290-1:2017	
	MTM007 DETECTION AND CONFIRMATION OF THERMOTOLERANT CAMPYLOBACTER SPP	The procedure involves the use of selective enrichment broth (Bolton broth) which is incubated at 37°C for 48 hours. The broth is subcultured directly onto a selective culture agar. The agar plates are incubated in a microaerobic atmosphere at 41.5°C for 48 hours. Presumptive <i>Campylobacter spp</i> are confirmed by the use of a range of biochemical and culture characteristics	Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds; Additives.	Microbiology of the food chain - Horizontal method for detection and enumeration of <i>Campylobacter spp</i> - Part 1: Detection method .	ISO 10272-1:2017	

	<p>MTM008 DETECTION AND CONFIRMATION OF E. COLI O157</p>	<p>A portion of the sample is incubated in an enrichment broth. Any micro-organisms possessing the 0157 antigen are captured on magnetic particles. Washing the particles separates them from the enrichment broth and competing microbes. Captured micro-organisms are isolated on selective agars and suspect isolates are identified by immunological and biochemical tests.</p>	<p>Dairy products, Egg and egg products, Meat and meat products, game and poultry, Fish, shellfish and molluscs, Fats and oils, Soups, broths and sauces, Cereals and bakery products, Fruit and vegetables, Herbs and spices, Non-alcoholic beverages, Alcoholic beverages (other than wine), Ices and desserts, Confectionery, Nuts and nut products, snacks, Prepared dishes, Pet foods, Animal feeds, Meat Surfaces, Product contact surfaces, Surfaces; Additives.</p>	<p>Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Escherichia coli O157</p>	<p>ISO 16654:2001/A1:2017</p>	
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