

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK



1639
Accredited to
ISO/IEC 17025:2017

Tayside Scientific Services

Issue No: 058 Issue date: 25 November 2021

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Testing performed at the above address only

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
ANIMAL FEEDINGSTUFFS	<u>Chemical Tests</u>	Documented In-House Methods identified by method number GAX based on SI 1999, No 1663 'The Feedingstuffs (Sampling and Analysis) Regulations
	Compositional Analysis, Additives, colourings, preservatives and related contaminants	Development and modification of methods for analysis using Flexible Scope Procedure PFG 1 (HPLC, GC, GC-MS and UV spectroscopy)
	Determination of Elements	Development and modification of methods for analysis using Flexible Scope Procedure PFG 2 (AAS and ICP-OES)
	Foreign Body identification	Development and modification of methods for analysis using Flexible Scope Procedure PFG 3 (Light Microscopy)
	Compositional Analysis, Additives, colourings, preservatives and related contaminants	Development and modification of methods for analysis using Flexible Scope Procedure PFG 4 (Gravimetric, titrimetric and other classical wet chemistry techniques)
	Aflatoxin B1, B2, G1, G2 and Ochratoxin A	PF099 by HPLC fluorescence with Kobra Cell
	Deoxynivalenol	PF091 by immunoaffinity column separation and HPLC
Zearalenone	PF088 by immunoaffinity column separation and HPLC	



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ANIMAL FEEDINGSTUFFS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Method identified by method number
	Ash	GA008 based on EC152/2009
	Crude Fibre	GA010 based on EC152/2009
	Moisture	GA002 by oven drying based on EC152/2009
	Oil (total)	GA004 based on EC152/2009
	Nitrogen and crude protein	PF016 by Kjeldahl
	Nitrogen and Protein	PF082 using the Dumas Combustion method
	Vitamins A and E	PF061 using High Performance Liquid Chromatography
	Cobalt Copper Iron Manganese Zinc	GA013 using Flame Atomic Absorption Spectrometry
	Cadmium Lead	GA012 using Flame Atomic Absorption Spectroscopy
	Arsenic Selenium	GA014 using Hydride Generation Atomic Absorption Spectrometry
FOODS	<u>Chemical Tests</u>	Methods documented in 'Analytical Methods Manual for VEMS' Association of Public Analysts and identified by method number or Documented In-House Methods identified by method number PFx
Bakery wares e.g. bread, toasted bread, crisp bread and biscuits, potato products e.g. potato chips and crisps	Acrylamide	PF105 by GC-MS.
DAIRY PRODUCTS	Fat	PF092 by alkaline hydrolysis (Rose Gottlieb method)



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FOODS (Cont'd)	<u>Chemical Tests (Cont'd)</u>	Methods documented in 'Analytical Methods Manual for VEMS' Association of Public Analysts and identified by method number or Documented In-House Methods identified by method number PFx
Cheese	Histamine	PF044 using HPLC
Cream	Acidity (titratable)	F/0251 by titration
	Fat	F/0216 by Gerber technique
Milk, Liquid	Acidity (titratable)	VEMS F/0131
	Antibiotics	PF070 using Delvo kit
	Fat	F/0008 using Gerber technique
	Freezing Point	PF008 using Thermistor Cryoscope
	Phosphatase Activity	PF071 using Fluorophos
	Total solids	PF057 using Gravimetry
FAT	Butyric acid	F/0289 by gas chromatography
FATS and OILS	Peroxide value	F/0009 by titration
	Fatty acid profile	PF 051 GC/FID (analysis of fatty acids converted to fatty acid methyl esters)
	Free fatty acids	F/0010 by titration
Fish and fish products	Histamine	PF044 using HPLC
FISH - FRESH and FROZEN, FISH PRODUCTS and PROCESSED FISH	Ash	PF012 by muffle furnace
	Fat	PF002 by oven drying and Soxhlet Extraction
	Moisture	
Bread	Propionic Acid	PF049 by Gas Chromatography (GC)



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FOODS (cont'd)	<u>Chemical Tests</u> (cont'd)	
HONEY	Hydroxymethyl furfural	PF046 by HPLC
	Identification of Pollen Grains	PF045 by light microscopy
	Moisture	F/0265 by refractometry
SPIRITS	Apparent and Actual Alcohol	1) PF021 by Pycnometry and Obscuration (Reference Method) 2) PF019 by density meter and Obscuration (Primary Method)
	Congeners	F/0161 by Gas Chromatography
MEAT - FRESH and FROZEN MEAT PRODUCTS and PROCESSED MEAT	Ash	PF012 by muffle furnace
	Fat	PF002 by oven drying and Soxhlet extraction
	Moisture	
	Nitrogen and crude protein	PF082 by Dumas PF016 by Kjeldahl
FLESH FOODS and MEAT PRODUCTS	Total volatile nitrogen	F/0157 by Distillation followed by titration
	Hydroxyproline	PF011 based on BS 4401:Part 11:1995
	Calculation of apparent fish content	PF017 by calculation
SOFT DRINKS	Acesulfame K	PF023 by HPLC
	Aspartame	
	Benzoic acid	
	Caffeine	
	Saccharin	
	Sorbic acid	
SOYA SAUCE	3-monochloropropane-1,2-diol	PF100 by gas Chromatography with Mass Spectrometric detection (GC/MS) based on BS EN 14573:2004



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FOODS (cont'd) FOODS, General	<u>Chemical Tests</u> (cont'd) Compositional Analysis, Additives, colourings, preservatives and related contaminants Determination of Elements Foreign Body identification Compositional Analysis, Additives, colourings, preservatives and related contaminants Ash] Moisture Arsenic, Total and inorganic Calcium Chloride Dietary Fibre Ethanol Fat (total) Aflatoxin B1, B2, G1, G2 and Ochratoxin A Deoxynivalenol	 Development and modification of methods for analysis using Flexible Scope Procedure PFG 1 (HPLC, GC, GC-MS and UV spectroscopy) Development and modification of methods for analysis using Flexible Scope Procedure PFG 2 (AAS and ICP-OES) Development and modification of methods for analysis using Flexible Scope Procedure PFG 3 (Light Microscopy) Development and modification of methods for analysis using Flexible Scope Procedure PFG 4 (Gravimetric, titrimetric and other classical wet chemistry techniques) PF012 by gravimetry PF107 by Hydride Generation Atomic Absorption VEMS F/0183 PF078 using Ion Chromatography PF027 by enzymatic digestion and gravimetry PF058 by GC-FID PF005 by acid digestion/extraction PF099 by HPLC fluorescence with Kobra Cell PF091 by by immunoaffinity column separation and HPLC



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FOODS, General (cont'd)	<u>Chemical Tests</u> (cont'd)	
FOODS, Water soluble (soft drinks, sugar confectionery)	Synthetic Food Colour (Water soluble): Allura Red (E129) Amaranth (E123) Brilliant Blue (BFCF) Carmoisine (E122) Green S Patent Blue (E131) Ponceau 4R (E124) Quinoline Yellow FCF (E104) Red 2G (E128) Sunset yellow (E110) Tartrazine (E102)	PF087 by HPLC-DAD
FOODS, General (cont'd)	Zearalenone	PF088 by immunoaffinity column separation and HPLC
	Allergens, Contaminants and Protein Species	PF069 - Flexible Scope method for performance verification and use of commercial ELISA test kits
	Gluten	PF116 – by ELISA using the R-Biopharm RIDASCREEN R7001 and R7002 test kits
	Nitrate and Nitrite	PF033 by HPLC
	Nitrogen and crude protein	PF016 by Kjeldahl
	Nitrogen and Protein	PF082 using the Dumas Combustion method
	pH	PF065 based on VEMS F0282
	Sodium	PF052 by Flame Emission Spectrophotometry
	Soluble Solids in food	PF 079 using refractometry
	Sorbic acid	PF050 by HPLC
	Sugars: (Total and Fructose, Galactose, Glucose, Lactose, Maltose, Sucrose)	PF022 by HPLC with Refractive Index detection



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FOODS, General (cont'd)	<u>Chemical Tests</u> (cont'd)	
	Sulphur Dioxide	PF060 using Gravimetric weighing
	Cadmium and Lead	PF085 using ashing followed by ICP-OES
	Tin (except baby foods, infant formulae and dietary foods intended for infants)	VEMS F/0134 using acid digestion followed by Flame Atomic Absorption Spectrophotometry
	Vitamins A and E	PF061 using High Performance Liquid Chromatography
	Vitamin C	PF074 using HPLC
	Water activity	PF053 by hygrometer
	Apparent meat content	PF056 based on APA guidelines
	Energy value	F/0381 by calculation from analytical data
		<u>Molecular Tests</u>
MEAT and MEAT PRODUCTS	Species identification (qualitative) (beef, pork, lamb, horse, chicken, turkey)	PF098 using RT-PCR
FISH and FISH PRODUCTS	Species identification (qualitative)	PF094 using PCR-RFLP and Agilent 2100 Bioanalyser
FOODS, General	<u>Microbiological Tests</u>	Documented In-House Methods identified by method number PMFx based on/incorporating published procedures referenced by BS EN ISO Methods
	Detection:	
	<i>Campylobacter</i> spp	PMF025 based on ISO 10272-1:2017
	<i>Escherichia coli</i> O157	PMF014 based on BS EN ISO 16654:2017
	<i>Listeria monocytogenes</i>	PMF024 based on BS EN ISO 11290-1:2017



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FOODS, General (cont'd)	<u>Microbiological Tests</u>	Documented In-House Methods identified by method number PMFx based on/incorporating published procedures referenced by BS EN ISO Methods
	Detection:	
	<i>Salmonella</i> species	PMF009 based on BS EN ISO 6579-1:2017 AMD 1 :2020
FOOD, general	Shiga Toxin-Producing <i>Escherichia coli</i> (Presumptive)	PMF029 based on CEN ISO/TS 13136:2012 by Multiplex Real-Time PCR using Life Technologies extraction and PCR test kit and Agilent MX3005 analyser
	Isolation and Enumeration:	
	Enumeration of <i>Listeria monocytogenes</i> and other <i>Listeria</i> spp	PMF021 based on BS EN ISO 11290:2017
	Enumeration of Yeasts and Moulds	PMF027 based on ISO 21527Parts 1 & 2: 2008
Ready-to-eat prepared foods	Aerobic Colony Count at 30°C	PMF015 using Plate count agar at 30°C for 48 hours using spiral plating technique
	<i>Bacillus cereus</i>	PMF011 based on BS EN ISO 7932:2004 AMD 1:2020
	<i>Clostridium perfringens</i>	PMF008 based on ISO 7937:2004
	Enterobacteriaceae	PMF023 using Pour Plate based on BS EN ISO 21528-2:2017
	<i>Escherichia coli</i>	PMF004 based on ISO 16649-2:2001 using surface spread technique
	Coagulase positive Staphylococci (including <i>Staphylococcus aureus</i>)	PMF006 based on BS EN ISO 6888-1:2021
Shellfish	<i>Escherichia coli</i>	PMF026 using MPN based on ISO 16649-3:2015



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WATERS Private water supplies, Drinking waters	<p>Analysis for the purpose of enforcement of: - Water Supply (Water Quality) (Scotland) Regulations 2014 - The Private Water Supplies (Scotland) Regulations 2017</p> <p><u>Chemical Tests</u></p> <p>Ammonia Conductivity pH Turbidity</p>	<p>Methodology meeting the requirements of The Drinking Water Testing Specification</p> <p>PW034 using spectrophotometry PW013 using using conductivity meter (Primary Method) PW015 using pH meter (Primary Method) PW007 using Turbidity Meter</p>
WATERS Private water supplies Drinking waters	<p>Analysis for the purpose of enforcement of: - Water Supply (Water Quality) (Scotland) Regulations 2014 - The Private Water Supplies (Scotland) Regulations 2017</p> <p><u>Microbiological Tests</u></p> <p>Enumeration of: Total coliforms and <i>Escherichia coli</i> Detection and enumeration of enterococci Isolation and enumeration of sporulated sulphite-reducing Clostridia and <i>Clostridium perfringens</i> Total Colony Count at 22 °C and 37 °C</p>	<p>Methodology meeting the requirements of The Drinking Water Testing Specification</p> <p>Documented In-House Methods</p> <p>PMW008 based on the Microbiology of Drinking Water (2016):Part 4D using the colilert system PMW009 based on the Microbiology of Drinking Water 2012:Part 5B using EnterolertTM PMW007 based on The Microbiology of Drinking Water 2020:Part 6 using membrane filtration PMW003 based on the Microbiology of Drinking Water (2020):Part 7A using YEA pour plate</p>



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<p>WATERS</p> <p>Raw, drinking and recreational waters</p>	<p><u>Microbiological Tests</u></p> <p>Isolation and Enumeration:</p> <p>Coliforms and <i>Escherichia coli</i></p> <p>Total Colony Count at 22° and 37°C</p> <p>Enterococci</p>	<p>Documented in house methods based on the Microbiology of Drinking Waters</p> <p>Methodology based on the Microbiology of Drinking Water (MDW methods)</p> <p>PMW008 based on the Microbiology of Drinking Water (2016): Part 4D using the colilert system</p> <p>PMW003 based on Microbiology of Drinking Waters (2020), Part 7A using YEA pour plate</p> <p>PMW009 based on MDW 2012 Part 5B using Enterolert</p>
<p>WATERS: Swimming pool, Spa pool, Drinking water supplies, Drinking water, (excluding Natural Mineral and Bottled Waters)</p>	<p>Enumeration of:</p> <p><i>Pseudomonas aeruginosa</i></p>	<p>Methodology based on the Microbiology of Drinking Water (MDW methods)</p> <p>PMW010 MPN using Pseudalert at 38°C based on MDW 2015 Part 8 Method C</p>
<p>WATERS</p> <p>WATERS: Swimming pool, Spa pool, Drinking water supplies, Drinking water, (excluding Natural Mineral and Bottled Waters)(cont'd)</p>	<p><u>Microbiological Tests</u></p> <p>Detection of:</p> <p><i>Campylobacter</i> spp</p> <p>Enumeration of:</p> <p><i>Legionella</i> spp</p>	<p>Methodology based on the Microbiology of Drinking Water (MDW methods)</p> <p>PMF025 based in ISO 10272-1:2017</p> <p>PMW002 based on ISO 11731: 2017 Matrix A & B. Procedure 8, 9, 10.</p>



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WATERS (cont'd)	<u>Molecular Tests</u>	Documented In-House Methods identified by method number PMWx, based on International Standards
WATERS Drinking Recreational (man made)	Detection and Quantification of DNA from <i>Legionella pneumophila</i>	PMW011 based on ISO/TS 12869:2012 by Real-Time PCR using filtration, Aquadien DNA Extraction Kit, Bio-Rad iQ Check Test Kit and Agilent MX3005 analyser
WATERS Drinking	Detection of: Shiga Toxin-Producing <i>Escherichia coli</i> (Presumptive)	PMF029 based on CEN ISO/TS 13136:2012 by Multiplex Real-Time PCR using Life Technologies extraction and PCR test kit and Agilent MX3005 analyser
DIFFUSION TUBE SAMPLERS	<u>Chemical Tests</u> Nitrogen dioxide	Documented In-House Methods PE002 by spectrophotometry
END		