Schedule of Accreditation

issued by

United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

1079

Accredited to ISO/IEC 17025:2005

Campden Technology Ltd

Issue No: 058 **Issue date:** 17 January 2012

Chipping Campden
Gloucestershire
GL55 6LD

Contact: Ms A J Roberts/Information team
Tel: +44 (0)1386 842000
Fax: +44 (0)1386 842100
E-Mail: a.roberts@campden.co.uk/ info@campden.co.uk
Website: www.campden.co.uk

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	Department (See end)
FOODS As specified	Chemical and Physical Tests	Documented In-House Methods:	
General	Acidity	TES-AC-214 based on BS 1741:Part 10:1989 by titration	Chem - FC
General	Ash	TES-AC-086 by incineration	Chem - FC
Spices, sauces and processed foods	Dyes: Auramine 0 Bixin Butter Yellow Fast Garnet Metanil Yellow Nitroaniline Norbixin Orange II Orange OT Para Red Rhodamine B Sudan I Sudan II Sudan III Sudan IV Sudan Black B Sudan Orange Sudan Red 7B Sudan Red B Sudan Red G Toluidine Red	TES-AC-663 using liquid chromatography-electrospray tandem spectrometry (HPLC-MS/MS)	Chem - GC
General	Energy by calculation	TES-AC-335 using nutritional data	Chem - FC

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
FOODS As specified (cont'd)	Chemical and Physical Tests (cont'd)		
General	Fat	1) TES-AC-536 using Weibull-Stoldt extraction (acid hydrolysis followed by Soxtec extraction) and crude fat (Soxtec extraction)	Chem - FC
		2) TES-AC-628 using CEM SmartTrac NMR Fat Analyser	Chem - FC
Milk and Milk Products	Fat	1) TES-AC-202 using Rose-Gottlieb extraction	Chem - FC
		2) TES-AC-268 by Gerber method based on BS ISO 488:2008, 2446:2008 and 11870:2009 for milk and on BS 696-2:1989 for milk products	Chem - FC
General	Butter fat content (milk fat)	TES-AC-537 analysis of butyric acid methyl ester after trans-esterification of fat by sodium methylate	Chem - GC
Oils and Fats	Free fatty acids	TES-AC-211 based on BS EN ISO 660:2009 using titration	Chem - FC
General	Fatty acid profile	TES-AC-090 using gas chromatography	Chem - GC
General	Fibre - Crude fibre	TES-AC-226 based on the Feedingstuffs (Sampling and Analysis) Regulations, SI No 1663, 1999 after overnight oven drying at 102 ^{o}C	Chem - FC
General	Fibre - Dietary fibre	TES-AC-203 based on Journal of AOAC International, Volume 75, No 3, Method 991-43	Chem - FC

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
FOODS As specified (cont'd)	Chemical and Physical Tests (cont'd)		
Fish and Fish Products	Fish content (Apparent)	TES-AC-334 by documented calculation	Chem - FC
Fish and Uncooked Breaded Fish Products	Fish Species identification (qualitative)	TES-AC-621 using PCR-Restriction Fragment Length Polymorphism, using Agilent 2100 Bioanalyser and including the flexibility to validate for additional fish species	Chem - BC
Raw and Processed Foods	Gluten (>5ppm)	TES-AC-648 by immunoassay using R-Biopharm Ridascreen Gliadin kit	Chem - BC
Meat and Meat Products	Hydroxyproline	TES-AC-490 based on BS 4401:Part 11:1995	Chem - FC
	K value, determination of	TES-AC-462 by spectrophotometry	Chem - FC
General	Metals: Sodium, Potassium, Aluminium, Iron, Copper, Zinc, Manganese, Tin, Chromium, Nickel, Calcium, Magnesium	TES-AC-099 using atomic absorption spectroscopy	Chem - FC
General	Metals and Trace Elements: Aluminium, Antimony, Arsenic, Barium, Beryllium, Bismuth, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Phosphorus, Potassium, Sodium, Tin, Titanium and Zinc	TES-AC-686 by ICPMS after pressure digestion and against criteria specified in EU Regulation 333/2007	Chem - FC
Meat and Meat Products	Meat content (apparent) and added water	TES-AC-334 by documented calculation	Chem - FC
Meat and Meat Products	Meat species identification (qualitative)	TES-AC-475 using immunoassay test (Tepnel Diagnostics Ltd Kit)	Chem - FC

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
FOODS As specified (cont'd)	Chemical and Physical Tests (cont'd)		
General	Moisture	1) TES-AC-097 by oven drying 2) TES-AC-628 using CEM SmartTrac Microwave Moisture Analyser	Chem - FC
Milk and Milk Products	Moisture	TES-AC-271 based on BS ISO 6731:2010	Chem - FC
Butter	Moisture	TES-AC-279 based on BS 5086:Part 2:1984	Chem - FC
Cheese and Cheese Products	Moisture	TES-AC-281 based on BS 770:Part 2:1976	Chem - FC
Cereals, Nuts, Fatty Foods, Spices and Dried Fruit	Mycotoxins: Aflatoxins G_2, G_1, B_2 and B_1	TES-AC-175 using HPLC with fluorescence detection	Chem - GC
Cereals, Dried Fruit, Coffee, Spices and Tobacco	Mycotoxins: Ochratoxin A	TES-AC-332 using HPLC with fluorescence detection	Chem - GC
Cereals and processed Cereal products	Mycotoxins: Deoxynivalenol 3-Acetyl-deoxynivalenol 15-O-Acetyl-4-deoxynivalenol Diacetoxyscirpenol Fusarenon-X Neosolaniol Nivalenol T-2 Toxin HT-2 Toxin Zearalenone	TES-AC-687 using liquid chromatography- electrospray and APCI tandem spectrometry (HPLC-MS/MS)	Chem - GC
Fruits, Vegetables and Meats	Nitrate-Nitrite	TES-AC-630 using High performance liquid chromatography	Chem - GC
Raw and Processed Foods	Organic Nitrogen (crude protein)	TES-AC-087 using Kjeltec system	Chem - FC
Raw and processed foods	Peanut content (>1ppm)	TES-AC-425 ELISA technique using Tepnel Peanut Assay Kit	Chem - BC

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
FOODS As specified (cont'd)	<u>Chemical and Physical Tests</u> (cont'd)		
Oils and Fats	Peroxide value	TES-AC-511 based on BS EN ISO 3960:2010 using titration	Chem - FC
Fruits and Vegetables, Fresh Herbs, Cereals, Cereal Products and Pulses, Nuts, Fats and Oils as appropriate	Pesticide Residues: 2,4-DDD (o,p-DDE) 2,4-TDE (o,p-TDE) 4,4-DDE (p,p-DDE) 4,4-DDT (p,p-DDT) 4,4-TDE (p,p-TDE) Aldrin Bendiocarb Bromophos-ethyl Bromophos-methyl Bromopropylate Buprofezin Captan Chlorfenvinphos Chlorpropham Chlorpyrifos-ethyl Chlorpyrifos-methyl Λ-Cyhalothrin Cypermethrin Deltamethrin Diazinon Dichlofluanid Dichlorvos Dicloran Dicofol Dieldrin Dimethoate Diphenylamine Endosulfan Endrin Ethion Ethoprophos Etrimfos Fenarimol Fenitrothion Fenpropathrin Fenvalerate Fonophos α-HCH β-HCH	TES-AC-072 using GC-MS, detection	Chem - GC

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
FOODS As specified (cont'd)	<u>Chemical and Physical Tests</u> (cont'd)		
Fruits and Vegetables, Fresh Herbs, Cereals, Cereal Products and Pulses, Nuts, Fats and Oils as appropriate (cont'd)	Pesticide Residues: (cont'd) γ-HCH Heptachlor Heptachlor Epoxide Heptenophos Hexachlorobenzene Malathion Malaoxon Mecarbam Metalaxyl Methacrifos Methidathion Mevinphos Parathion-ethyl Parathion-methyl Pendimethalin Permethrin Phenthoate 2-phenyl phenol Phosalone Phosphamidon Pirimiphos-methyl Pirimiphos ethyl Profenophos Pyrazophos Quinalphos Quintozene Tecnazene Tetrachlovinphos Tetradifon Tolclofos methyl Triazophos Vinclozolin		Chem - GC
Raw materials and processed foods	pH	TES-AC-223 using pH meter	Chem - FC
General	Salt (chloride)	1) TES-AC-093 Mohr titration on ashed samples	Chem - FC
		2) TES-AC-205 using Volhard titration	Chem - FC

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
FOODS As specified (cont'd)	Chemical and Physical Tests (cont'd)		
General	Solids - Refractometer Solids (BRIX)	TES-AC-183 using refractometry expressed in terms of % sugar (w/w) at 20 °C	Chem - FC
Butter	Solids - not fat	TES-AC-280 based on EC Regulation 213/2001, Annex X (Article 8) and Annex XI (Article 8)	Chem - FC
Raw materials and processed foods	Screening for genetically modified maize or soya DNA using Cauliflower Mosaic Virus 35S promoter, NOS terminator, Bt11 maize or Bt176 maize DNA	TES-AC-662 using PCR and gel electrophoresis	Chem - BC
General	Sugars: Total/ reducing sugar (> 2% total sugar)	TES-AC-101 using Lane and Eynon titration	Chem - FC
General	Sugars: Glucose, fructose, sucrose and lactose	TES-AC-444 by enzyme test kit	Chem - FC
General	Sugars: Starch/Glucose	TES-AC-272 based on EC Regulation 4154/87, Annex 1	Chem - FC
Sugars	Sugars: Sucrose	TES-AC-292 using polarimetry based on EC Commission Directive 79/796/EEC, Annex II, Method 10	Chem - FC
General	Sulphur dioxide	TES-AC-094 using Monier-Williams distillation	Chem - FC
Milk and Milk Products	Vitamin A	TES-AC-443 using saponification and HPLC with UV detection	Chem - GC

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
FOODS and BEVERAGES As specified	Chemical and Physical Tests (cont'd)		
Food and Beverages	B Vitamins: B1 (thiamine) B2 (riboflavin) B3 (nicotinic acid and niacinamide) B5 (pantothenic acid) B6 (pyridoxine pyridoxamine and pyridoxal)	TES-AC-713 by LC-MS/MS	Chem - GC
Food and Beverages	Vitamin B12 (cyanocobalamin)	TES-AC-719 by LC-MS/MS	Chem - GC
Food and Beverages	Folic Acid	TES-AC-718 by LC-MS/MS	Chem - GC
Food and Drink	Vitamin C	TES-AC-474 using HPLC with UV detection of ascorbic acid adapted from EN 14130:2003	Chem - GC
Beverages	Acesulfam-K	TES-AC-465 using HPLC	Chem - GC
Neutral Spirits, Alcoholic Beverages and Distillates fromd Foods Containing Alcohol	Alcoholic strength	TES-AC-567 determination by volume using density meter following distillation when required	Chem - FC
Beverages	Aspartame	TES-AC-464 using HPLC	Chem - GC
Beverages	Preservatives: Benzoate and sorbate	TES-AC-023 using HPLC	Chem - GC
PLASTIC PACKAGING MATERIALS	Chemical and Physical Tests	Documented In-House Methods	
	Global (overall) migration from packaging materials into olive oil food simulants by total immersion, single side contact by cell technique, single side contact by pouch technique and by article filling technique	TES-AC-500 based on parts 2, 4, 6 and 8 of BS EN 1186:2002	Chem - GC

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
PLASTIC PACKAGING MATERIALS (cont'd)	Chemical and Physical Tests (cont'd)	Documented In-House Methods	
	Global (overall) migration from packaging materials into aqueous food simulants and substitute fatty food simulants by total immersion, single side contact by cell technique, single side contact by pouch technique and by article filling technique	TES-AC-501 based on parts 3, 5, 7, 9 and 14 of BS EN 1186:2002	Chem - GC
WHEAT and MILLED PRODUCTS	Chemical and Physical Tests	Documented In-House Methods. Those based on Flour Testing Working Group (FTWG) requirements are documented in CCFRA Guideline No 3, Manual of Methods for Wheat and Flour Testing, Third Edition 2002	
	Alpha-Amylase activity	TES-CM-118 based on FWTG 18 using the Ceralpha reagent	C&M
	Ash	TES-CM-112 based on FTWG 12 derived from BS 4317:Part 10:1993	C&M
	Falling Number	TES-CM-106 based on FTWG 06 derived from ICC Standard Method 107/1	C&M
	Hectolitre Weight	TES-CM-12 using KERN 822/403 electronic system	C&M
	Milling Analysis	TES-CM-01 by Laboratory Buhler Milling	C&M
	Moisture	TES-CM-108 based on FTWG 08 by oven drying based on ICC Standard Method 110/1	C&M
	Protein	TES-CM-119 based on FTWG 19 using Dumas combustion method	C&M

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
WHEAT and MILLED PRODUCTS (cont'd)	Chemical and Physical Tests (cont'd)		
	Rheological Properties (Extensograph)	TES-CM-103 based on FTWG 03 using Brabender Extensograph derived from ICC Standard Method 114	C&M
	Starch damage	TES-CM-105 based on FTWG 05 based on Cereal Chem 1964 41, No 2 March, pages 98-111	C&M
	Water absorption and Rheological Properties (Farinograph)	TES-CM-104 based on FTWG 04 using Brabender Farinograph derived from ICC Standard Method 115/1	C&M
	Zeleny Sedimentation Volume	TES-CM-044 based on ICC Standard 116/1 and 118	C&M
FOODS As specified	Microbiological Tests	Documented In-House Methods	
	Enumeration of micro-organisms:		
General	Aerobic plate count (30 °C)	TES-MB-002 based on BS EN ISO 4833:2003, using Plate Count Agar or Milk Plate Count Agar	Micro
General	Anaerobic plate count	TES-MB-199 using pour plate technique and anaerobic incubation at 30 °C	Micro
General	*Bacillus cereus*, Presumptive	TES-MB-003 based on BS EN ISO 7932:2004	Micro
General	*Clostridium perfringens*	TES-MB-004 based on BS EN ISO 7937:2004	Micro
	Presumptive coliforms	TES-MB-005 based on BS ISO 4832:2006	Micro
General	Enterobacteriaceae, Presumptive	TES-MB-006 based on BS ISO 21528-2:2004	Micro

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
FOODS As specified (cont'd)	Microbiological Tests (cont'd) Enumeration of micro-organisms: (cont'd)		
General	*Enterococcus* spp (faecal streptococci), Presumptive	TES-MB-016 based on BS 4285:Sub-Section 3.11:1985	Micro
General	*Escherichia coli*, Presumptive	TES-MB-176 using membrane method on tryptone bile x-glucuronide agar based on BS ISO 16649-1:2001	Micro
General	Lactic acid bacteria, Presumptive	TES-MB-009 based on BS ISO 15214:1998	Micro
General	*Listeria monocytogenes* and *Listeria* spp	TES-MB-186 colony count at 37 °C using Listeria chromogenic agar based on BS EN ISO 11290-2:1998 incorporating amendment no 1:2004	Micro
General	*Pseudomonas* species at 25 °C	TES-MB-012 based on ISO 13720:2010	Micro
General	Coagulase-positive Staphylococci	TES-MB-015 based on BS EN ISO 6888-1:1999	Micro
General	Sulphite reducing clostridia, Presumptive	TES-MB-043 based on BS EN ISO 15213:2003	Micro
Foods with Aw > 0.95	Yeasts and moulds	TES-MB-197 based on BS EN ISO 21527-1:2008	Micro
Foods with Aw < 0.95	Yeasts and moulds	TES-MB- 198 based on BS EN ISO 21527-2:2008	Micro
	Detection of:		
General	*Listeria monocytogenes* and *Listeria* species	TES-MB-174 enrichment technique at 37 °C based on BS EN ISO 11290-1:1997 incorporating amendment no 1	Micro
General	*Salmonella* species	TES-MB-178 based on BS EN ISO 6579:2002	Micro

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Department (See end)
FOODS As specified (cont'd)	Microbiological Tests (cont'd) Detection of: (cont'd)		
Seafood and Seafood Products	*Vibrio parahaemolyticus and Vibrio cholerae*	TES-MB-191 based on DD ISO/TS 21872-1:2007	Micro
FOODS	Chemical and Physical Tests	Documented In-House Methods:	
General	Water Activity (A_w)	TES-MB-042 using Aqualab CX3 machine based on BS ISO 21807:2004	Micro
FOOD PROCESSING EQUIPMENT	Microbiological Tests	Documented In-House Methods	
	Assessment of In-Place Cleanability	TES-FH-002 using soured milk and *Geobacillus stearothermophilus* spores based on EHEDG Doc 2, 3rd Edition, July 2004	Micro
FOODS As specified	Sensory Tests	Documented In-House Methods	
General	Flavour/taint due to atmospheric transfer from chemicals or materials	TES-S-002 using sensory difference (triangle) tests based on BS EN ISO 4120:2007	C&SS
General	Flavour/taint due to contact with materials	TES-S-004 using sensory difference (triangle) tests based on BS EN ISO 4120:2007	C&SS
General	Flavour/taint due to pesticides	TES-S-001 using sensory difference (triangle) tests based on BS EN ISO 4120:2007	C&SS
Canned and Frozen Foodstuffs	Grading for defects, blemishes, appearance, flavour and texture	TES-S-003 and TES-S-005 in accordance with CCFRA published specifications	C&SS
General	Quantitative descriptive analysis	TES-S-009 based on BS 5929:Part 4:1986 and ISO 11036:1994	C&SS

END

1079 **Accredited to ISO/IEC 17025:2005**	**Schedule of Accreditation** **issued by** **United Kingdom Accreditation Service** 21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK **Campden Technology Ltd** **Issue No:** 058 **Issue date:** 17 January 2012
Testing performed at main address only	

Each laboratory Department is identified with a code	
Chem - FC	Chemistry and Biochemistry - Food Composition Section
Chem - GC	Chemistry and Biochemistry - Chromatography Section
Chem - BC	Chemistry and Biochemistry - Molecular Biology Section
Micro	Microbiology
C&M	Cereals and Milling
C&SS	Consumer and Sensory Science