



Scheme Description

Food Chemistry (QFCS) Proficiency Testing Scheme

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RECORD OF ISSUE STATUS AND MODIFICATIONS

Issue	Issue Date	Details	Authorised by
41	Sept 2023	<p>Sample 801 SDPA updated for 5% SDPA for Glucose and fructose</p> <p>Added new samples 889-901</p> <p>Removed milk from 854 – participants would be able to report presence & absence</p> <p>New analytes added to 777 and 836-841</p> <p>Format of sample 850 updated</p> <p>Qty updated for 857</p> <p>Sample 800 and 842 removed</p> <p>Specified the format to powdered matrix for 830.</p> <p>Increased 783 sample size to 150g</p> <p>Specified the units for total acidity to % acetic acid for 776, 783, 793, 802. Amended 794 mycotoxins in spices to be the spiked version. Sample 812 marked as 'Accredited within the boundaries of LGC's flexible scope of UKAS accreditation'.</p>	<p>S.Xystouris L. Fielding</p> <p>N. Mason</p>
42	Oct 2023	<p>Amendment of the analyte name and DPs for 857 and 868</p> <p>Specified the range for 799, 808, 809, 851, 852, 853, 854</p> <p>Specified food product range for sample 900</p>	S Xystouris
43	November 2023	<p>Samples 879 and 861 increase to 300g.</p> <p>Brix added to sample 894. 861 bulk density, bulk index and tapped density added.</p> <p>870. untapped density removed.</p>	L.Fielding
44	March 2024	Specified a range for 780 and 796. Samples 781, 851, 852 and soya in 853 now accredited.	A Collins
45	March 2024	Added glufosinate in sample 837	S. Xystouris
46	Sept 2024	<p>Cosmetic changes to layout for 778</p> <p>Changes to the format of 825</p> <p>Addition of Nickel in 780, 784</p> <p>Ranges specified for 890 and 803</p> <p>Changed units, DPs and format 901</p> <p>Changed the name of sample 870 and specified the matrix (paprika) Samples 795, 860, 887, 888, 873, 847, 859 removed. 779 – blank removed. 781, samples size adjusted.</p> <p>Clarified units for samples 771, 776, 782, 806, 830, 864.</p> <p>Sample 889 amended (sample name and analytes)</p> <p>Specified almond milk in the sample name, for sample 853</p> <p>SDPA updated for TPC in 796</p> <p>SDPA updated to 25% for samples 779, 794, 804, 845, 867 & 890</p> <p>New samples 902 – 912</p> <p>Specified SDPA for 805 to 20% of the AV</p> <p>Added N-acetyl-L-methionine in 823 Added Volatile sulphur compound content in 861</p> <p>Added vanillic acid, para Hydroxy Benzoic acid, para Hydroxy Benzaldehyde in 892, amended the units from mg/kg to mg/g and the DPs from 1 to 3</p> <p>806: amended 'cis Docosapentaenoic (DPA)' to 'Total Docosapentaenoic (DPA)'.</p>	<p>R. Connolly S. Xystouris</p>

47	Oct 2024	Corrected a statement for sample 912 (removed the reference to dyes)	S. Xystouris
48	April 2025	Changes to ranges for 805 (specified range and SDPA), 857 (range) as a result of flexible scope accreditation Sample 805 now accredited Sample 878, 815, 808 and 822 now accredited under flexible scope Specified format for 819 Change of sample name for 855 and 882S	S Xystouris
49	July 2025	Change of name for sample 907 to specify oat Addition of gluten in 853 Dietary fibre clarified in 770, 772, 775, 776, 793, 811, 813, 816, 824, 832, 834, 835, 877, 884 Added Ca , P in 770 Added perchlorate and chlorate in 777 Removed 792, 833, 864 Removed glufosinate from 837 and added to Appendix B Added Sudan I, Sudan III in 803 Added A & B to sample 848 Added Appendix F for PFAS and referenced in sample 910. Changed analytes for 910 Added extra analytes in 899 – change of name to add lactose Added “food” colours in 912 Changed name and matrix for 911 Changed name and material for 912 Added 778-RO and updated the Fatty acid composition table Added 10 new samples Updated methods for carbohydrate testing 804 added to flexible scope 780 added to fixed scope	S Xystouris R. Connolly
50	Sept 2025	Sample 855 now accredited Analyte 10:0 Capric acid added and 10:0 Caproic acid removed for 778 Added Sodium to 811 New method added to all sodium analytes	A Collins R. Connolly
51	Oct 2025	Sample 857 now accredited under flexible scope	R.Connolly

Notes: Where this document has been translated, the English version shall remain the definitive version.

SCHEME INFORMATION

Scheme Aims and Organisation

The primary aim of the Food Chemistry Proficiency Testing Scheme (QFCS) is to enable laboratories performing the analysis of food products to monitor their performance and compare it with that of their peers. QFCS also aims to provide information to participants on technical issues and methodologies relating to the chemical examination of foods.

The QFCS scheme year operates from January to December. Further information about QFCS, including test material availability, round despatch dates and reporting deadlines, are available on the current QFCS application form

Test Materials

Details of test materials available in QFCS are given in the 'Samples Available' section. The test parameters are continually reviewed to ensure they meet the needs of current laboratory testing and regulatory requirements.

Test material batches are tested for homogeneity for at least one test parameter where deemed appropriate. Details of homogeneity tests performed and results are given in the QFCS Scheme Reports.

Some aspects of the scheme, such as test material production, homogeneity testing and stability assessment, can from time to time be subcontracted. When subcontracting occurs, it is placed with a competent subcontractor and LGC is responsible for this work. The planning of the scheme, the evaluation of performance and the authorisation of the final report will never be subcontracted.

Statistical Analysis

Information on the statistics used in QFCS can be found in the General Protocol and in the Scheme Report. Methods for determining assigned values and the values for SDPA used for individual samples are given in the 'Samples Available' section.

Methods

Methods are listed PORTAL. Please select the most appropriate method from the list. If none of the methods are appropriate, then please report your method as 'Other' and record a brief description in the Comments Section in PORTAL.

Results and Reports

QFCS results are returned through our electronic reporting software, PORTAL, full instructions for which are provided by email.

QFCS reports will be available on the website within 10 working days of round closure. Participants will be emailed a link to the report when it is available.

DESCRIPTION OF ABBREVIATIONS USED

Assigned Value (AV)

The assigned value may be derived in the following ways:

- From the robust mean (median) of participant results (RMean). This is the median of participant results after the removal of test results that are inappropriate for statistical evaluation, e.g. miscalculations, transpositions and other gross errors. Generally, the assigned value will be set using results from all methods, unless the measurement is considered method-dependant, in which case the assigned value will be set by method and indicated in the report tables. For some analytes, where there is a recognised reference method for that type of measurement, this may be used as the assigned value for a particular analyte i.e. it would be applied to results obtained by any method.

Traceability: Assigned values which are derived from the participant results, or a sub-set of the results are not traceable to an international measurement standard. The uncertainty of assigned values derived in this way is estimated from the participant results, according to ISO 13528.

- From a formulation value (Form). This denotes the use of an assigned value derived from sample preparation details, where known and exact quantities of analyte have been used to prepare the sample.

Traceability: Assigned values calculated from the formulation of the test sample are traceable, via an unbroken metrological traceability chain, to an international measurement standard. The measurement uncertainty of the assigned value is calculated using the contributions from each calibration in the traceability chain.

- From a qualitative formulation (Qual Form). This applies to qualitative tests where the assigned value is simply based on the presence/absence of the analyte in the test material.

Traceability: Assigned values calculated from the qualitative formulation of the test sample are traceable to a certified reference standard or a microbiological reference strain.

- From expert labs (Expert). The assigned value for the analyte is provided by an 'expert' laboratory.

Traceability: Assigned values provided by an 'expert' laboratory may be traceable to an international measurement standard, according to the laboratory and the method used. The uncertainty of measurement for an assigned value produced in this way will be provided by the laboratory undertaking the analysis. Details of traceability and the associated uncertainty will be provided in the report for the scheme/round.

Range

This indicates the concentration range at which the analyte may be present in the test material.

SDPA

The SDPA represents the 'standard deviation for proficiency assessment' which is used to assess participant performance for the measurement of each analyte. This may be a fixed value (as stated), a percentage (%) of the assigned value or based on the robust standard deviation of the participant measurement results, either across all methods or by method depending on whether the measurement made is method dependent (see assigned value).

Units

This indicates the units used for the assessment of data and in which participants should report their results.

For some analytes in some schemes participants may have a choice of which units to report their results, however, the units stipulated in this scheme description are the default units to which any results reported using allowable alternative results will be converted to.

DP

This indicates the number of decimal places to which participants should report their measurement results.

SAMPLES AVAILABLE

Sample PT-FC-760

Supplied as

Analysis of preservatives

100ml liquid test material

Analyte	Method	Range	AV	SDPA	Units	DP
Sorbic acid	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1
Benzoic acid	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1
Sulfur dioxide	Distillation	All	Formulation	Robust SD	mg/L	1

Sample PT-FC-761

Supplied as

Analysis of sweeteners

100ml liquid test material

Analyte	Method	Range	AV	SDPA	Units	DP
Acesulfame K	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1
Aspartame	HPLC	All	Formulation	10% of AV (min 5ppm)	mg/L	1
Saccharin	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1
Sucralose	HPLC	All	Formulation	Robust SD	mg/L	1

Sample PT-FC-762

Supplied as

Analysis of food colours

100ml liquid test material

Analyte	Method	Range	AV	SDPA	Units	DP
CAS 2611-82-7 Ponceau 4R	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1
CAS 3567-69-9 Carmoisine	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1
CAS 2783-94-0 Sunset yellow	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1
CAS 860-22-0 Indigo carmine***	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1

Sample PT-FC-763

Supplied as

Analysis of food colours

100ml liquid test material

Analyte	Method	Range	AV	SDPA	Units	DP
CAS 25956-17-6 Allura red	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1
CAS 1934-21-0 Tartrazine	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1
CAS 8004-92-0 Quinoline yellow	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1
CAS 3844-45-9 Brilliant blue	HPLC	All	Formulation	5% of AV (min 5ppm)	mg/L	1

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-770
Supplied as

Nutritional analysis of processed cereal based food
100g cereal based food

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	5% of AV	kcal or kJ/100g	0
Fat	Acid hydrolysis & Soxhlet, Gerber, NIR (food analyser), Soxhlet, NMR	All	Median	Robust SD	%	2
Carbohydrate (total & available)	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	%	2
Total sugars	HPLC, Lane and Eynon, Luff Schoorl	All	Median	20% of AV (min 1%)	%	2
Total dietary fibre	AOAC 2017.16, AOAC 2022.01	All	Median	0.50	%	2
Dietary fibre	AOAC 985.29, AOAC 991.43	All	Median	0.50	%	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	0.30	%	2
Salt	Determined from chloride Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Sodium	Atomic absorption, Titration, Flame Photometry, Ion chromatography, NMR sensor	All	Median	0.05	%	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	0.10	%	2
Moisture	Drying at 87°C Drying at 100-105°C Drying at 130°C	All	Median	0.50	%	2
Phosphate	Spectrophotometer, ICP-OES, ICP-MS	All	Median	0.05	%PO ₄ or %P	2
Magnesium	ICP-OES, ICP-MS, AAS, IC, Colorimetry	All	Median	Robust SD	mg/100g	2
Potassium	ICP-OES, ICP-MS, AAS, IC, Colorimetry	All	Median	Robust SD	mg/100g	2
Zinc	ICP-OES, ICP-MS, AAS	All	Median	Robust SD	mg/kg	2
Calcium	ICP-OES, ICP-MS, AAS	All	Median	Robust SD	mg/100g	2
Phosphorus	ICP-OES, ICP-MS, AAS	All	Median	Robust SD	mg P /kg	2

Sample PT-FC-771
Supplied as

Vitamins & minerals in cereal-based food
200g cereal based food

Analyte	Method	Range	AV	SDPA	Units	DP
Vitamin A	HPLC	All	Median	Robust SD	µg/100g as retinol	1
Thiamine (<i>vitamin B1</i>)	HPLC	All	Median	25% of AV	mg/100g as thiamine mononitrate	2
Riboflavin (<i>vitamin B2</i>)	HPLC	All	Median	25% of AV	mg/100g as riboflavin	2
Niacin (<i>vitamin B3</i>)	HPLC	All	Median	Robust SD	mg/100g as nicotinamide	2
Pantothenic Acid (<i>vitamin B5</i>)	HPLC	All	Median	Robust SD	mg/100g as pantothenic acid	2
Vitamin B6	HPLC	All	Median	25% of AV	mg/100g as pyridoxine HCl	2
Folic Acid (<i>vitamin B9</i>)	HPLC	All	Median	20% of AV	µg/100g as folic acid	1
Vitamin B12	HPLC	All	Median	Robust SD	µg/100g as cyanocobalamin	2
Vitamin C	HPLC	All	Median	20% of AV	mg/100g as ascorbic acid	2
Vitamin D	HPLC	All	Median	Robust SD	µg/100g as sum of D2 & D3	1
Iron	ICP-OES, ICP-MS, AAS	All	Median	15% of AV	mg/100g	2

Sample PT-FC-772
Supplied as

Nutritional analysis of a 'pre-prepared' food product
200g 'pre-prepared' food product (e.g: potato, rice or pasta-based meal)

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	5% of AV	kcal or kJ/100g	0
Fat	Acid hydrolysis & Soxhlet, Gerber, NIR (food analyser), Soxhlet, NMR	All	Median	Robust SD	% (g/100g)	2
Saturates	GC	All	Median	20% of AV	% (g/100g)*	2
Mono-unsaturates	GC	All	Median	20% of AV	% (g/100g)*	2
Poly-unsaturates	GC	All	Median	20% of AV	% (g/100g)*	2
Total trans fatty acids	GC	All	Median	Robust SD	% (g/100g)*	2

*Results should be reported as % (g/100g) of the whole product.

Analyte	Method	Range	AV	SDPA	Units	DP
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	1.00	%	2
Total sugars	HPLC, Lane and Eynon, Luff School	All	Median	1.00	%	2
Dietary fibre	AOAC 985.29, AOAC 991.43	All	Median	0.50	%	2
Total Dietary fibre	AOAC 2017.16, AOAC 2022.01	All	Median	0.50	%	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	0.30	%	2
Salt	Determined from chloride Determined from sodium	All	Median	0.05	% (as NaCl)	2
Sodium	Atomic absorption, Titration, Flame Photometry, Ion chromatography, NMR sensor	All	Median	0.05	%	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	0.10	%	2
Moisture	NIR (food analyser), Microwave, Oven drying, Heating to constant weight, Karl Fischer	All	Median	0.50	%	2
Phosphate	Spectrophotometer, ICP-OES, ICP-MS	All	Median	0.05	%PO ₄ or %P	2
Cholesterol	GC	All	Median	30% of AV	mg/100g	2

Sample PT-FC-774
Supplied as

Water activity analysis of food

50g cured meat, hard cheese, cereal, dried fruit and jam – see the current QFCS Application form for full details.

Analyte	Method	Range	AV	SDPA	Units	DP
Water activity	Water activity meter	<0.2 0.2 to 0.8 >0.8	Median	0.050 0.020 0.010	A _w	3

Sample PT-FC-775
Supplied as

Nutritional analysis of wheat flour

100g flour

Analyte	Method	Range	AV	SDPA	Units	DP
Fat	Acid hydrolysis and Soxhlet NIR Soxhlet	All	Median	25% of AV	%	2
Protein	Dumas Kjeldahl NIR (food analyser)	All	Median	0.30	%	2

Analyte	Method	Range	AV	SDPA	Units	DP
Dietary fibre	AOAC 985.29, AOAC 991.43, AOAC 2017.16, AOAC 2022.01	All	Median	Robust SD	%	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	0.20	%	2
Moisture	Drying at 100-105°C Drying at 130°C Drying at 87°C	All	Median	0.50	%	2
Calcium	AAS, Colorimetry, Flame photometry, ICP-MS, ICP-OES, Ion chromatography, Titration	All	Median	15% of AV	mg/100g	2
Iron	AAS, ICP-MS, ICP-OES	All	Median	20% of AV (min 0.2)	mg/100g	2

Sample PT-FC-776
Supplied as

Nutritional analysis of bread
100g bread

Analyte	Method	Range	AV	SDPA	Units	DP
Fat	Acid hydrolysis & Soxhlet, Gerber, NIR (food analyser), NMR, Soxhlet	All	Median	Robust SD	%	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	0.30	%	2
Dietary fibre	AOAC 985.29, AOAC 991.43, AOAC 2017.16, AOAC 2022.01	All	Median	0.50	%	2
Acidity	Various	All	Median	Robust SD	% acetic acid	2
Ash	Various	All	Median	0.20	%	2
Moisture	Heating to constant weight, Karl Fischer, Microwave, NIR (food analyser), Oven drying	All	Median	0.50	%	2
Sodium	Atomic absorption, Titration, Flame photometry, Ion chromatography, NMR sensor	All	Median	10% of AV (min 0.25)	%	2
Chloride	Chloride analyser, Ion chromatography, Titration	All	Median	0.15	%	2
Calcium	AAS, colorimetry, flame photometry, ICP-MS, ICP-OES, Ion chromatography, Titration	All	Median	15% of AV	mg/100g	2
Iron	AAS, ICP-MS, ICP-OES	All	Median	20% of AV (min 0.25)	mg/100g	2

Analyte	Method	Range	AV	SDPA	Units	DP
Thiamine (vitamin B1)	HPLC	All	Median	Robust SD	mg/100g as thiamine mononitrate	2
Riboflavin (vitamin B2)	HPLC	All	Median	Robust SD	mg/100g as riboflavin	2
Niacin (vitamin B3)	HPLC	All	Median	Robust SD	mg/100g as nicotinamide	2
pH	pH meter	All	Median	0.10	-	2

Sample PT-FC-777***

Supplied as

Pesticides analysis of dried tea including nicotine

50g dried tea material containing up to 6 quantifiable pesticides (from Appendix C)

50g blank dried tea matrix**

Analyte	Method	Range	AV	SDPA	Units	DP
Pesticides	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
Nicotine	QuEChERS LC-MS/MS, Other (please specify)	All	Median	25% of AV	µg/kg	1
Perchlorate	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
Chlorate	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1

**A blank matrix is provided for laboratories that require a spiked quality control material to be run alongside samples being assessed. Results are not required to be returned for the blank matrix provided.

***Currently not included in LGC's UKAS Scope of Accreditation

Participants will be required to screen the sample provided and report the presence of any pesticides found above their routine reporting limits. Each pesticide detected in the sample should also be quantified.

Sample PT-FC-778

Supplied as

Edible Oil & Fat analysis

1 x 150g of edible oil or fat

Analyte	Method	Range	AV	SDPA	Units	DP
Water	Karl Fisher, Oven drying, Vacuum oven, Distillation	-	Median	Robust SD	g/kg	2
Free fatty acids (acidity)	Titration	-	Median	20% of AV (min 0.025)	% oleic acid	2
Saponification value	Titration	-	Median	5.0	KOH mg/g	1
Unsaponifiable matter	ISO 3596, ISO 18609, IS 548:1964, AOAC 933.08	-	Median	Robust SD	g/kg	2
Anisidine value	Various	-	Median	Robust SD	AV	2

Analyte	Method	Range	AV	SDPA	Units	DP
Colour	Spectrophotometry	-	Median	Robust SD	Hazen mg pt/L	1
Colour	Lovibond, path length 1" Lovibond, path length 5.25" Lovibond, path length 5.5"	-	Median	Robust SD	Lovibond	1
Iodine value	Titration	-	Median	2.5% of AV	% Iodine absorbed	1
Peroxide value	Titration	-	Median	20% of AV (min 0.025)	mEq O ₂ /kg sample	2

Fatty acid composition*						
Analyte	Method	Range	AV	SDPA	Units	DP
8:0 caprylic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
10:0 capric acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
12:0 Lauric acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
14:0 Myristic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
14:1 n-5 Myristoleic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
15:0 Pentadecanoic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
16:0 Palmitic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
16:1 Palmitoleic acid (cis & trans)	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
17:0 Heptadecanoic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:0 Stearic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:1 Oleic acid (cis) n-9	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:1 Oleic acid (total cis and trans)	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
Sum of oleic 18:1 cis n-9 & vaccenic cis 18:1 n-11	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:2 Linoleic acid (n-6) cis & trans	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:3 Linolenic acid (n-3) cis & trans	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
20:0 Arachidic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2

20:1 Eicosenoic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
22:0 Behemic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
22:1 Erucic acid (cis-13-docosenoic acid)	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
24:0 Tetracosanoic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
Total trans fatty acids (sum of all)	-	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2

*Values below 0.5% are to be considered as below the limit of detection and performance scores will not be provided.

Fatty acids available (per sample type)

Fatty acids	Soybean oil (SBO)	Coconut oil (CO)	Sunflower oil (SO)	Palm oil (PO)	Rapeseed oil (RO)
8:0 caprylic acid	-	Yes	-	Yes	-
10:0 caproic acid	-	Yes	-	Yes	-
12:0 Lauric acid	Yes	Yes	Yes	Yes	-
14:0 Myristic acid	Yes	Yes	Yes	Yes	Yes
14:1 n-5 Myristoleic acid	-	Yes	-	Yes	Yes
15:0 Pentadecanoic acid	-	Yes	-	Yes	-
16:0 Palmitic acid	Yes	Yes	Yes	Yes	Yes
16:1 Palmitoleic acid (cis & trans)	Yes	-	-	Yes	Yes
17:0 Heptadecanoic acid	-	-	-	Yes	-
18:0 Stearic acid	Yes	Yes	Yes	Yes	Yes
18:1 Oleic acid (cis) n-9	Yes	Yes	Yes	Yes	Yes
18:1 Oleic acid (total cis and trans)	Yes	Yes	Yes	Yes	Yes
Sum of oleic 18:1 cis n-9 & vaccenic cis 18:1 n-11	Yes	Yes	Yes	Yes	Yes
18:2 Linoleic acid (n-6) cis & trans	Yes	Yes	Yes	Yes	Yes
18:3 Linolenic acid (n-3) cis & trans	Yes	-	Yes	Yes	Yes
20:0 Arachidic acid	Yes	-	Yes	Yes	Yes
20:1 Eicosenoic acid	Yes	-	Yes	Yes	Yes

22:0 Behemic acid	Yes	-	Yes	Yes	Yes
22:1 Erucic acid (cis-13-docosenoic acid)	Yes	-	Yes	-	Yes
24:0 Tetracosanoic acid	Yes	-	Yes	-	Yes
Total trans fatty acids (sum of all)	Yes	Yes	Yes	Yes	-

The fatty acid composition is based on CODEX Alimentarius CXS 210-1999

Sample PT-FC-779 **Aflatoxin analysis of nuts**
Supplied as 50g powdered nut matrix

Analyte	Method	Range	AV	SDPA	Units	DP
Aflatoxins B ₁ , B ₂ , G ₁ , G ₂	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	1
Total aflatoxins	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	1

Sample PT-FC-780 **Elements analysis in dried tea including nickel**
Supplied as 50g dried green tea

Analyte	Method	Range	AV	SDPA	Units	DP
Total arsenic	AAS, ICP-MS, ICP-OES	0.1 – 2	Median	15% of AV	mg/kg	2
Cadmium	AAS, ICP-MS, ICP-OES	0.1 – 2	Median	15% of AV	mg/kg	2
Mercury	AAS, ICP-MS, ICP-OES	0.1 – 2	Median	15% of AV	mg/kg	2
Lead	AAS, ICP-MS, ICP-OES	0.1 – 2	Median	15% of AV	mg/kg	2
Selenium	AAS, ICP-MS, ICP-OES	0.1 – 2	Median	15% of AV	mg/kg	2
Nickel***	AAS, ICP-MS, ICP-OES	0.1 – 2	Median	15% of AV	mg/kg	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-781 **Gluten in flour (allergen testing - low level gluten)**
Supplied as 25g contaminated gluten free flour

Analyte	Method	Range	AV	SDPA	Units	DP
Gluten (quantitative)	AgraQuant Gluten, PCR, RIDASCREEN Gliadin competitive (R7021), RIDASCREEN Gliadin non-competitive (R7001), LC-MS/MS	20 - 120	Median	Robust SD	mg/kg	1

Sample PT-FC-782
Supplied as

Nutritional analysis of mixed fat spread
100g mixed fat spread

Analyte	Method	Range	AV	SDPA	Units	DP
Total Fat	GC, Acid hydrolysis & Soxhlet, NIR (food analyser), Soxhlet, NMR, Werner Schmid, Mojonner	All	Median	Robust SD	%	2
Saturates	GC	All	Median	20% of AV	g/100g*	2
Mono-unsaturates	GC	All	Median	20% of AV	g/100g*	2
Poly-unsaturates	GC	All	Median	20% of AV	g/100g*	2
Total trans fatty acids	GC	All	Median	Robust SD	g/100g*	2
Omega 3	GC, HPLC	-	Median	Robust SD	g/100g*	2
Omega 6	GC, HPLC	-	Median	Robust SD	g/100g*	2
Salt	Chloride analyser, Mohr, Potentiometric titration, Volhard	All	Median	0.05	%	2
Water	Food analyser, Hot plate drying, Karl Fischer, Over drying	All	Median	0.20	%	2
pH	pH meter	All	Median	0.10	-	2
Vitamin A	HPLC	-	Median	Robust SD	µg/100g as retinol	1
Vitamin D	HPLC	-	Median	Robust SD	µg/100g as sum of D2 & D3	1

*Results should be reported as % (g/100g) of the whole product.

Sample PT-FC-783
Supplied as

Nutritional analysis of tomato paste/puree
150g tomato paste/puree

Analyte	Method	Range	AV	SDPA	Units	DP
pH	pH meter	All	Median	Robust SD	-	2
Brix	Densitometer, refractometer	All	Median	Robust SD	%	2
Total acidity	Titration	All	Median	Robust SD	% acetic acid	2
Total solids	Microwave, moisture analyser, oven drying, vacuum oven	All	Median	Robust SD	%	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	Robust SD	%	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Bostwick Viscosity***	Measured by Bostwick method 12.5 °Brix	All	Median	Robust SD	cm / 30 seconds	2

Sample PT-FC-784***
Supplied as

Elements analysis in cereal grain
50g cereal grain

Analyte	Method	Range	AV	SDPA	Units	DP
Total arsenic	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	2
Cadmium	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	2
Lead	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	2
Mercury	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	2
Nickel	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	2

Sample PT-FC-785***
Supplied as

Elements analysis in oil
50g edible oil

Analyte	Method	Range	AV	SDPA	Units	DP
Total arsenic	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	2
Cadmium	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	2
Lead	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	2
Mercury	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-786***
Supplied as

Elements analysis in dried fruit
50g dried fruit

Analyte	Method	Range	AV	SDPA	Units	DP
Total arsenic	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	2
Cadmium	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	2
Lead	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	2
Mercury	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	2

Sample PT-FC-787
Supplied as

Nitrate analysis in vegetables
50g of vegetable

Analyte	Method	Range	AV	SDPA	Units	DP
Nitrate	HPLC, Ion chromatography, Spectrophotometry	2000 - 7000	Median	Robust SD	mg/kg (as NaNO ₃)	0

Sample PT-FC-788
Supplied as

Acrylamide analysis in snacks
50g snack product

Analyte	Method	Range	AV	SDPA	Units	DP
Acrylamide	LC-MS/MS, GC-MS	All	Median	15%	µg/kg	0

Sample PT-FC-789
Supplied as

Elements analysis in rice
10g rice

Analyte	Method	Range	AV	SDPA	Units	DP
Total arsenic	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	3
Total Inorganic arsenic ^{1***}	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	3
As (III) ^{***}	EN 16802:2016, HPLC-ICP-MS	All	Median	Robust SD	mg/kg	3
As (V) ^{***}	EN 16802:2016, HPLC-ICP-MS	All	Median	Robust SD	mg/kg	3
Cadmium	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	3
Lead ^{***}	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	3

¹Sum of As (III) and As (V)

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-790
Supplied as

Extra virgin olive oil analysis
2 x 200ml extra virgin olive oil,
1 x 50ml for insoluble impurities only

Analyte	Method	Range	AV	SDPA	Units	DP
Peroxide value	Titration	≤10 >10	Median	0.8 1.2	mEq O ₂ /kg	2
Free fatty acids (acidity)	Titration	<0.2 0.2-1 >1	Median	24% of AV 5% of AV 3% of AV	% oleic acid	2
K ₂₃₂	Spectrophotometry – cyclohexane Spectrophotometry – iso octane	-	Median	5% of AV	-	2
K ₂₇₀	Spectrophotometry – cyclohexane Spectrophotometry – iso octane	≤0.2 >0.2	Median	8% of AV 5% of AV	-	2
Wax content	GC	<50 50-200 >200	Median	20% of AV 14% of AV 9% of AV	mg/kg	0
3,5 stigmastadienes	GC	-	Median	41% of AV	mg/kg	3
Ethyl esters	GC	≤15 >15	Median	30% of AV 15% of AV	mg/kg	0
Total sterols	GC	≤1500 >1500	Median	6% of AV 8% of AV	mg/kg	0
Δ ⁷ -stigmastenol	GC	-	Median	20% of AV	% total sterols	2
Insoluble impurities	Gravimetric analysis	-	Median	Robust SD	% w/w	2
Moisture and volatile matter at 103°C	Gravimetric analysis	-	Median	Robust SD	% w/w	2
Total polyphenols	Spectrophotometry (Folin Ciocalteu)	-	Median	Robust SD	mg of caffeic acid /kg of oil	1
Fatty acid composition						
16:0 Palmitic acid	GC	-	Median	5% of AV	% total fatty acids	2
18:0 Stearic acid	GC	-	Median	4% of AV	% total fatty acids	2
18:1 Oleic acid (total cis and trans)	GC	-	Median	0.6% of AV	% total fatty acids	2
18:2 Linoleic acid (cis & trans)	GC	-	Median	2% of AV	% total fatty acids	2
18:3 Linolenic acid (cis & trans)	GC	-	Median	4.4% of AV	% total fatty acids	2

Sample PT-FC-791
Supplied as

Olive oil analysis
2 x 200ml olive oil or olive pomace oil

Analyte	Method	Range	AV	SDPA	Units	DP
Free fatty acids (acidity)	Titration	<0.2 0.2-1 >1	Median	24% of AV 5% of AV 3% of AV	% oleic acid	2
K ₂₇₀	Spectrophotometry – cyclohexane Spectrophotometry – iso octane	≤0.2 >0.2	Median	8% of AV 5% of AV	-	2
ΔK	Spectrophotometry – cyclohexane Spectrophotometry – iso octane	-	Median	Robust SD	-	2
Wax content	GC	<50 50-200 >200	Median	20% of AV 14% of AV 9% of AV	mg/kg	0
β-sitosterol (apparent)	GC	≤85 >85	Median	2% of AV 0.4% of AV	% total sterols	2
Campesterol	GC	-	Median	3% of AV	% total sterols	2
Erythrodiol & Uvaol	GC, HPLC	-	Median	7% of AV	% total sterols	2
ΔECN 42	HPLC	-	Median	Robust SD	-	2
Accelerated oxidation test (Rancimat) at 120°C	Rancimat		Median	10% of AV	Induction time (hours)	2
2-glyceryl monopalmitate	GC/Other	-	Median	Robust SD	%	2
Fatty acid composition						
16:1 Palmitoleic acid (cis & trans)	GC	-	Median	6% of AV	% total fatty acids	2
18:1 Oleic acid (total cis and trans)	GC	-	Median	0.6% of AV	% total fatty acids	2
18:1 Oleic acid (trans)	GC	≤0.03 >0.03	Median	0.01 0.02	% total fatty acids	2
18:2 Linoleic acid (trans)	GC	≤0.03 >0.03	Median	0.01 0.02	% total fatty acids	2
18:3 Linolenic acid (trans)	GC	≤0.03 >0.03	Median	0.01 0.02	% total fatty acids	2
20:0 Arachidic acid	GC	-	Median	10% of AV	% total fatty acids	2
20:1 Gadoleic acid (cis & trans)	GC	-	Median	Robust SD	% total fatty acids	2

Sample PT-FC-793
Supplied as

Nutritional analysis of cake
100g cake

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Fat	Soxhlet, Acid hydrolysis & Soxhlet, NMR, NIR (food analyser)	All	Median	Robust SD	%	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	%	2
Total dietary fibre	AOAC 2017.16, AOAC 2022.01	All	Median	0.50	%	2
Dietary fibre	AOAC 991.43, AOAC 985.29	All	Median	0.50	%	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	0.30	%	2
Acidity	Titration	All	Median	Robust SD	% oleic acid	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	0.20	%	2
Moisture	NIR (food analyser), Microwave, Oven drying, Heating to constant weight	All	Median	Robust SD	%	2
Sodium	Atomic absorption, Titration, Flame Photometry, Ion chromatography, NMR sensor	All	Median	Robust SD	%	2
Chloride	Chloride analyser, Titration, Ion chromatography	All	Median	Robust SD	%	2
Calcium	AAS, ICP-OES, ICP-MS, Ion chromatography, Flame Photometry, Colorimetry, Titration	All	Median	Robust SD	mg/100g	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2

Sample PT-FC-794*** **Mycotoxins in spices (spiked)**
Supplied as 100g chilli powder/paprika

Analyte	Method	Range	AV	SDPA	Units	DP
Aflatoxins B ₁ , B ₂ , G ₁ , G ₂	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Total aflatoxins	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Ochratoxin A	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2

Sample PT-FC-796 **Quality of frying oil**
Supplied as 150g used frying oil

Analyte	Method	Range	AV	SDPA	Units	DP
Total polar compounds	Column chromatography - gravimetry	25-40	Median	10% of AV	%	1
Free fatty acids (acidity)	Titration	All	Median	Robust SD	% oleic acid	2
Accelerated oxidation test (Rancimat) at 120°C	Rancimat	All	Median	Robust SD	Induction time (hours)	2

Sample PT-FC-797 **Sulfur dioxide in dried fruit**
Supplied as 200g dried fruit slurry

Analyte	Method	Range	AV	SDPA	Units	DP
Sulfur dioxide	Distillation (Monier Williams), Ion chromatography	100 - 2500	Median	10%	mg/kg	0

Sample PT-FC-798*** **Nitrate in infant vegetable purée**
Supplied as 100g vegetable food

Analyte	Method	Range	AV	SDPA	Units	DP
Nitrate	HPLC, Ion chromatography, Spectrophotometry	10 to 300	Median	25%	mg/kg (as NaNO ₃)	0

Sample PT-FC-799 *** **Egg white allergen in cake mix (allergen testing)**
Supplied as 2 x 20g cake mix powder (A and B)

Analyte	Method	Range	AV	SDPA	Units	DP
Egg white protein	All	1-30	Median	Robust SD	mg/kg	2
Presence/absence of egg white protein	Lateral flow methods	All	-	-	Qualitative	-

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-801
Supplied as

Honey essential composition and quality factors
200g honey (blossom/nectar and/or untreated honey)

Analyte	Method	Range	AV	SDPA	Units	DP
Moisture	Refractometer	All	Median	Robust SD	%	1
Electrical conductivity	Conductivity meter	All	Median	Robust SD	mS/cm	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	Robust SD	g/100g	2
pH	pH meter	All	Median	Robust SD	-	2
Free acidity	Titration	All	Median	Robust SD	mEq acid/kg	2
Hydroxymethylfurfural (HMF)	HPLC, White method (spectrophotometry), Winkler (spectrophotometry)	All	Median	Robust SD	mg/kg	1
Diastase enzymatic activity (Diastase number)	Spectrophotometry	All	Median	Robust SD	Schade (Gothe) units/g	1
Fructose	GC, HPLC	All	Median	5%	g/100g	3
Glucose	GC, HPLC	All	Median	5%	g/100g	3
Sucrose	GC, HPLC	All	Median	Robust SD	g/100g	3
Apparent reducing sugars	Titration - Fehling's Solution	All	Median	Robust SD	g invert sugar /100 g honey	2
Water insoluble solids	Gravimetry	All	Median	Robust SD	g/100g	2

Sample PT-FC-802***
Supplied as

Ground coffee quality parameters
200g ground roasted coffee

Analyte	Method	Range	AV	SDPA	Units	DP
Water	Karl Fischer	All	Median	Robust SD	%	2
Ash	Gravimetry	All	Median	Robust SD	%	2
pH	pH meter	All	Median	Robust SD	-	2
Total acidity	Titration	All	Median	Robust SD	% acetic acid	2
Total chlorogenic acids	HPLC	All	Median	Robust SD	mg/g	2
Caffeine	HPLC	All	Median	Robust SD	mg/g	2
Potassium (K)	Flame AAS, ICP-OES	All	Median	Robust SD	g/kg	2
Phosphorus (P)	Flame AAS, ICP-OES	All	Median	Robust SD	mg/kg	0

Analyte	Method	Range	AV	SDPA	Units	DP
Magnesium (Mg)	Flame AAS, ICP-OES	All	Median	Robust SD	mg/kg	0
Calcium (Ca)	Flame AAS, ICP-OES	All	Median	Robust SD	mg/kg	0
Copper (Cu)	ET-AAS, ICP- MS, ICP-OES	All	Median	Robust SD	mg/kg	2

Sample PT-FC-803*** **Sudan I, III & IV in palm oil**
Supplied as 50g palm oil

Analyte	Method	Range	AV	SDPA	Units	DP
Sudan IV	LC-MS/MS	0.01-0.5	Median	Robust SD	mg/kg	3
Sudan I	LC-MS/MS	0.01-0.5	Median	Robust SD	mg/kg	3
Sudan III	LC-MS/MS	0.01-0.5	Median	Robust SD	mg/kg	3

Sample PT-FC-804‡ **Mycotoxins in dried fruits**
Supplied as 200g of slurry

Analyte	Method	Range	AV	SDPA	Units	DP
Aflatoxins B ₁ , B ₂ , G ₁ , G ₂	ELISA, HPLC, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Total aflatoxins	ELISA, HPLC, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Ochratoxin A	ELISA, HPLC, LC-MS/MS	All	Median	25% of AV	µg/kg	2

‡Accredited within the boundaries of LGC's flexible scope of UKAS accreditation

Sample PT-FC-805 **Polycyclic Aromatic Hydrocarbons (4 EU markers) in vegetable oil**
Supplied as 50ml vegetable oil

Analyte	Method	Range	AV	SDPA	Units	DP
Benzo[a]pyrene	GC-MS, HPLC, GC-MS/MS, Fluorescence	1-5	Median	20% of AV	µg/kg	2
Benz[a]anthracene	GC-MS, HPLC, GC-MS/MS, Fluorescence	1-5	Median	20% of AV	µg/kg	2
Benzo[b]fluoranthene	GC-MS, HPLC, GC-MS/MS, Fluorescence	1-5	Median	20% of AV	µg/kg	2
Chrysene	GC-MS, HPLC, GC-MS/MS, Fluorescence	1-5	Median	20% of AV	µg/kg	2
Sum of EU 4 PAHs	GC-MS, HPLC, GC-MS/MS, Fluorescence	4-20	Median	20% of AV	µg/kg	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-806***
Supplied as

Essential composition and fatty acids breakdown of fish oil supplement
100ml cod liver oil

Analyte	Method	Range	AV	SDPA	Units	DP
cis Alpha-linolenic acid (ALA)	GC	All	Median	Robust SD	g/100g	3
cis Eicosapentaenoic acid (EPA)	GC	All	Median	Robust SD	g/100g	2
Total Docosapentaenoic (DPA)	GC	All	Median	Robust SD	g/100g	2
cis Docosahexaenoic (DHA)	GC	All	Median	Robust SD	g/100g	2
Monounsaturated fatty acids	GC	All	Median	Robust SD	g/100g	2
Polyunsaturated fatty acids	GC	All	Median	Robust SD	g/100g	2
Saturated fatty acids	GC	All	Median	Robust SD	g/100g	2
Total EPA+DHA Omega-3 fatty acids	GC	All	Median	Robust SD	g/100g	2
Total Omega-3 fatty acids	GC	All	Median	Robust SD	g/100g	2
Total Omega-6 fatty acids	GC	All	Median	Robust SD	g/100g	2
Total Omega-9 fatty acids	GC	All	Median	Robust SD	g/100g	2
Omega-3 : Omega-6 ratio	Calculation	All	Median	Robust SD	-	2
Total trans fatty acids	GC	All	Median	Robust SD	g/100g	3
Vitamin A	GC	All	Median	Robust SD	mg/mL as retinol	2
Vitamin D	GC	All	Median	Robust SD	µg/mL as sum of D2 & D3	2

Sample PT-FC-808
Supplied as

Almond in rice flour (allergen testing)
2x 20g potentially contaminated rice flour (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Almond protein	ELISA (kits are specified on Portal), PCR, LC-MS/MS	1-30	Median	Robust SD	mg/kg	2
Presence/absence of almond protein	Lateral flow methods	All	-	-	Qualitative	-

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-809***
Supplied as

Soy in rice flour (allergen testing)
2x 20g potentially contaminated rice flour (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Soy protein	ELISA (kits are specified on Portal), PCR, LC-MS/MS	1-30	Median	Robust SD	mg/kg	2
Presence/absence of soy protein	Lateral flow methods	All	-	-	Qualitative	-

Sample PT-FC-810***
Supplied as

β-lactoglobulin in infant formula powder (allergen testing)
2x 20g potentially contaminated infant formula powder (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
β-lactoglobulin	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	µg/kg	2
Presence/absence of β-lactoglobulin	Lateral flow methods	All	-	-	Qualitative	-

***Currently not included in LGC's UKAS Scope of Accreditation.

Sample PT-FC-811
Supplied as

Nutritional analysis of ketchup
200g ketchup

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Fat	Acid hydrolysis & Soxhlet, Gerber, NIR (food analyser), Soxhlet, NMR	All	Median	Robust SD	% (g/100g)	2
Saturates	GC	All	Median	Robust SD	% (g/100g)	2
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	% (g/100g)	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	Robust SD	% (g/100g)	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2

Analyte	Method	Range	AV	SDPA	Units	DP
Dietary fibre	AOAC 991.43 AOAC 985.29 AOAC 2017.16 AOAC 2022.01	All	Median	Robust SD	%	2
Soluble solids	Refractometer	All	Median	Robust SD	%	2
pH	pH meter	All	Median	Robust SD	-	2
Total acidity	Titration	All	Median	Robust SD	% as acetic acid	2
Citric acid	HPLC	All	Median	Robust SD	mg/100g	2
Formol number	Titration	All	Median	Robust SD	ml 0.1M NaOH/100 g	2
Sodium	Atomic absorption, Flame photometry, Ion chromatography, Titration, NMR sensor	All	Median	Robust SD	%	2

Sample PT-FC-812
Supplied as

Nutritional analysis of mayonnaise
150g mayonnaise

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Fat	Gerber, Soxhlet, acid hydrolysis & Soxhlet, NMR, NIR	All	Median	Robust SD	% (g/100g)	2
Saturates	GC	All	Median	Robust SD	% (g/100g)	2
Total trans fatty acids	GC	All	Median	Robust SD	% (g/100g)	3
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	% (g/100g)	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	Robust SD	% (g/100g)	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Sodium	Atomic absorption, Flame photometry, Ion chromatography, Titration, NMR sensor	All	Median	Robust SD	%	2
pH	pH meter	All	Median	Robust SD	-	2
Cholesterol	GC	All	Median	Robust SD	mg/100g	2

Analyte	Method	Range	AV	SDPA	Units	DP
Total acidity	Titration	All	Median	Robust SD	% as acetic acid	2

Sample PT-FC-813*** **Nutritional analysis of mustard**
Supplied as 150g prepared mustard

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Fat	Gerber, Soxhlet, acid hydrolysis & Soxhlet, NMR, NIR	All	Median	Robust SD	% (g/100g)	2
Saturates	GC	All	Median	Robust SD	% (g/100g)	2
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	% (g/100g)	2
Erucic acid 22:1 n-9	GC-FID, FAME- GC-MS, Quantitative 13C NMR	All	Median	Robust SD	% (g/100g) of total fatty acid content	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	Robust SD	% (g/100g)	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Dietary fibre	AOAC 991.43 AOAC 985.29 AOAC 2017.16 AOAC 2022.01	All	Median	Robust SD	%	2
pH	pH meter	All	Median	Robust SD	-	2
Total acidity	Titration	All	Median	Robust SD	% as acetic acid	2

***Currently not included in LGC's UKAS Scope of Accreditation.

Sample PT-FC-814*** **Nutritional analysis of canned fruit**
Supplied as Canned fruit (2 cans are provided)

Analyte	Method	Range	AV	SDPA	Units	DP
Drained weight	Gravimetry	All	Median	Robust SD	g	0
pH	pH meter	All	Median	Robust SD	-	2

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	% (g/100g)	2
Glucose	GC, HPLC	All	Median	Robust SD	% (g/100g)	2
Fructose	GC, HPLC	All	Median	Robust SD	% (g/100g)	2
Dietary fibre	AOAC 991.43 AOAC 985.29 AOAC 2017.16 AOAC 2022.01 Fibre analyser (e.g. Fibretec)	All	Median	Robust SD	% (g/100g)	2

Sample PT-FC-815
Supplied as

Chemical parameters in spices
200g of ground pepper

Analyte	Method	Range	AV	SDPA	Units	DP
Water activity	Water activity meter	<0.2 0.2 to 0.8 >0.8	Median	0.050 0.020 0.010	A _w	3
Moisture	Drying at 100-105°C Drying at 130°C Drying at 87°C	All	Median	Robust SD	% (m/m)	2
Total ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	Robust SD	% (m/m on dry basis)	2
Crude fibre, insoluble index	EC 152/2009, Fibre analysis (e.g. Fibretec), Gafsta method 10:0, ISO 6865	All	Median	Robust SD	% (m/m on dry basis)	2
Volatile oil	Distillation	All	Median	Robust SD	ml/100g on dry basis	2
Piperine content	HPLC	All	Median	Robust SD	% (m/m) on dry basis	2
	Spectrophotometric (e.g. ASTA 12.1, ISO 5564:1982)	All	Median	Robust SD	% (m/m) on dry basis	2
Acid insoluble ash	Gravimetry	All	Median	Robust SD	% (m/m) on dry basis	2
Non-volatile ether extract	ISO 1108:1992	All	Median	Robust SD	% (m/m) on dry basis	2

Sample PT-FC-816***
Supplied as

Nutritional analysis of dried pasta
100g ground pasta

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Fat	Gerber, Soxhlet, acid hydrolysis & Soxhlet, NMR, NIR	All	Median	Robust SD	% (g/100g)	2
Saturates	GC	All	Median	Robust SD	% (g/100g)	2
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	% (g/100g)	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	Robust SD	% (g/100g)	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	Robust SD	% (g/100g)	2
Moisture	Drying at 100-105°C Drying at 130°C Drying at 87°C	All	Median	Robust SD	% (g/100g)	2
Dietary fibre	AOAC 991.43 AOAC 985.29 AOAC 2017.16 AOAC 2022.01	All	Median	Robust SD	% (g/100g)	2

***Currently not included in LGC's UKAS Scope of Accreditation.

Sample PT-FC-817***
Supplied as

Composition and quality in jam and marmalade
200g jam or marmalade

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Fat	Gerber, Soxhlet, acid hydrolysis & Soxhlet, NMR, NIR	All	Median	Robust SD	% (g/100g)	2

Analyte	Method	Range	AV	SDPA	Units	DP
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	Robust SD	% (g/100g)	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	% (g/100g)	2
Fructose	HPLC, GC	All	Median	Robust SD	% (g/100g)	2
Glucose	HPLC, GC	All	Median	Robust SD	% (g/100g)	2
Soluble solids	Refractometer	All	Median	Robust SD	%	2
pH	pH meter	All	Median	Robust SD	-	2
Moisture	Refractometer Oven drying	All	Median	Robust SD	%	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	Robust SD	%	3
Total acidity	Titration	All	Median	Robust SD	% as citric acid anhydrous	2
Brix	Densitometer, Refractometer	All	Median	Robust SD	%	2

Sample PT-FC-818***

Supplied as

Foreign bodies in food products

Sample A (biscuit) / Sample B (paste) (both potentially contaminated)

Analyte	Method	Range	AV	SDPA	Units	DP
Presence/absence	Microscopy, X-ray, SEM, ultrasonic imaging, NMR, MRI, Hyperspectral imaging, Thermal imaging	All	Formulation	N/A	-	-
Identification of foreign body	All	-	Formulation	N/A	-	-

***Currently not included in LGC's UKAS Scope of Accreditation.

Sample PT-FC-819***

Chemical analysis of table salt

Supplied as

15g for As, Pb, Cd, Hg, Cu testing and 300g table salt for all the other parameters

Analyte	Method	Range	AV	SDPA	Units	DP
Purity	Calculation, Precipitation of NaCl	All	Median	Robust SD	% as NaCl on dry basis	1
Moisture	Drying at 100-105°C Drying at 130°C Drying at 87°C	All	Median	Robust SD	%	2
Sulfate	ISO 2480:1972 EuSalt/AS015-2007 (ICP-OES) EuSalt/ AS 018-2005 (HP-IC) Other (please specify)	All	Median	Robust SD	mg/kg	2
Iodine	Titration, Ion Selective electrode	All	Median	Robust SD	mg Iodine/kg	2
Calcium	ICP-OES	All	Median	Robust SD	mg/kg	0
Magnesium	ICP-OES	All	Median	Robust SD	mg/kg	0
Total Arsenic	GFAAS, ICP-MS, ICP-OES, Ag-DDTC photometric	All	Median	Robust SD	mg/kg	3
Lead	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3
Cadmium	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3
Mercury	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3
Copper	GFAAS, ICP-MS, ICP-OES, ZBEC photometric	All	Median	Robust SD	mg/kg	2
Ferrocyanides	Spectrophotometry, HPLC,	All	Median	Robust SD	mg/kg (expressed as anhydrous potassium ferrocyanide)	2

Sample PT-FC-820***

Lactose (low levels) in food products

Supplied as

100g food product

Analyte	Method	Range	AV	SDPA	Units	DP
Lactose	Ion chromatography, HP-AEC	<1g/100g	Median	Robust SD	% (g/100g)	3

***Currently not included in LGC's UKAS Scope of Accreditation.

Sample PT-FC-821***
Supplied as

Nutritional analysis of dehydrated food products
150g of dehydrated food product (e.g. instant noodles)

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Fat	Soxhlet, acid hydrolysis & Soxhlet, NMR, NIR	All	Median	Robust SD	% (g/100g)	2
Saturates	GC	All	Median	Robust SD	% (g/100g)	2
Total trans fatty acids	GC	All	Median	Robust SD	% (g/100g)	3
Carbohydrate	Available carbohydrate – direct measurement Available carbohydrate – calculation Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	% (g/100g)	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	Robust SD	% (g/100g)	2
Salt	Determined from chloride Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Sodium	Atomic absorption, Flame Photometry, Ion chromatography, Titration, NMR sensor	All	Median	Robust SD	%	2
Cholesterol	GC	All	Median	Robust SD	mg/100g	2

Sample PT-FC-822
Supplied as

Vinegar quality analysis
100ml of vinegar

Analyte	Method	Range	AV	SDPA	Units	DP
Total acidity	Titration	All	Median	Robust SD	% acetic acid	2
Total ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	Robust SD	%	2
Density	Densitometer	All	Median	Robust SD	g/ml	5
Total dry extract	Gravimetry	All	Median	Robust SD	%	2
Volatile acidity	Calculation	All	Median	Robust SD	% acetic acid	2
pH	pH meter	All	Median	Robust SD	-	2

***Currently not included in LGC's UKAS Scope of Accreditation.

Sample PT-FC-823***
Supplied as

Amino acid profile in infant formula powder
50g of infant formula powder

Analyte	Method	Range	AV	SDPA	Units	DP	
Alanine (free)	HPLC (post column), HPLC (pre-column), IEC	All	Median	Robust SD	g/100g	3	
Arginine (free)		All	Median	Robust SD	g/100g	3	
Aspartic acid (free)		All	Median	Robust SD	g/100g	3	
Glutamic acid (free)		All	Median	Robust SD	g/100g	2	
Glycine (free)		All	Median	Robust SD	g/100g	2	
Histidine (free)		All	Median	Robust SD	g/100g	3	
Isoleucine (free)		All	Median	Robust SD	g/100g	2	
Leucine (free)		All	Median	Robust SD	g/100g	2	
Lysine (free)		All	Median	Robust SD	g/100g	2	
Phenylalanine (free)		All	Median	Robust SD	g/100g	3	
Proline (free)		All	Median	Robust SD	g/100g	2	
Serine (free)		HPLC (post column), HPLC (pre-column), IEC	All	Median	Robust SD	g/100g	3
Threonine (free)			All	Median	Robust SD	g/100g	3
Tyrosine (free)	All		Median	Robust SD	g/100g	3	
Valine (free)	All		Median	Robust SD	g/100g	3	
Cystein & Cystine (sum of)	All		Median	Robust SD	g/100g	3	
Methionine (free)	All		Median	Robust SD	g/100g	3	
Tryptophan (total)	All		Median	Robust SD	g/100g	3	
N-acetyl-L-methionine	HPLC, Other (please specify)	220 - 1000	Median	Robust SD	mg/100g	1	

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-824***
Supplied as

Instant coffee quality parameters
200g instant coffee

Analyte	Method	Range	AV	SDPA	Units	DP
Moisture	Karl Fischer	All	Median	Robust SD	%	2
Solubility in cold water at 16±2C°	IS 2791	All	Median	-	-	-
Fat	Acid hydrolysis & Soxhlet, NIR (food analyser), Soxhlet,	All	Median	Robust SD	% (g/100g)	2
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Total Glucose	AOAC Method 995.13, ISO 24114:2011, Titration	All	Median	Robust SD	% (g/100g)	2

Analyte	Method	Range	AV	SDPA	Units	DP
Total Xylose	AOAC Method 995.13, ISO 24114:2011, Titration	All	Median	Robust SD	% (g/100g)	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	Robust SD	% (g/100g)	2
Dietary fibre	AOAC 985.29, AOAC 991.43, AOAC 2017.16, AOAC 2022.01	All	Median	Robust SD	% (g/100g)	2
Ash	Drying at 500°C, Drying at 525°C Drying at 550°C	All	Median	Robust SD	% (g/100g)	2
pH	pH meter	All	Median	Robust SD	-	2
Total chlorogenic acids	HPLC	All	Median	Robust SD	mg/g	2
Caffeine	HPLC	All	Median	Robust SD	mg/g	2

Sample PT-FC-825***

Authenticity of herbs and spices

Supplied as

2 x 15g dried herb or spice (samples A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Confirmation of authenticity	Microscopy, MS, NGS, FTIR, SCIO, Other (please specify)	N/A	-	-	-	-
Additional questions	Would you consider this sample to satisfy your specification for authenticity? If you consider this sample as not authentic, what adulterant have you detected? What is the specification assessment based on?					

Sample PT-FC-826***

Capsaicinoids and heat units in chilli powder or chilli sauce

Supplied as

20g dried chilli powder or chilli sauce

Analyte	Method	Range	AV	SDPA	Units	DP
Capsaicin	HPLC	All	Median	Robust SD	mg/kg	0
Dihydrocapsaicin	HPLC	All	Median	Robust SD	mg/kg	0
Nordihydrocapsaicin	HPLC	All	Median	Robust SD	mg/kg	1
Heat unit	Calculation	All	Median	Robust SD	Scoville heat unit (SHU)	0

Sample PT-FC-827***

Elements in infant fruit/vegetable purée

Supplied as

20g infant fruit/vegetable purée

Analyte	Method	Range	AV	SDPA	Units	DP
Total arsenic	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	3
Inorganic arsenic ¹	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	3
Cadmium	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	3
Lead	AAS, ICP-OES, ICP-MS	All	Median	Robust SD	mg/kg	3

¹Sum of As (III) and As (V)

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-828***
Supplied as

Nutritional analysis of processed nuts
150g processed nut product (e.g. salted peanuts)

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Fat	Gerber, Soxhlet, acid hydrolysis & Soxhlet, NMR, NIR	All	Median	Robust SD	% (g/100g)	2
Saturates	GC	All	Median	Robust SD	% (g/100g)	2
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	% (g/100g)	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	Robust SD	% (g/100g)	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Sodium	Atomic absorption, Titration, Flame photometry, Ion chromatography, NMR sensor	All	Median	Robust SD	% (as Na)	2
Moisture	Oven drying	All	Median	Robust SD	% (g/100g)	2

Sample PT-FC-829***
Supplied as

Tea quality parameters
100g dried tea

Analyte	Method	Range	AV	SDPA	Units	DP
Water extract	ISO 9768	All	Median	Robust SD	% (g/100g)	2
Total Ash	Gravimetry	All	Median	Robust SD	% (g/100g)	2
Water soluble Ash	ISO 1576:1988, Calculation	All	Median	Robust SD	% (g/100g)	2
Crude fibre	ISO 5498-1981	All	Median	Robust SD	% (g/100g)	2
Moisture	Oven drying	All	Median	Robust SD	% (g/100g)	2
Caffeine	HPLC	All	Median	Robust SD	mg/g	2

Sample PT-FC-830***
Supplied as

Vitamin C in fruit/vegetable purée
20g fruit/vegetable powder to be reconstituted

Analyte	Method	Range	AV	SDPA	Units	DP
Vitamin C (as ascorbic acid)	HPLC, Titration	All	Median	Robust SD	mg/kg as ascorbic acid	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-831***
Supplied as

Opiates in poppy seeds
15g ground poppy seeds

Analyte	Method	Range	AV	SDPA	Units	DP
Morphine	GC-MS, LC-MS, HPLC	All	Median	Robust SD	mg/kg	2
Codeine	GC-MS, LC-MS, HPLC	All	Median	Robust SD	mg/kg	2

Sample PT-FC-832
Supplied as

Nutritional analysis of non-wheat flour
100g non-wheat flour (e.g. tapioca flour, potato flour or maize flour)

Analyte	Method	Range	AV	SDPA	Units	DP
Fat	Acid hydrolysis and soxhlet, NIR, Soxhlet	All	Median	25% of AV	% (g/100g)	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	0.30	% (g/100g)	2
Dietary fibre	AOAC 985.29, AOAC 991.43, AOAC 2017.16, AOAC 2022.01	All	Median	-	% (g/100g)	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	0.20	% (g/100g)	2
Moisture	Drying at 100-105°C Drying at 130°C Drying at 87°C	All	Median	0.50	% (g/100g)	2
Calcium	AAS, Colorimetry, Flame photometry, ICP-MS, ICP-OES, Ion chromatography, Titration	All	Median	15% of AV	mg/100g	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-834***
Supplied as

Nutritional analysis and fatty acids in potato crisps
100g of blended potato crisps

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Fat	Gerber, Soxhlet, Acid hydrolysis & Soxhlet, NMR, NIR	All	Median	Robust SD	% (g/100g)	2
Saturates	GC	All	Median	Robust SD	% (g/100g)	2

Analyte	Method	Range	AV	SDPA	Units	DP
Monounsaturates	GC	All	Median	Robust SD	% (g/100g)	2
Polyunsaturates	GC	All	Median	Robust SD	% (g/100g)	2
Total trans fatty acids	GC	All	Median	Robust SD	% (g/100g)	3
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	% (g/100g)	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	Robust SD	% (g/100g)	2
Dietary fibre	AOAC 985.29, AOAC 991.43, AOAC 2017.16, AOAC 2022.01	All	Median	-	%	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Sodium	Atomic absorption, Titration, Flame photometry, Ion chromatography, NMR sensor	All	Median	Robust SD	%	2
Moisture	Oven drying	All	Median	Robust SD	% (g/100g)	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-835***
Supplied as

Nutritional analysis and fatty acids in tortilla chips
100g of blended tortilla chips

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	Robust SD	kcal or kJ/100g	0
Fat	Gerber, Soxhlet, Acid hydrolysis & Soxhlet, NMR, NIR	All	Median	Robust SD	% (g/100g)	2
Saturates	GC	All	Median	Robust SD	% (g/100g)	2
Monounsaturates	GC	All	Median	Robust SD	% (g/100g)	2
Polyunsaturates	GC	All	Median	Robust SD	% (g/100g)	2

Analyte	Method	Range	AV	SDPA	Units	DP
Total trans fatty acids	GC	All	Median	Robust SD	% (g/100g)	3
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	% (g/100g)	2
Total sugars	HPLC, Luff Schoorl, Lane and Eynon	All	Median	Robust SD	% (g/100g)	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	Robust SD	% (g/100g)	2
Dietary fibre	AOAC 985.29, AOAC 991.43, AOAC 2017.16, AOAC 2022.01	All	Median	Robust SD	%	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Sodium	Atomic absorption, Flame photometry, Ion chromatography, Titration, NMR sensor	All	Median	Robust SD	%	2
Moisture	Oven drying	All	Median	Robust SD	% (g/100g)	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-836
Supplied as

Pesticides in pome fruits including glyphosate

100g of material containing up to 20 quantifiable pesticides (from Appendix B)
100g Blank**

Analyte	Method	Range	AV	SDPA	Units	DP
Pesticides	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
Glyphosate***	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
AMPA***	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1

Sample PT-FC-837
Supplied as

Pesticides in citrus fruits including glyphosate

100g of material containing up to 20 quantifiable pesticides (from Appendix B)
100g Blank**

Analyte	Method	Range	AV	SDPA	Units	DP
Pesticides	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1

Glyphosate***	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
AMPA***	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1

Sample PT-FC-838
Supplied as

Pesticides in fruiting vegetables including glyphosate

100g of material containing up to 20 quantifiable pesticides (from Appendix B)
100g Blank**

Analyte	Method	Range	AV	SDPA	Units	DP
Pesticides	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
Glyphosate***	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
AMPA***	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1

Sample PT-FC-839
Supplied as

Pesticides in root and tuber vegetables including glyphosate

100g of material containing up to 20 quantifiable pesticides (from Appendix B)
100g Blank**

Analyte	Method	Range	AV	SDPA	Units	DP
Pesticides	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
Glyphosate***	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
AMPA***	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1

Sample PT-FC-840***
Supplied as

Pesticides in pulses including glyphosate

50g of material containing up to 20 quantifiable pesticides (from Appendix B)
50g Blank**

Analyte	Method	Range	AV	SDPA	Units	DP
Pesticides	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
Glyphosate	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
AMPA	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1

Sample PT-FC-841***

Pesticides in cereals including glyphosate

Supplied as

50g of material containing up to 20 quantifiable pesticides (from Appendix B)
50g Blank**

Analyte	Method	Range	AV	SDPA	Units	DP
Pesticides	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
Glyphosate	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1
AMPA	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1

Sample PT-FC-843***

Pesticides in spices

Supplied as

50g of material containing up to 20 quantifiable pesticides (from Appendix B)
50g Blank**

Analyte	Method	Range	AV	SDPA	Units	DP
Pesticides	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1

A blank matrix is provided for laboratories that require a spiked quality control material to be run alongside samples being assessed. Results are **not required to be returned for the blank matrix provided. Participants will be required to screen the sample provided and report the presence of any pesticides found above their routine reporting limits. Each pesticide detected in the sample should also be quantified.

Sample PT-FC-845***

Mycotoxins in rice

Supplied as

100g of ground rice

Analyte	Method	Range	AV	SDPA	Units	DP
Aflatoxins B ₁ , B ₂ , G ₁ , G ₂	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Total aflatoxins	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Ochratoxin A	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Zearalenone	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2

Sample PT-FC-846***

Food labelling benchmark exercise and declaration of nutritional values

Supplied as

Paper exercise (Participants can report in English and German)

Analyte	Method	AV
Assessment to European Union Food law or equivalent	Qualitative	Expert/Consensus

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-848*** **Vegan food**
Supplied as 2 x 10g of material (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Presence or absence of animal DNA	RT-PCR	Qualitative	-	-	-	-

Sample PT-FC-849*** **Cannabidiol (CBD) in confectionery**
Supplied as 3 x gummies

Analyte	Method	Range	AV	SDPA	Units	DP
Cannabidiol	UHPLC, GC/FID, GC MS	All	Median	Robust SD	mg/g	2

Sample PT-FC-850*** **Vanillin in vanilla extract**
Supplied as 3 x 20ml of vanilla extract

Analyte	Method	Range	AV	SDPA	Units	DP
Vanillin	UHPLC, HPLC, GC-MS, Spectrophotometry	All	Median	Robust SD	mg/kg	1
Ethyl alcohol	GC, Other	All	Median	Robust SD	% v/v	1
Density	Electronic densitometer, densitometer	All	Median	Robust SD	g/ml	3
Refractive index at 20°C	Refractometer, other	All	Median	Robust SD	-	4

Sample PT-FC-851 **Gluten in pasta sauce (allergen testing - low in gluten)**
Supplied as 25g of material

Analyte	Method	Range	AV	SDPA	Units	DP
Gluten (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	20 -100	Median	Robust SD	mg/kg	2

Sample PT-FC-852 **Gluten and egg white in processed meat (allergen testing)**
Supplied as 2 x 20g of material (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Gluten	ELISA (kits are specified on Portal) PCR, LC-MS/MS	20-100	Median	Robust SD	mg/kg	2
Egg white protein	ELISA (kits are specified on Portal) PCR, LC-MS/MS	1-30	Median	Robust SD	mg/kg	2
Presence/absence of gluten	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of egg white protein	Lateral flow methods	All	-	-	Qualitative	-

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-853
Supplied as

Gluten, soya and milk protein in almond milk (allergen testing)
2 x 25ml of material (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Soy protein	ELISA (kits are specified on Portal), PCR, LC-MS/MS	1-30	Median	Robust SD	mg/kg	2
Milk protein***	ELISA (kits specified on Portal), PCR, LC-MS/MS	1-30	Median	Robust SD	mg/kg	2
Presence/absence of soy protein	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of milk protein***	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of gluten***	Lateral flow methods	All	-	-	Qualitative	-

Sample PT-FC-854
Supplied as

Multi allergens in biscuit or cookie (allergen testing)
Blended biscuit test material

Analyte	Method	Range	AV	SDPA	Units	DP
Gluten***	ELISA (kits are specified on Portal), PCR, LC-MS/MS	20-100	Median	Robust SD	mg/kg	2
Egg white protein***	ELISA (kits are specified on Portal), PCR, LC-MS/MS	1-30	Median	Robust SD	mg/kg	2
Presence/absence of gluten	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of egg white protein	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of milk protein	Lateral flow methods	All	-	-	Qualitative	-

Sample PT-FC-855[‡]
Supplied as

Gluten on surfaces (allergen testing)
Two surfaces to swab (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Gluten	Lateral flow methods	All	-	-	Qualitative	-

[‡]Accredited within the boundaries of LGC's flexible scope of UKAS accreditation

Sample PT-FC-856***
Supplied as

Pickles
100g of pickled cucumbers

Analyte	Method	Range	AV	SDPA	Units	DP
pH	pH meter	All	Median	Robust SD	-	2
Total Acidity	Titration	All	Median	Robust SD	% acetic acid	2
Calcium chloride	Titration	All	Median	Robust SD	% calcium chloride	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2

Sample PT-FC-857†
Supplied as

Ethylene oxide in sesame
60g of sesame paste

Analyte	Method	Range	AV	SDPA	Units	DP
Ethylene oxide (sum of ethylene oxide and 2-chloro-ethanol expressed as ethylene oxide)	GC/MS/MS, LC-ESI-MS/MS	0.5 to 5	Median	Robust SD	mg/kg	3
Ethylene oxide	GC/MS/MS, LC-ESI-MS/MS	All	Median	Robust SD	mg/kg	3
2 chloroethanol	GC/MS/MS, LC-ESI-MS/MS	All	Median	Robust SD	mg/kg	3

†Accredited within the boundaries of LGC's flexible scope of UKAS accreditation

Sample PT-FC-858***
Supplied as

Relish
100g relish

Analyte	Method	Range	AV	SDPA	Units	DP
pH	pH meter	All	Median	Robust SD	-	2
Brix	Densitometer, refractometer	All	Median	Robust SD	%	2
Total Acidity	Titration	All	Median	Robust SD	% acetic acid	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-861***
Supplied as

Garlic composition and quality
300g of garlic powder

Analyte	Method	Range	AV	SDPA	Units	DP
Moisture	Oven drying	All	Median	Robust SD	% (g/100g)	2
Sulfur dioxide	Distillation (Monier Williams)	All	Median	Robust SD	mg/kg	1
	Ion chromatography	All	Median	Robust SD	mg/kg	1
	ASTA 30.0 (Optimised/Modified Monier Williams)	All	Median	Robust SD	mg/kg	1
Allicin	HPLC-UV GC-MS	All	Median	Robust SD	mg/g	2
Volatile organic sulfur compounds content	ISO5567	All	Median	Robust SD	% (m/m) on dry basis	2
Ash (total)	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	0.10	%	2
Acid insoluble ash	Drying at 550°C	All	Median	Robust SD	%	3
Bulk index	Graduated cylinder, Volumeter, Measuring vessel	All	Median	Robust SD	ml/100g	1
Bulk Density (Untapped density)	Bulk density	All	Median	Robust SD	g/ml	2
Tapped density	Tapped density	All	Median	Robust SD	g/ml	2

Sample PT-FC-862***
Supplied as

Peanut butter composition and quality
50g of peanut butter

Analyte	Method	Range	AV	SDPA	Units	DP
Fat	Soxhlet, Acid hydrolysis & Soxhlet, NMR, NIR	All	Median	Robust SD	% (g/100g)	2
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Moisture	Oven drying	All	Median	Robust SD	% (g/100g)	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-863***
Supplied as

Organic acids (additives) in confectionery and bakery products
100g of product

Analyte	Method	Range	AV	SDPA	Units	DP
Propionic acid (E280)	GC, HPLC, LC-MS/MS, Titration	All	Median	Robust SD	mg/kg	0
Sorbic acid (E200)		All	Median	Robust SD	mg/kg	0
Benzoic acid (E210)		All	Median	Robust SD	mg/kg	0
Citric acid (E330)		All	Median	Robust SD	mg/kg	0
Tartaric acid (E334)		All	Median	Robust SD	mg/kg	0
Acetic acid (E260)		All	Median	Robust SD	mg/kg	0
Malic acid (E296)		All	Median	Robust SD	mg/kg	0
Butyric acid		All	Median	Robust SD	mg/kg	0

The presence of the analytes is material dependent and decimal places may be subject to alteration.

Sample PT-FC-865***
Supplied as

Moisture in green coffee
25g of green coffee

Analyte	Method	Range	AV	SDPA	Units	DP
Moisture	ISO 6673:2003 Loss in mass at 105 °C	All	Median	Robust SD	%	2

Sample PT-FC-866***
Supplied as

Elements in ground pepper
10g of ground pepper

Analyte	Method	Range	AV	SDPA	Units	DP
Total arsenic	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3
Cadmium	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3
Lead	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3
Mercury	AAS, ICP-MS	All	Median	Robust SD	mg/kg	3

Sample PT-FC-867***
Supplied as

Mycotoxins in corn
100g of ground corn (maize flour)

Analyte	Method	Range	AV	SDPA	Units	DP
Aflatoxins B ₁ , B ₂ , G ₁ , G ₂	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Total aflatoxins	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Ochratoxin A	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Zearalenone	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-868***
Supplied as

Ethylene oxide in spices
20g of food product e.g., ground ginger

Analyte	Method	Range	AV	SDPA	Units	DP
Ethylene oxide (sum of ethylene oxide and 2-chloroethanol expressed as ethylene oxide)	GC/MS/MS, LC-ESI-MS/MS	All	Median	Robust SD	mg/kg	3
Ethylene oxide	GC/MS/MS, LC-ESI-MS/MS	All	Median	Robust SD	mg/kg	3
2 chloroethanol	GC/MS/MS, LC-ESI-MS/MS	All	Median	Robust SD	mg/kg	3

Sample PT-FC-869***
Supplied as

Water activity of spices
50g of spices e.g. chilli powder.

Analyte	Method	Range	AV	SDPA	Units	DP
Water activity	Water activity meter	<0.2 0.2 to 0.8 >0.8	Median	0.050 0.020 0.010	A _w	3
Moisture	Oven drying	All	Median	Robust SD	% (g/100g)	2

Sample PT-FC-870***
Supplied as

Physical characteristics and colour of paprika
300g of paprika

Analyte	Method	Range	AV	SDPA	Units	DP
Bulk index	Graduated cylinder, Volumeter, Measuring vessel	All	Median	Robust SD	ml/100g	1
Bulk Density (Untapped density)	Bulk density, Untapped Density	All	Median	Robust SD	g/ml	2
Colour strength	ASTA	All	Median	Robust SD	ASTA units	0
Water activity	Water activity meter	<0.2 0.2 to 0.8 >0.8	Median	0.050 0.020 0.010	A _w	3
Tapped density	Tapped density	All	Median	Robust SD	g/ml	2

Sample PT-FC-871***
Supplied as

Elements in herbs
10g of herbs

Analyte	Method	Range	AV	SDPA	Units	DP
Total arsenic	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3
Cadmium	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3
Lead	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3
Mercury*	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3

*If the material is naturally contaminated, the content of mercury cannot be guaranteed.

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-872*** Bisphenols in 3% aqueous acetic acid (food contact materials – specific migration)

Supplied as 50ml of simulant

Analyte	Method	Range	AV	SDPA	Units	DP
Bisphenol A	GC-MS/MS, HPLC, UHPLC-MS/MS	All	Median	Robust SD	mg/kg	2
Bisphenol S	GC-MS/MS, HPLC, UHPLC-MS/MS	All	Median	Robust SD	mg/kg	2

Sample PT-FC-874*** Lead and Cadmium in 4% aqueous acetic acid (food contact materials – specific migration)

Supplied as 50ml of simulant

Analyte	Method	Range	AV	SDPA	Units	DP
Lead	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3
Cadmium	AAS, ICP-MS, ICP-OES	All	Median	Robust SD	mg/kg	3

Sample PT-FC-875*** Phthalates in vegetable/seed oil (food contact materials – specific migration)

Supplied as 20ml of simulant

Analyte	Method	Range	AV	SDPA	Units	DP
DEHP (CAS 117-81-7)	GC-MS	All	Median	Robust SD	mg/kg	2
BBP (CAS 85-68-7)	GC-MS	All	Median	Robust SD	mg/kg	2
DBP (CAS 84-74-2)	GC-MS	All	Median	Robust SD	mg/kg	2

Sample PT-FC-876*** Water activity of sauces

Supplied as 50g of sauce e.g. ketchup.

Analyte	Method	Range	AV	SDPA	Units	DP
Water activity	Water activity meter	<0.2 0.2 to 0.8 >0.8	Median	0.050 0.020 0.010	A _w	3

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-877***
Supplied as

Nutritional analysis of a plant-based meat alternative
150g of plant-based meat product

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	5% of AV	kcal or kJ/100g	0
Fat	Acid hydrolysis & Soxhlet, Gerber, NIR (food analyser), Soxhlet, NMR	All	Median	Robust SD	% (g/100g)	2
Saturates	GC	All	Median	20% of AV	% (g/100g)*	2
Mono-unsaturates	GC	All	Median	20% of AV	% (g/100g)*	2
Poly-unsaturates	GC	All	Median	20% of AV	% (g/100g)*	2
Total trans fatty acids	GC	All	Median	Robust SD	% (g/100g)*	2
Carbohydrate	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	1.00	%	2
Total sugars	HPLC, Lane and Eynon, Luff Schoorl	All	Median	1.00	%	2
Dietary fibre	AOAC 985.29, AOAC 991.43	All	Median	0.50	%	2
Total Dietary fibre	AOAC 2017.16, AOAC 2022.01	All	Median	0.50	%	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	0.30	%	2
Salt	Determined from chloride Determined from sodium	All	Median	0.05	% (as NaCl)	2

*Results should be reported as % (g/100g) of the whole product.

Sample PT-FC-878
Supplied as

Genetically modified organisms (GMO) in cereals and/or grains
5g of test material (the exact material and a list of possible GM events will be provided in the instruction sheet)

Analyte	Method	Range	AV	SDPA	Units	DP
Qualitative identification of the GM events	To be specified in the instruction sheet	-	Formulation	-	Detected/ Not detected	-
Quantification of GM events detected***	qPCR -To be specified in the instruction sheet	All	Median	Robust SD	m/m %	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-879***
Supplied as

Quality of herbs
300g of herbs e.g. oregano.

Analyte	Method	Range	AV	SDPA	Units	DP
Water activity	Water activity meter	<0.2 0.2 to 0.8 >0.8	Median	0.050 0.020 0.010	A _w	3
Moisture	Oven drying, ISO 939 – 1980	All	Median	Robust SD	% (m/m)	2
Acid Insoluble Ash	ISO 930 – 1997	All	Median	Robust SD	% (m/m), dry basis	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	0.10	% (m/m), dry basis	2
Volatile Oil	EN ISO 6571 2009	All	Median	Robust SD	ml/100g on dry basis	2

Sample PT-FC-880***
Supplied as

Pesticides in herbs
50g of material containing up to 20 quantifiable pesticides (from Appendix B)
50g blank**

Analyte	Method	Range	AV	SDPA	Units	DP
Pesticides	GC-ECD, GC-MS, GC-MS/MS, HPLC, LC-MS, LC-MS/MS	All	Median	25% of AV	µg/kg	1

Sample PT-FC-881***
Supplied as

Acrylamide analysis in coffee
50g of instant or ground coffee

Analyte	Method	Range	AV	SDPA	Units	DP
Acrylamide	LC-MS/MS, HPTLC, GC-FID, GC-MS	All	Median	15%	µg/kg	0

Sample PT-FC-882***
Supplied as

Peanut, sesame and soya on surfaces (allergen testing)
Two surfaces to swab (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Peanut protein	Lateral flow methods (testing kits to be specified on Portal)	All	-	-	Qualitative	-
Sesame protein						
Soy protein						

**A blank matrix is provided for laboratories that require a spiked quality control material to be run alongside samples being assessed. Results are not required to be returned for the blank matrix provided. Participants will be required to screen the sample provided and report the presence of any pesticides found above their routine reporting limits. Each pesticide detected in the sample should also be quantified.

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-883***
Supplied as

Essential quality parameters of soya sauce
100ml of soya sauce

Analyte	Method	Range	AV	SDPA	Units	DP
pH	pH meter	All	Median	Robust SD	-	2
Total titratable acidity	Titration	All	Median	Robust SD	mEQ of acid/100ml	2
Total sugars	HPLC, Lane and Eynon, Luff School	All	Median	20% of AV (min 1%)	%	2
Sorbic acid (E200)	GC, HPLC, LC-MS/MS, Titration	All	Median	Robust SD	mg/kg	1
Salt	Determined from chloride, Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Sodium	Atomic absorption, Flame Photometry, Ion chromatography, Titration, NMR sensor	All	Median	0.05	%	2
Magnesium	ICP-OES, ICP-MS, AAS, IC, Colorimetry	All	Median	Robust SD	mg/100g	2
Potassium	ICP-OES, ICP-MS, AAS, IC, Colorimetry	All	Median	Robust SD	mg/100g	2
Calcium	AAS, Colorimetry, Flame photometry, ICP-MS, ICP-OES, Ion chromatography, Titration	All	Median	15% of AV	mg/100g	2

Sample PT-FC-884***
Supplied as

Quality parameters of dried fruit e.g. dried dates
50g of dried fruit

Analyte	Method	Range	AV	SDPA	Units	DP
Total sugars	HPLC, Lane and Eynon, Luff School	All	Median	1.00	%	2
Dietary fibre	AOAC 985.29, AOAC 991.43 AOAC 2017.16, AOAC 2022.01	All	Median	0.50	%	2
Protein	Dumas, Kjeldahl, NIR	All	Median	0.30	%	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	0.10	%	2
Moisture	NIR (food analyser), Microwave, Oven drying, Heating to constant weight	All	Median	0.50	%	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-885***

Titanium dioxide in food products

Supplied as

20g of food product (the exact matrix is to be confirmed)

Analyte	Method	Range	AV	SDPA	Units	DP
Titanium dioxide	ICP-MS after acid digestion, GB 5009.246-2016	All	Median	Robust SD	% TiO ₂	3

Sample PT-FC-886***

Illegal dyes in spices

Supplied as

25g of spices e.g. chilli or turmeric

Participants are provided with a test material containing a minimum of 5 dyes for quantitative determination. A list of 21 potential analytes is provided in Appendix D.

Analyte	Method	Range	AV	SDPA	Units	DP
Dyes from Appendix D	LC-MS/MS, HPLC	All	Median	Robust SD	µg/kg	2

Sample PT-FC-889***

Curcuminoids in turmeric

Supplied as

20g of powdered turmeric

Analyte	Method	Range	AV	SDPA	Units	DP
Curcumin	Spectrophotometry, HPLC, LC-MS/MS	All	Median	Robust SD	% g/100g	2
Demethoxycurcumin	Spectrophotometry, HPLC, LC-MS/MS	All	Median	Robust SD	% g/100g	3
Total Curcuminoids	ISO 5562:1983, Spectrophotometry	All	Median	Robust SD	% g/100g	2

Sample PT-FC-890

Mycotoxins in spices (natural levels)

Supplied as

100g chilli powder/paprika

Analyte	Method	Range	AV	SDPA	Units	DP
Aflatoxins B ₁ , B ₂ , G ₁ , G ₂	HPLC, ELISA, LC-MS/MS	0.4 – 5	Median	25% of AV	µg/kg	2
Total aflatoxins	HPLC, ELISA, LC-MS/MS	2 – 15	Median	25% of AV	µg/kg	2
Ochratoxin A	HPLC, ELISA, LC-MS/MS	0.4 – 25	Median	25% of AV	µg/kg	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-891***
Supplied as

Polyols in food products
50g of food product

Analyte	Method	Range	AV	SDPA	Units	DP
Xylitol	HPLC - EN 15086:2006	All	Median	Robust SD	Water free substance in g/100g	1
Isomalt	HPLC - EN 15086:2006	All	Median	Robust SD	Water free substance in g/100g	1
Sorbitol	HPLC - EN 15086:2006	All	Median	Robust SD	Water free substance in g/100g	1
Maltitol	HPLC - EN 15086:2006	All	Median	Robust SD	Water free substance in g/100g	1
Mannitol	HPLC - EN 15086:2006	All	Median	Robust SD	Water free substance in g/100g	1

The presence of the analytes is material dependent.

Sample PT-FC-892***
Supplied as

Quality of vanilla beans
50g of vanilla bean powder

Analyte	Method	Range	AV	SDPA	Units	DP
Moisture	NIR (food analyser), Microwave, Oven drying, Heating to constant weight, Karl Fischer	All	Median	Robust SD	%	3
Vanillin	UHPLC, HPLC, GC-MS, Spectrophotometry	All	Median	Robust SD	mg/g	3
Vanillic acid	UHPLC, HPLC, GC-MS, Spectrophotometry	All	Median	Robust SD	mg/g	3
p-hydroxybenzoic acid	UHPLC, HPLC, GC-MS, Spectrophotometry	All	Median	Robust SD	mg/g	3
p-hydroxybenzaldehyde	UHPLC, HPLC, GC-MS, Spectrophotometry	All	Median	Robust SD	mg/g	3

Sample PT-FC-893***
Supplied as

Water in flavouring powder by Karl Fischer
25g of flavouring powder

Analyte	Method	Range	AV	SDPA	Units	DP
Water	Karl Fischer	All	Median	Robust SD	g/kg	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-894***
Supplied as

Aroma baking ingredients for chemical & physical parameters
50ml of liquid aroma baking test material e.g., vanilla aroma

Analyte	Method	Range	AV	SDPA	Units	DP
Water activity	Water activity meter	<0.2 0.2 to 0.8 >0.8	Median	0.050 0.020 0.010	A _w	3
Density	Densitometer	All	Median	Robust SD	g/ml	5
Vanillin*	UHPLC, HPLC, GC-MS, Spectrophotometry	All	Median	Robust SD	mg/kg	1
Brix	Densitometer, refractometer	All	Median	Robust SD	%	2

*Only in products where vanillin is naturally present

Sample PT-FC-895***
Supplied as

Quality parameters of spice mix
100g of spice mix

Analyte	Method	Range	AV	SDPA	Units	DP
Salt	Determined from chloride Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Volatile oil	Distillation	All	Median	Robust SD	ml/100g on dry basis	2
Piperine content	HPLC	All	Median	Robust SD	% (m/m) on dry basis	2

Sample PT-FC-896***
Supplied as

Gluten in cake mix (allergen testing - low in gluten)
25g of material

Analyte	Method	Range	AV	SDPA	Units	DP
Gluten (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	20-120	Median	Robust SD	mg/kg	2

Sample PT-FC-897***
Supplied as

Peanut in food product (allergen testing)
2 x 25g of material (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Peanut protein (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	mg/kg	2
Presence/absence of peanut protein	Lateral flow methods	All	-	-	Qualitative	-

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-898***
Supplied as

Milk in infant breakfast cereals (allergen testing)
2 x 25g of material (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Milk protein (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	mg/kg	2
Presence/absence of milk protein	Lateral flow methods	All	-	-	Qualitative	-

Sample PT-FC-899***
Supplied as

Multi allergens and lactose in infant soya formula (allergen testing)
2 x 25g of infant soya formula (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Gluten	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	mg/kg	2
Milk protein	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	mg/kg	2
Casein	ELISA (kits are specified on Portal)	All	Median	Robust SD	mg/kg	2
β-lactoglobulin	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	µg/kg	2
Lactose	HPLC, Other	<10 mg/100 g	Median	Robust SD	mg/100g	2
Presence/absence of gluten	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of milk protein	Lateral flow methods	All	-	-	Qualitative	-

Sample PT-FC-900***
Supplied as

pH only in food products
Food product, e.g., canned vegetables and ready to eat salad.

Analyte	Method	Range	AV	SDPA	Units	DP
pH	pH meter	All	Median	0.10	-	2

Sample PT-FC-901***
Supplied as

Net content of prepacked product
2 prepacked products for net content (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Net content	Balance and density cup	All	Median	Robust SD	g or ml	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-902*** **Fusarium mycotoxins in maize**
Supplied as 125g sample of maize flour

Analyte	Method	Range	AV	SDPA	Units	DP
Fumonisin B1	HPLC-FLD, LC-MS/MS, ELISA	RMean	All	Robust SD	µg/kg	0
Fumonisin B2	HPLC-FLD, LC-MS/MS, ELISA	RMean	All	Robust SD	µg/kg	0
T-2	HPLC-FLD, UHPLC-DAD, LC-MS/MS, ELISA	RMean	All	Robust SD	µg/kg	0
HT-2	HPLC-FLD, UHPLC-DAD, LC-MS/MS, ELISA	RMean	All	Robust SD	µg/kg	0

This sample was previously included in the Animal Feed (AFPS) scheme with sample number PT-AF-19.
***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-903*** **Fusarium mycotoxins in maize oil**
Supplied as 50ml of maize oil

Analyte	Method	Range	AV	SDPA	Units	DP
Deoxynivalenol (DON)	HPLC-FLD, UPLC-Q-TOF MS, LC-MS/MS, ELISA	RMean	All	Robust SD	µg/kg	0
Zearalenone (ZON)	HPLC-FLD, UPLC-Q-TOF MS, LC-MS/MS, ELISA	RMean	All	Robust SD	µg/kg	2

This sample was previously included in the Animal Feed (AFPS) scheme with sample number PT-AF-20.

Sample PT-FC-904*** **Plant based cheese analysis**
Supplied as 100g of plant-based cheese

Analyte	Method	Range	AV	SDPA	Units	DP
Total fat	Gerber, NIR (food analyser), Soxhlet	All	Median	Robust SD	g/100g	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	0.30	%	2
Salt	Determined from chloride Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	0.10	%	2
Moisture	Drying at 87°C Drying at 100-105°C Drying at 130°C	All	Median	0.50	%	2
Water activity	Water activity meter	<0.2 0.2 to 0.8 >0.8	Median	0.050 0.020 0.010	A _w	3
pH	pH meter	All	Median	Robust SD		2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-905***
Supplied as

Ethylene oxide in cereals
20g of blended cereal

Analyte	Method	Range	AV	SDPA	Units	DP
Ethylene oxide (sum of ethylene oxide and 2-chloro-ethanol expressed as ethylene oxide)	GC/MS/MS, LC-ESI-MS/MS	All	Median	Robust SD	mg/kg	3
Ethylene oxide	GC/MS/MS, LC-ESI-MS/MS	All	Median	Robust SD	mg/kg	3
2 chloroethanol	GC/MS/MS, LC-ESI-MS/MS	All	Median	Robust SD	mg/kg	3

Sample PT-FC-907***
Supplied as

Oat milk analysis
150ml of oat milk

Analyte	Method	Range	AV	SDPA	Units	DP
Total fat	Gerber, NIR (food analyser), Soxhlet	All	Median	Robust SD	g/100g	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	0.30	%	2
Carbohydrate (total & available)	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	%	2
Total sugars	HPLC, Lane and Eynon, Luff Schoorl	All	Median	20% of AV (min 1%)	%	2
Salt	Determined from chloride Determined from sodium	All	Median	Robust SD	% (as NaCl)	2
Ash	Drying at 500°C Drying at 525°C Drying at 550°C	All	Median	0.10	%	2
Total solids	Microwave, Moisture analyser, Oven drying, Vacuum oven	All	Median	Robust SD	%	2
pH	pH meter	All	Median	Robust SD		2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-908***
Supplied as

Quality parameters of walnuts
150g of walnuts

Analyte	Method	Range	AV	SDPA	Units	DP
Water activity	Water activity meter	<0.2 0.2 to 0.8 >0.8	Median	0.050 0.020 0.010	A _w	3
Peroxide value	Titration	-	Median	20% of AV (min 0.025)	mEq O ₂ /kg sample	2
Free fatty acids (acidity)	Titration	-	Median	20% of AV (min 0.025)	% oleic acid	2
Moisture	Oven drying	All	Median	Robust SD	% (g/100g)	2

Sample PT-FC-909***
Supplied as

Vitamin C in powdered baby food
20g of powdered baby food

Analyte	Method	Range	AV	SDPA	Units	DP
Vitamin C (as ascorbic acid)	HPLC, Titration	All	Median	Robust SD	mg/kg as ascorbic acid	2

Sample PT-FC-910***
Supplied as

PFAS in egg powder
30g of egg powder

A list of 28 potential PFAS is included in Appendix F.

Analyte	Method	Range	AV	SDPA	Units	DP
At least 10 PFAS from Appendix F will be present every time.	LC-MS/MS	All	Median	Robust SD	µg/kg	2
Sum of 4 PFAS (PFOS, PFNA, PFOA, PFHxS)	LC-MS/MS	All	Median	Robust SD	µg/kg	2
Sum of all PFAS	LC-MS/MS	All	Median	Robust SD	µg/kg	2

Sample PT-FC-911***

Mineral oil Aromatic Hydrocarbons (MOAH) in tomato based cooking sauce

Supplied as 50g of tomato based cooking sauce

Analyte	Method	Range	AV	SDPA	Units	DP
Total MOAH	GC-MS, LC-GC-FID/MS	All	Median	Robust SD	mg MOAH / kg sample	3
MOAH ≥n-C10 to ≤n-C16	GC-MS, LC-GC-FID/MS	All	Median	Robust SD	mg MOAH / kg sample	3
MOAH >n-C16 to ≤n-C25	GC-MS, LC-GC-FID/MS	All	Median	Robust SD	mg MOAH / kg sample	3
MOAH >n-C25 to ≤n-C35	GC-MS, LC-GC-FID/MS	All	Median	Robust SD	mg MOAH / kg sample	3
MOAH >n-C35 to ≤n-C50	GC-MS, LC-GC-FID/MS	All	Median	Robust SD	mg MOAH / kg sample	3

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-912***
Supplied as

Colours as additives in tomato based cooking sauce
25g of tomato based cooking sauce

A list of 19 potential food colours is provided in Appendix E.

Analyte	Method	Range	AV	SDPA	Units	DP
Food colours from Appendix E	HPLC, LC-MS/MS	1 – 50	Median	Robust SD	mg/kg	2

Sample PT-FC-913***
Supplied as

Nutritional analysis of a medical nutrition product (FSMP)
100g medical nutrition weight gain product

Analyte	Method	Range	AV	SDPA	Units	DP
Energy	Type 1: Protein+Fat+Total carb, Type 2: Protein+Fat+Available carb+TDF	All	Median	5% of AV	kcal or kJ/100g	0
Fat	Acid hydrolysis & Soxhlet, Gerber, NIR (food analyser), Soxhlet, NMR	All	Median	Robust SD	%	2
Saturates	GC	All	Median	Robust SD	%(g/100g)	2
Carbohydrate (total & available)	Available carbohydrate – direct measurement, Available carbohydrate – calculation, Total carbohydrate	All	Median	Robust SD	%	2
Total sugars	HPLC, Lane and Eynon, Luff Schoorl	All	Median	20% of AV (min 1%)	%	2
Protein	Dumas, Kjeldahl, NIR (food analyser)	All	Median	0.30	%	2
Nitrogen (total)	ISO 14891:2008 (Dumas principle), Kjeldahl	All	Median	Robust SD	g/100g	2

Sample PT-FC-914***
Supplied as:

Peroxide and melting point of ghee fat
50g of ghee fat

Analyte	Method	Range	AV	SDPA	Units	DP
Peroxide value	Titration	-	Median	20% of AV (min 0.025)	mEq O ₂ /kg sample	2
Melting point	Melting point apparatus	All	Median	Robust SD	°C	2

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-915*** **Free fatty acids, peroxide value and vitamin E in beef fat**
Supplied as: 50g of beef fat

Analyte	Method	Range	AV	SDPA	Units	DP
Peroxide value	Titration	-	Median	20% of AV (min 0.025)	mEq O ₂ /kg sample	2
Free fatty acids	Titration	-	Median	20% of AV (min 0.025)	% oleic acid	2
Vitamin E (α-tocopherol)	HPLC, LC-MS/MS	-	Median	Robust SD	mg/100g as α-tocopherol	3

Sample PT-FC-916*** **Aflatoxin M1 in powdered infant formula**
Supplied as: 25g of powdered infant formula

Analyte	Method	Range	AV	SDPA	Units	DP
Aflatoxin M1	HPLC, LC-MS/MS, ELISA	50 – 250	Median	Robust SD	ng/kg	2

Sample PT-FC-917*** **Peanut and mustard in garlic powder (allergen testing)**
Supplied as 2 x 25g of material (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Peanut protein (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	mg/kg	2
Mustard protein (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	mg/kg	2
Presence/absence of peanut protein	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of mustard protein	Lateral flow methods	All	-	-	Qualitative	-

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-918***
Supplied as

Egg, celery and gluten in vegetable baby food (allergen testing)
2 x 25g of material (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Egg white protein (quantitative)	ELISA (kits are specified on Portal), PCR	1 – 30	Median	Robust SD	mg/kg	2
Gluten (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	mg/kg	2
Celery protein (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	mg/kg	2
Presence/absence of egg white protein	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of celery protein	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of gluten	Lateral flow methods	All	-	-	Qualitative	-

Sample PT-FC-919***
Supplied as

Gluten and soya in rinse water (allergen testing)
2 x 25g of material (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Soy protein (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	1 – 30	Median	Robust SD	mg/kg	2
Gluten (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	mg/kg	2
Presence/absence of soy protein	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of gluten	Lateral flow methods	All	-	-	Qualitative	-

Sample PT-FC-920***
Supplied as

Gluten and soya in dairy yoghurt (allergen testing)
2 x 25g of material (A & B)

Analyte	Method	Range	AV	SDPA	Units	DP
Soy protein (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	1 – 30	Median	Robust SD	mg/kg	2
Gluten (quantitative)	ELISA (kits are specified on Portal), PCR, LC-MS/MS	All	Median	Robust SD	mg/kg	2
Presence/absence of soy protein	Lateral flow methods	All	-	-	Qualitative	-
Presence/absence of gluten	Lateral flow methods	All	-	-	Qualitative	-

***Currently not included in LGC's UKAS Scope of Accreditation

Sample PT-FC-921***
Supplied as

Total fat and fatty acid composition of powdered infant formula
50g of powdered material

Analyte	Method	Range	AV	SDPA	Units	DP
Total Fat	Acid hydrolysis & Soxhlet, Gerber, NIR (food analyser), Soxhlet, NMR	All	Median	Robust SD	%	2
Saturated Fatty Acids	GC	All	Median	Robust SD	g/100g	2
Monounsaturated Fatty Acids	GC	All	Median	Robust SD	g/100g	3
Polyunsaturated Fatty Acids	GC	All	Median	Robust SD	g/100g	3
Total trans Fatty Acids (sum of all)	GC	All	Median	Robust SD	g/100g	3
Omega-3 fatty acids (sum)	GC	All	Median	Robust SD	g/100g	3
Omega-6 fatty acids (sum)	GC	All	Median	Robust SD	g/100g	3
Omega-9 fatty acids (sum)	GC	All	Median	Robust SD	g/100g	3
12:0 Lauric acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
14:0 Myristic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
14:1 n-5 Myristoleic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
15:0 Pentadecanoic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
16:0 Palmitic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
16:1 Palmitoleic acid (cis & trans)	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
17:0 Heptadecanoic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:0 Stearic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:1 Oleic acid (cis) n-9	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2

18:1 Oleic acid (total cis and trans)	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:1 Trans Fatty Acids	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:2 trans Fatty Acids	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:3 trans Fatty Acids	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
Sum of oleic 18:1 cis n-9 & vaccenic cis 18:1 n-11	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:2 Linoleic acid (n-6) cis & trans	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:3 Linolenic acid (n-3) cis & trans	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
18:3 γ Linolenic Acid n-6)	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
20:0 Arachidic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
20:1 Gondoic acid n-9	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
20:2 Eicosadienoic acid n-6	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
20:4 Arachidonic Acid n-6	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
20:5 Eicosapentaenoic Acid n-3	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
22:0 Behemic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
22:1 Erucic acid (cis-13-docosenoic acid)	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
22:6 Docosahexaenoic Acid n-3	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2
24:0 Tetracosanoic acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty	2

					acids	
24:1 Nervonic Acid	GC	All	Median	≤10: Robust SD >10: 5% of AV	% total fatty acids	2

*Values below 0.5% are to be considered as below the limit of detection and performance scores will not be provided.

Sample PT-FC-922***
Supplied as

Multi-mycotoxins in fruit granola
100g of powdered fruit granola

Analyte	Method	Range	AV	SDPA	Units	DP
Aflatoxins B ₁ , B ₂ , G ₁ , G ₂	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Total aflatoxins	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Ochratoxin A	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Deoxynivalenol (DON)	HPLC-FLD, UPLC-Q-TOF MS, LC-MS/MS, ELISA	All	Median	Robust SD	µg/kg	1
Zearalenone (ZON)	HPLC, ELISA, LC-MS/MS	All	Median	25% of AV	µg/kg	2
Fumonisin B1	HPLC-FLD, LC-MS/MS, ELISA	All	Median	Robust SD	µg/kg	1
Fumonisin B2	HPLC-FLD, LC-MS/MS, ELISA	All	Median	Robust SD	µg/kg	1
Sum of Fumonisin B1 + Fumonisin B2	HPLC-FLD, UHPLC-DAD, LC-MS/MS, ELISA	All	Median	Robust SD	µg/kg	1
T-2	HPLC-FLD, UHPLC-DAD, LC-MS/MS, ELISA	All	Median	Robust SD	µg/kg	1
HT-2	HPLC-FLD, UHPLC-DAD, LC-MS/MS, ELISA	All	Median	Robust SD	µg/kg	1
Sum of HT-2 toxin and T-2 toxin	HPLC-FLD, UHPLC-DAD, LC-MS/MS, ELISA	All	Median	Robust SD	µg/kg	1

***Currently not included in LGC's UKAS Scope of Accreditation

**APPENDIX B – Potential pesticide residues (parent compounds only unless stated)
Sample 836 to 843, 880**

2,4-D (94-75-7)	Carbendazim (10605-21-7)	Dichlofluanid (1085-98-9)	Flubendiamide (272451-65-7)
2-phenylphenol (90-43-7)	Carbofuran (1563-66-2)	Dichlorvos (62-73-7)	Flucythrinate (70124-77-5)
Abamectin (71751-41-2)	Carbophenothion (786-19-6)	Dicloran (99-30-9)	Fludioxonil (131341-86-1)
Acephate (30560-19-1)	Chlorantraniliprole (500008-45-7)	Dicofol (115-32-2)	Flufenoxuron (101463-69-8)
Acetamiprid (135410-20-7)	Chlordane (cis) (5103-71-9)	Diieldrin (60-57-1)	Fluopicolide (239110-15-7)
Acetochlor (34256-82-1)	Chlordane (trans) (5103-74-2)	Difenoconazole (119446-68-3)	Fluopyram (658066-35-4)
Acrinathrin (101007-06-1)	Chlorfenapyr (122453-73-0)	Diffubenzuron (35367-38-5)	Fluoxastrobin (361377-29-9)
Alachlor (15972-60-8)	Chlorfenvinphos (470-90-6)	Diffufenican (83164-33-4)	Flurochloridone (61213-25-0)
Aldicarb ¹ (116-06-3)	Chloridazon (1698-60-8)	Dimethoate (60-51-5)	Fluroxypyr (69377-81-7)
Aldrin (309-00-2)	Chlorobenzilate (510-15-6)	Dimethomorph ⁵ (110488-70-5)	Flusilazole (85509-19-9)
Aminocarb (2032-59-9)	Chlorothalonil (1897-45-6)	Dimoxystrobin (149961-52-4)	Flutolanil (66332-96-5)
Amitraz (33089-61-1)	Chlorpropham (101-21-3)	Dinotefuran (165252-70-0)	Flutriafol (76674-21-0)
Antraquinone (84-65-1)	Chlorpyrifos (2921-88-2)	Diphenylamine (122-39-4)	Fluvalinate-tau (102851-06-9)
Asulam (3337-71-1)	Chlorpyrifos-methyl (5598-13-0)	Diuron (330-54-1)	Fluxapyroxad (907204-31-3)
Atrazine (1912-24-9)	Chlorthal-dimethyl (1861-32-1)	Endosulfan ³ (959-98-8)	Folpet (133-07-3)
Azinphos-ethyl (2642-71-9)	Chlorthiophos (60238-56-4)	Epoxiconazole (133855-98-8)	Fonofos (944-22-9)
Azinphos-methyl (86-50-0)	Chlortoluron (15545-48-9)	Ethiofencarb ¹ (29973-13-5)	Fosthiazate (98886-44-3)
Azoxystrobin (131860-33-8)	Clofentezine (74115-24-5)	Ethion (563-12-2)	Furalaxyl (57646-30-7)
Benalaxyl (71626-11-4)	Clomazone (81777-89-1)	Ethofumesate (26225-79-6)	Furathiocarb (65907-30-4)
Benfuracarb (82560-54-1)	Clothianidin (210880-92-5)	Ethoprophos (13194-48-4)	Glufosinate (51276-47-2)
Benthiavalicarb-isopropyl (177406-68-7)	Cyanazine (21725-46-2)	Etrifimos (38260-54-7)	HCH-alpha (319-84-6)
Bifenthrin (82657-04-3)	Cyanophenphos (13067-93-1)	Fenamidone (161326-34-7)	HCH-beta (319-85-7)
Biphenyl (92-52-4)	Cycloxydim (101205-02-1)	Fenamiphos (22224-92-6)	HCH-delta (319-86-8)
Bitertanol (55179-31-2)	Cyfluthrin (68359-37-5)	Fenarimol (60168-88-9)	Heptachlor (76-44-8)
Boscalid (188425-85-6)	Cymoxanil (57966-95-7)	Fenazaquin (120928-09-8)	Heptenophos (23560-59-0)
Broflanilide (1207727-04-5)	Cypermethrin ⁵ (52315-07-8)	Fenbuconazole (114369-43-6)	Hexachlorobenzene (118-74-1)
Bromophos-ethyl (4824-78-6)	Cyproconazole (94361-06-5)	Fenhexamid (126833-17-8)	Hexaconazole (79983-71-4)

Bromophos-methyl (2104-96-3)	Cyprodinil (121552-61-2)	Fenitrothion (122-14-5)	Hexazinone (51235-04-2)
Bromopropylate (18181-80-1)	Cyromazine (66215-27-8)	Fenoxycarb (72490-01-8)	Hexythiazox (78587-05-0)
Bromoxynil (1689-84-5)	DDT ⁴ (50-29-3)	Fenpropathrin (39515-41-8)	Imazalil (35554-44-0)
Bromuconazole (116255-48-2)	Deltamethrin (52918-63-5)	Fenpropimorph (67564-91-4)	Imidacloprid (138261-41-3)
Bupirimate (41483-43-6)	Diafenthurion (80060-09-9)	Fenpyroximate (111812-58-9)	Indoxacarb (144171-61-9)
Buprofezin (953030-84-7)	Diazinon (333-41-5)	Fenthion ¹ (55-38-9)	Ioxynil (1689-83-4)
Cadusafos (95465-99-9)	Dichlobenil (1194-65-6)	Fenvalerate (51630-58-1)	Iprodione (36734-19-7)
Captan (133-06-2)	Dichlobutrazole (75736-33-3)	Fipronil ² (120068-37-3)	Iprovalicarb (140923-17-7)
Carbaryl (63-25-2)	Dichlofenthion (97-17-6)	Fluazinam (79622-59-6)	Isocarbofos (24353-61-5)
Isodrin (465-73-6)	Monocrotophos (6923-22-4)	Procymidone (32809-16-8)	Tebufenozide (112410-23-8)
Isufenphos (25311-71-1)	Monolinuron (1746-81-2)	Profenofos (41198-08-7)	Tebufenpyrad (119168-77-3)
Isufenphos-methyl (99675-03-3)	Monuron (150-68-5)	Promecarb (2631-37-0)	Tebuthiuron (34014-18-1)
Isoprothiolane (50512-35-1)	Myclobutanil (88671-89-0)	Prometrym (7287-19-6)	Tecnazene (117-18-0)
Isoproturon (34123-59-6)	Napropamide (15299-99-7)	Propamocarb (24579-73-5)	Teflubenzuron (83121-18-0)
Isoxaben (82558-50-7)	Nitenpyram (150824-47-8)	Propaquizafop (111479-05-1)	Tefluthrin (79538-32-2)
Kresoxim-methyl (143390-89-0)	Nitrofen (1836-75-5)	Propargite (2312-35-8)	Terbacil (5902-51-2)
Lambda-cyhalothrin (91465-08-6)	Novaluron (116714-46-6)	Propazine (139-40-2)	Terbutylazine (5915-41-3)
Lenacil (2164-08-1)	Nuarimol (63284-71-9)	Propetamphos (31218-83-4)	Terbutryn (886-50-0)
Lindane (58-89-9)	Omethoate (1113-02-6)	Propiconazole (60207-90-1)	Tetrachlorvinphos (22248-79-9)
Linuron (330-55-2)	Oxadixyl (77732-09-3)	Propoxur (114-26-1)	Tetraconazole (112281-77-3)
Lufenuron (103055-07-8)	Oxamyl (23135-22-0)	Propyzamide (23950-58-5)	Tetradifon (116-29-0)
Malathion (121-75-5)	Oxychloridane (27304-13-8)	Proquinazid (189278-12-4)	Tetramethrin (7696-12-0)
Mecarbam (2595-54-2)	Oxydemeton-methyl (301-12-2)	Pymetrozine (123312-89-0)	Thiabendazole (148-79-8)
Mepanipyrim (110235-47-7)	Oxyfluorfen (42874-03-3)	Pyraclostrobin (175013-18-0)	Thiacloprid (111988-49-9)
Metaconazole (125116-23-6)	Paclobutrazol (76738-62-0)	Pyrazophos (13457-18-6)	Thiamethoxam (153719-23-4)
Metalaxyl (57837-19-1)	Parathion (56-38-2)	Pyrethrins (8003-34-7)	Thiodicarb (59669-26-0)
Metamitron (41394-05-2)	Parathion-methyl (298-00-0)	Pyridaben (96489-71-3)	Thiophanate methyl (23564-05-8)
Metazachlor (67129-08-2)	Penconazole (66246-88-6)	Pyridaphenthion (119-12-0)	Tolclofos-methyl (57018-04-9)
Methabenzthiazuron (18691-97-9)	Pendimethalin (40487-42-1)	Pyrifenoxy (88283-41-4)	Tolfenpyrad (129558-76-5)

Methacrifos (62610-77-9)	Permethrin ⁵ (52645-53-1)	Pyrimethanil (53112-28-0)	Tolyfluanid (731-27-1)
Methamidophos (10265-92-6)	Phenothrin (26002-80-2)	Pyriproxyfen (95737-68-1)	Triadimefon (43121-43-3)
Methidathion (950-37-8)	Phenthoate (2597-03-7)	Pyridalyl (179101-81-6)	Triazophos (24017-47-8)
Methiocarb ¹ (2032-65-7)	Phosalone (2310-17-0)	Quinalphos (13593-03-8)	Triclopyr (55335-06-3)
Methomyl (16752-77-5)	Phosmet (732-11-6)	Quinoxifen (124495-18-7)	Trietazine (1912-26-1)
Methoxyfenozide (161050-58-4)	Phosphamidon (13171-21-6)	Quintozene (82-68-8)	Trifloxystrobin (141517-21-7)
Metolachlor ⁵ (51218-45-2)	Picoxystrobin (117428-22-5)	Simazine (122-34-9)	Triflumizole (68694-11-1)
Metolcarb (1129-41-5)	Pirimicarb (23103-98-2)	Spinosad (168316-95-8)	Trifluralin (1582-09-8)
Metoxuron (19937-59-8)	Pirimiphos-ethyl (23505-41-1)	Spirodiclofen (148477-71-8)	Triticonazole (131983-72-7)
Metrafenone (220899-03-6)	Pirimiphos-methyl (29232-93-7)	Spiromesifen (283594-90-1)	Vinclozolin (50471-44-8)
Metribuzin (21087-64-9)	Prochloraz (67747-09-5)	Tebuconazole (107534-96-3)	Zoxamide (156052-68-5)
Mevinphos ⁵ (7786-34-7)			

Note: Metabolites of the substances listed may also be included:

¹ Parent plus sum of sulfoxide and sulfone

² Parent plus sum of sulfone

³ Sum of alpha and beta

⁴ Sum of pp'-DDT, op'-DDT, pp'-DDE and pp'-TDE

⁵ Sum of isomers

APPENDIX C – Potential pesticide residues (parent compounds only unless stated)
Sample 777 – Tea matrix

Acetamiprid (135410-20-7)	Cypermethrin ⁸ (52315-07-8)	Flusilazole (85509-19-9)	Phosmet (732-11-6)
Azinphos-methyl (86-50-0)	DDT ⁷ (50-29-3)	HCH-gamma (58-89-9)	Phoxim (14816-18-3)
Bifenthrin (82657-04-3)	Deltamethrin (52918-63-5)	Imidacloprid (138261-41-3)	Profenophos (41198-08-7)
Buprofezin (953030-84-7)	Dicofol (115-32-2)	Indoxacarb (173584-44-6)	Propyzamide (23950-58-5)
Cadusafos (95465-99-9)	Dieldrin (60-57-1)	Isoprocarb (2631-40-5)	Prothiophos (34643-46-4)
Carbaryl (63-25-2)	Difenoconazole (119446-68-3)	Isoxathion (18854-01-8)	Pyridaben (96489-71-3)
Carbendazim (10605-21-7)	Dimethoate (60-51-5)	Malathion (121-75-5)	Quinalphos (13593-03-8)
Chlorfenapyr (122453-73-0)	Endosulfan ⁶ (115-29-7)	Methomyl (16752-77-5)	Tebufenpyrad (119168-77-3)
Chlorfenvinphos (470-90-6)	Endrin (72-20-8)	Myclobutanil (88671-89-0)	Tefluthrin (79538-32-2)
Chlorobenzuron (57160-47-1)	Ethion (563-12-2)	Omethoate (1113-02-6)	Terbufos (13071-79-9)
Chlorpyrifos (2921-88-2)	Etrifos (38260-54-7)	Oxamyl (23135-22-0)	Triadimefon (43121-43-3)
Chlorpyrifos methyl (5598-13-0)	Fenitrothion (122-14-5)	Pentachlorophenol (87-86-5)	Triadimenol (55219-65-3)
Clofentazine (74115-24-5)	Fenobucarb (3766-81-2)	Permethrin ⁸ (52645-53-1)	Triazophos (24017-47-8)
Cyhalothrin-lambda (91465-08-6)	Fenvalerate (51630-58-1)	Phosalone (2310-17-0)	Trichlorfon (52-68-6)

Note: Metabolites of the substances listed may also be included:

⁶Sum of alpha and beta

⁷ Sum of pp'-DDT, op'-DDT, pp'-DDE and pp'-TDE

⁸ Sum of isomers

APPENDIX D – Potential Dyes

Auramine (492-80-8)	Norbixin (542-40-5)	Sudan Black B (4197-25-5)	Sudan Orange G (2051-85-6)
Bixin (6983-79-5)	Orange II (633-96-5)	Sudan I (842-07-9)	Sudan Red 7B (6368-72-5)
Butter Yellow (60-11-7)	Orange OT (2646-17-5)	Sudan II (3118-97-6)	Sudan Red B (3176-79-2)
Fast Garnet (101-89-3)	Para Red (6410-10-2)	Sudan III (85-86-9)	Sudan Red G (1229-55-6)
Metanil Yellow (587-98-4)	Rhodamine B (81-88-9)	Sudan IV (85-83-6)	Toluidine Red (2425-85-6)
Nitroaniline (100-01-6)			

APPENDIX E – Potential Colours

Acid Orange 6 (547-57-9)	Acid Yellow 17 (6359-98-4)	Crystal Ponceau 6R (2766-77-0)	Ponceau 4R (2611-82-7)
Acid Red 1 (3734-67-6)	Allura Red AC (25956-17-6)	Fast Green FCF (2353-45-9)	Quinoline Yellow (8004-92-0)
Acid Red 52 (3520-42-1)	Amaranth (915-67-3)	Indigo Carmine (860-22-0)	Sunset Yellow (2783-94-0)
Acid Red 73 (5413-75-2)	Brilliant Blue FCF (3844-45-9)	Naphthol Yellow S (846-70-8)	Tartrazine (1934-21-0)
Acid Red 88 (1658-56-6)	Carmoisine (3567-69-9)	Ponceau 3R (3564-09-8)	

Appendix F - List of possible PFAS

PFBA (375-22-4)	PFHxS (355-46-4)	PFHpS (375-92-8)	GenX (13252-13-6)
PFPeA (2706-90-3)	PFDA (335-76-2)	PFNS (98789-57-2)	ADONA (919005-14-4)
PFHxA (307-24-4)	PFUnA; PFUdA (2058-94-8)	PFDS (335-77-3)	Capstone A (80475-32-7)
PFHpA (375-85-9)	PFDoA (307-55-1)	PFUnDS (749786-16-1)	Capstone B (34455-29-3)
PFOS (1763-23-1)	PFTriDA; PFTriA (72629-94-8)	PFDoDS (85187-17-3)	9Cl PF3ONS (756426-58-1)
PFOA (335-67-1)	PFBS (375-73-5)	PFTriDS (791563-89-8)	11Cl-PF3OUdS (83329-89-9)
PFNA (375-95-1)	PFPeS (2706-91-4)	FOSA (754-91-6)	F53B (73606-19-6)