



**AXIO**  
PROFICIENCY TESTING

# Proficiency Testing Schemes

## 2021

Food & Feed

Beverage

Water & Environment

Petroleum

Consumer Safety

Clinical

Forensic

[lgcstandards.com/AXIO](http://lgcstandards.com/AXIO)

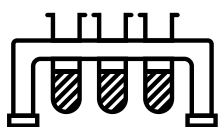
ISO/IEC 17043



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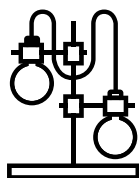
**LGC AXIO Proficiency Testing provides schemes with localised support across a truly global network.**

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**Great results are born out of confidence and by working with LGC AXIO Proficiency Testing you can have the assurance that your decision making is informed, reliable and effective.**

## **Driving Quality Together**

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We design our schemes to meet your laboratory's future needs. It's what helps you consistently deliver a quality product, meet sector specific standards or achieve accreditation to ISO/IEC 17025 or ISO 15189.

- **Fulfill accreditation requirements**
- **Demonstrate competency to customers and regulatory bodies**
- **Compare results with laboratories around the world**
- **Manage risk through early warning of potential problems**
- **Verify methods and instrumentation**
- **Educate and train staff**



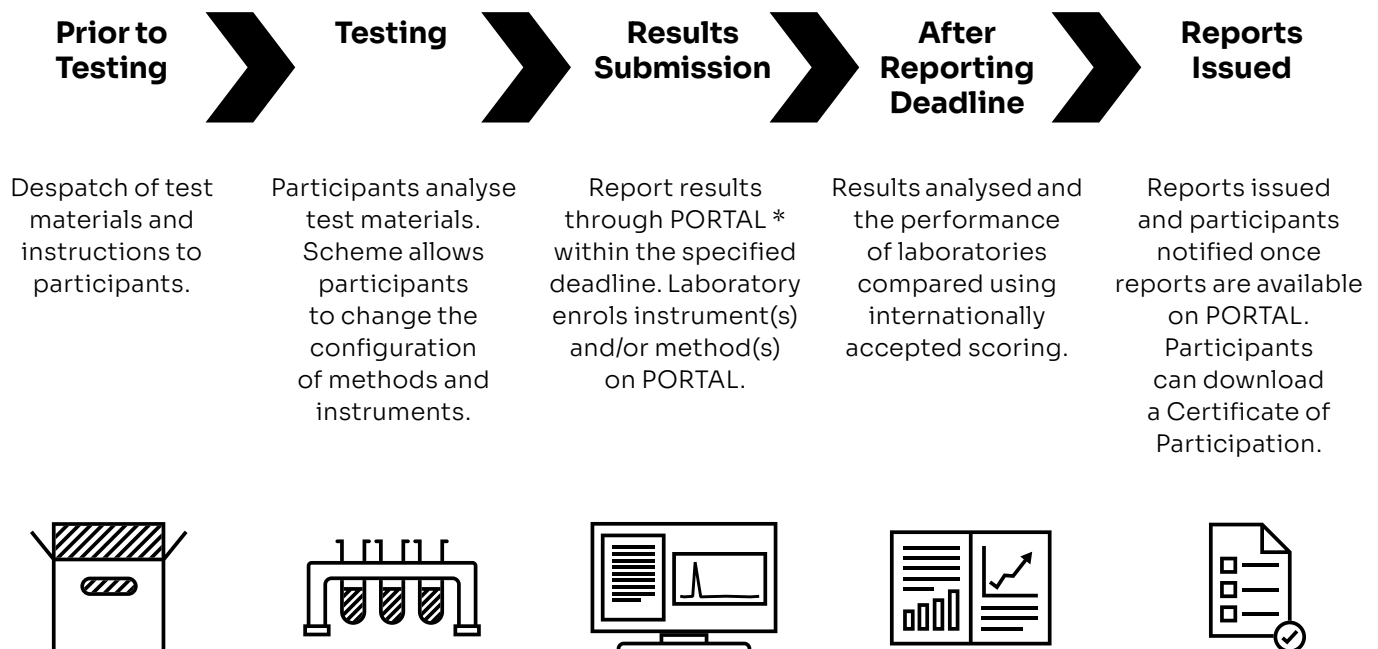
Proficiency Testing (PT) is a requirement for accreditation to ISO/IEC 17025 and ISO 15189. AXIO operates PT schemes across the food, beverage, environmental, clinical, pharmaceutical, consumer safety, forensic and petroleum sectors – your laboratory will get the support it needs in demonstrating the effectiveness of your quality system.

If you are managing multiple laboratories and are looking for consistency in results, AXIO offers fully managed solutions for large groups. Multi-laboratory, multi-method and multi-analyst reporting are all covered by our exclusive web based PORTAL platform.

Using an accredited PT provider gives you assurance in the quality and reliability of the service. LGC is accredited to ISO/IEC 17043 by the United Kingdom Accreditation Service (UKAS). In addition we are certified to ISO 9001.

Laboratory proficiency relies on trusted expertise and an efficient reporting process, which is why we've designed our comprehensive service around your laboratory's needs.

## The LGC AXIO Proficiency Testing Process

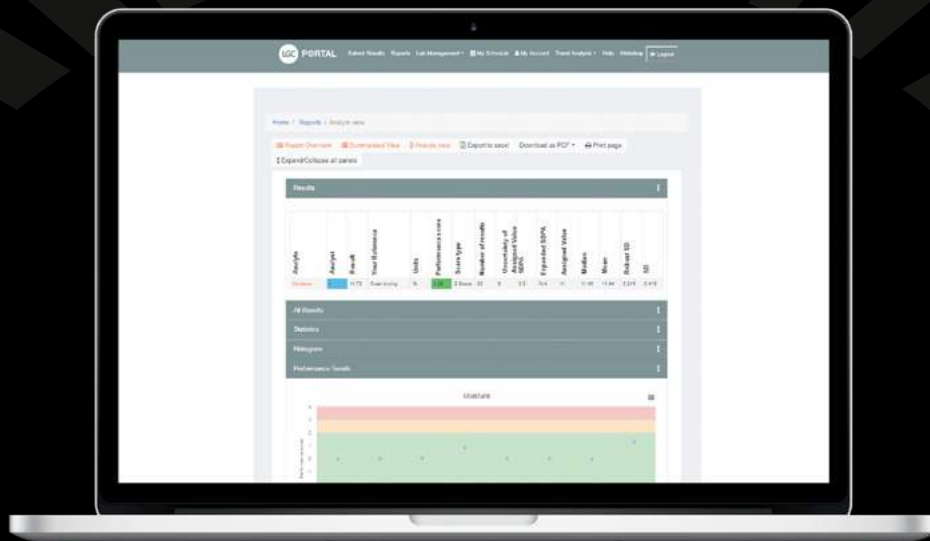


\*(portal.lgcstandards.com)

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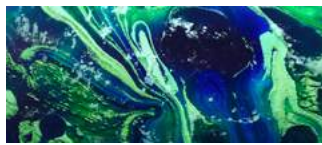
PORTAL sits at the core of the LGC AXIO Proficiency Testing process. PORTAL is your gateway to improving laboratory performance: an online hub for results submissions, report downloads, data export and trend analysis — anytime, anywhere.



Full control of all of your LGC AXIO Proficiency Testing data 24 hours a day.

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**LGC AXIO Proficiency Testing operates schemes in a wide range of sectors from Food to Forensic, Consumer Safety to Clinical. Whatever your quality and testing needs, AXIO will have the scheme and sample options that will deliver the confidence in your results that you are looking for.**



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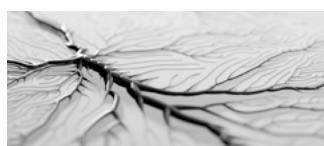
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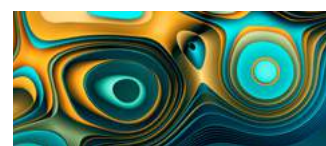
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& Identification



## Food & Feed Scheme Selector

Scheme	Distribution per year	Test	Test Material Matrix*	Analyte Group*
<b>QMS</b> Food Microbiology	12	Microbiological	Oatmeal and skimmed milk powder, tea, herb and spice, egg, cheese, fruit, vegetable, seeds, ready to eat foods.	Comprehensive range of microorganisms of relevance to food products, including pathogens, indicator organisms, spoilage organisms and probiotics.
<b>QDCS</b> Dairy Chemistry	4	Chemical	Butter, cheese, cream, milk, milk powder, whey powder, yoghurt and standard solutions.	Chemical parameters covering routine nutritional analysis and more complex testing such as mycotoxins and antibiotics.
<b>QMAS</b> Meat & Fish	6	Chemical and Microbiological	Meat, fish, shellfish and carcass rinsate.	Chemical and microbiological parameters relevant to meat, fish and seafood industry. Trace elements, authenticity and veterinary drug residues. Various pathogens, indicator organisms.
<b>QFCS</b> Food Chemistry	6	Chemical	Bread, cake, cereals, cured meat, flour, fruit/vegetable, hard cheese, nuts, oils, 'ready to eat' products, rice, tea and standard solutions.	Chemical parameters covering nutritional analysis, quality and authenticity, toxic elements, and contaminants such as pesticides, mycotoxins and allergens.
<b>QCS</b> Chocolate	3	Chemical and Microbiological	Chocolate and cocoa powder.	Chemical and microbiological parameters relevant to the chocolate and food testing industries including nutritional and elements analysis.
<b>AFPS</b> Animal Feeds	4	Chemical and Microbiological	Animal feed (e.g. cattle, chicken, pig, sheep), silage and premix.	Comprehensive range of chemical and microbiological analysis of animal feeds covering proximates and contaminants, various pathogens, indicator organisms.
<b>QGS</b> Gelatine	2	Chemical and Microbiological	Gelatine, gelatine hydrolysate.	Physicochemical testing and microbiological parameters of relevance to gelatine.
<b>STEC</b> Shiga Toxin E. coli	4	Microbiological	Skimmed milk powder, ground beef powder, with lyophilised vials.	Detection / Identification of, STEC (serovars O26; O45; O103; O111; O121; O145; O157:H7).
<b>CONF-IDENT</b> Confirmation & Identification	4	Microbiological	Lyophilised material.	Comprehensive range of analytes for the confirmation and identification of microorganisms.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## QMS

### Food Microbiology

The LGC AXIO Quality in Microbiology Scheme (QMS) is intended for use by microbiologists working in the food industry, including dairy, ready meals, dried foods, herbs and spices and many other sectors.

Food testing is an essential element of the ‘Hazard Analysis Critical Control Point’ (HACCP) process in food production as it verifies the controls are working at the critical points in manufacturing. Failures leading to food poisoning outbreaks can have a devastating effect on reputation, brand value, a decline in consumer confidence in the product and ultimately profits.

In rare cases it may also lead to civil and criminal charges.

When carrying out microbiological testing, being able to demonstrate your laboratory is producing accurate and meaningful results helps identify issues before they affect a product’s quality and safety. By regularly participating in a proficiency testing scheme like ours, you build trust into your comprehensive quality assurance programme.

Test Material*	Analyte*
Oatmeal	Enumeration of aerobic psychrotrophs. Detection of Shigella species, Vibrio parahaemolyticus, Vibrio species.
Skimmed milk powder	Enumeration of Salmonella species, Yersinia enterocolitica.
Oatmeal or skimmed milk powder	Enumeration of Bacillus cereus, Bacillus species, Coagulase positive Staphylococci, Coliforms, Clostridium species, Clostridium perfringens, Enterobacteriaceae, Enterococci, Escherichia coli, Lactic acid bacteria, Listeria monocytogenes, Listeria species, Pseudomonas species, Staphylococcus species, Thermotolerant coliforms. Anaerobic sulphite-reducing bacteria, Mesophilic aerobic spores, Mesophilic anaerobic spores, Thermophilic aerobic spores, Total aerobic mesophilic count, Total anaerobic mesophilic count, Osmophilic yeast, Osmophilic mould, Yeast, Mould, Yeast and mould.  Detection of Clostridium species, Clostridium perfringens, Coliforms, Cronobacter species, Enterobacteriaceae, Escherichia coli, E. coli O157 (non-toxigenic strain, Listeria monocytogenes, Listeria species, Salmonella species.
Lyophilised material	Enumeration of Bifidobacterium species (Probiotic), Lactobacillus species (Probiotic), Campylobacter species. Detection of Campylobacter species. Identification of an unknown microorganism. Identification of Salmonella species (serology).
Tea	Enumeration of Coagulase positive-staphylococci, Coliforms, Total aerobic mesophilic count, Yeast and mould. Detection of Salmonella species.
Herbs, spice, egg, sesame seed	Detection of Salmonella species.
Paper exercise (image)	Colony count and calculation of number of microorganisms.
Hard cheeses, Mixed vegetables	Detection of Salmonella species, Listeria species, Listeria monocytogenes.
Fruit	Enumeration of thermophilic acidophilic bacteria (Alicyclobacillus species); Detection of guaiacol producing thermophilic acidophilic bacteria.
Ready to eat food	Total aerobic mesophilic count Enumeration of Coliforms; Coagulase positive Staphylococci; Yeast; Mould; Yeast and Mould Detection of Salmonella species, Listeria species; Listeria monocytogenes; E. coli O157 (non-toxigenic strain) Identification of Listeria species.

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## QDCS

### Dairy Chemistry

The LGC AXIO Quality in Dairy Chemistry Scheme (QDCS) is a comprehensive proficiency testing scheme available to laboratories performing compositional and safety analysis in the dairy sector.

Laboratories may test dairy products to ensure a commercial product performs within preset quality standards, or to look for adulterations or contaminants that could adversely affect a product.

For laboratories that perform the analysis of dairy products using traditional 'wet' chemistry techniques, as well as determinations by infrared analysers and other methods, participation in a relevant LGC AXIO Proficiency Testing scheme can provide confidence that results are meaningful and accurate which, in turn, helps to ensure the safety of dairy foodstuffs.

Test Material*	Analyte*
Butter	Moisture, pH, Salt.
Cheese (hard, soft, processed)	Ash, Calcium, Carbohydrates, Cholesterol, ColourEnergy, Fat, Moisture, Lactose, pH, Protein, Salt, Saturates, Sodium, Sorbic acid, Total dietary fibre, Total sugars.
Double & single cream	Fat.
Whipping cream	Fat, Titratable acidity, Dry matter, Protein.
Milk	Calcium, Freezing point depression, Lactose, Protein, pH, Titratable acidity, Total solids.
Skimmed, semi-skimmed & whole milk	Fat.
Skimmed milk powder	Ash, Fat, Insolubility index, Moisture, Protein, Scorched particles, Titratable acidity, WPNI.
Whole milk powder	Fat, Insolubility index, Minerals (calcium, potassium, copper, sodium, chloride, iron, magnesium, manganese), phosphorus, zinc), Moisture, Protein, Titratable acidity, WPNI.
Milk powder	Vitamins A, C, D.
Whey powder	Ash, Fat, Galactose, Lactose, Moisture, Protein, Scorched particles.
Whey protein concentrate	Ash, Bulk density, Fat, Insolubility index, Lactose, Moisture, pH, Protein.
Yoghurt	Fat, Protein, Total solids.
Buffer solution	pH.
Potassium hydrogen phthalate	COD.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## QMAS

### Meat & Fish

The LGC AXIO Quality in Meat and Fish Analysis Scheme (QMAS) is intended for chemists and microbiologists working in, or providing analytical services to the meat, fish and shellfish processing industries.

International consumption of meat and fish in human diets has increased rapidly. Therefore the manufacturing processes need to be highly regulated, to help prevent food safety issues occurring.

Measures must be taken to prevent contamination with hazardous chemicals above specified limits, and

to reduce the number of microorganisms capable of causing human disease. Customers demand products that are authentic and genuine, preventing contamination from both deliberate fraud and accidental cross-contamination during processing.

Consumers want to be assured their food has been thoroughly tested by competent laboratories. EU Regulation 882/2004 requires official control laboratories to be accredited to ISO/IEC 17025 and use external means of monitoring performance such as proficiency testing.

Test Material*	Analyte*
<b>Dried &amp; cured meat</b>	Ash, Carbohydrate, Dietary fibre, Energy, Fat, Moisture, pH, Phosphate, Protein, Salt, Sodium, Sugars (total).
<b>Lyophilised meat</b>	Nitrate, Nitrite.
<b>Meat</b>	Fat (total), Hydroxyproline, Mono-unsaturated fats, Poly-unsaturated fats, Saturates, Total trans fatty acids. Arsenic (total), Cadmium, Lead, Mercury, Phosphorus, Zinc, Sulfur dioxide, Ractopamine. Species authenticity to be screened for presence of other meat species.
<b>Precooked, processed &amp; raw meat</b>	Ash, Calcium, Carbohydrate, Dietary fibre, Energy, Fat, Moisture, pH, Phosphate, Potassium, Protein, Salt, Sodium, Sugars (total).
<b>Fish &amp; fish product</b>	Fish speciation, Energy; Saturates; Carbohydrate; Dietary fibre; Ash, Fat, Moisture, pH, Protein, Salt, Histamine, Trimethylamine (TMA), Total volatile nitrogen (TVN), Arsenic (total), Cadmium, Lead, Mercury, Phosphorus, Zinc.
<b>Shellfish</b>	Arsenic (total), Cadmium, Lead, Mercury, Phosphorus, Zinc, Chloramphenicol.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

Microbiology*	Analyte*
<b>Lyophilised meat</b>	Enumeration of Coagulase-positive Staphylococci, Campylobacter species, Coliforms, Clostridium perfringens, Enterobacteriaceae, Escherichia coli, Lactic acid bacteria, Mould, Pseudomonas, Psychrotrophs, Sulphite-reducing clostridia, Total aerobic mesophilic count, Yeast. Detection of Listeria species, Listeria monocytogenes, Salmonella species.
<b>Lyophilised fish or shellfish &amp; Vial</b>	Enumeration of Coagulase-positive staphylococci, Enterobacteriaceae, Escherichia coli, Total aerobic mesophilic count. Detection of Salmonella species, Vibrio parahaemolyticus, Vibrio species.
<b>Lyophilised meat &amp; Vial</b>	Detection of Campylobacter species, E. coli O157 (non-toxigenic strain).
<b>Carcass rinsate</b>	Detection of Salmonella species, E. coli O157 (non-toxigenic strain).

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# QFCS

## Food Chemistry

The LGC AXIO Quality in Food Chemistry Scheme (QFCS) is specifically designed to promote the quality and comparability in the measurement of a range of analytes in food products.

An incredible variety of foodstuffs are available worldwide and all year round. Technology now allows suppliers to harvest, preserve and distribute within a short period of time. Consequently food quality, consumer satisfaction and government regulations are all factors that need to be considered when producing food.

The food we eat can contain potentially harmful chemicals, some naturally occurring, some as contaminants absorbed from soil and water. Testing these end-use products is fundamental for food safety and stability. Consistent good performance in a LGC AXIO Proficiency Testing scheme will allow laboratories to show, with confidence, the quality of results to third parties.

Test Material*	Analyte*
<b>Cereal products (flour, bread, cake, biscuits)</b>	<p><b>Nutritional analysis:</b> Energy; Fat; Carbohydrate; Total Sugars; Total Dietary Fibre; Protein; Salt; Sodium; Ash; Acidity; Moisture; Chloride; Calcium; Phosphate; Magnesium ; Potassium ; Zinc ; Vitamin A; B1 (Thiamine); B2 (Riboflavin); B3 (Niacin); B5 (Pantothenic Acid); B6; B9 (Folic acid); B12; C; D; Iron; Lactose (low level).</p> <p><b>Metal, elements:</b> Total Arsenic; Inorganic Arsenic; Total Inorganic Arsenic; Arsenic III; Arsenic IV; Cadmium; Lead; Mercury.</p> <p><b>Allergens:</b> Gluten, Egg, Almond, Soy.</p> <p><b>Mycotoxins:</b> Aflatoxins B1; B2; G1; G2; Total Aflatoxins; Ochratoxin A; Zearalenone.</p> <p><b>Pesticides:</b> Glyphosate, AMPA, Fungicides, Herbicides, Organochlorine, Organophosphorus, Synthetic pyrethroids, Triazines.</p>
<b>Coffee, Tea</b>	<p><b>Nutritional analysis:</b> Energy; Fat; Carbohydrate; Total Sugars; Total Dietary Fibre; Protein; Salt; Sodium; Ash; Acidity; Moisture; Chloride; Calcium; Phosphate; Magnesium ; Potassium ; Zinc ; Vitamin A; B1 (Thiamine); B2 (Riboflavin); B3 (Niacin); B5 (Pantothenic Acid); B6; B9 (Folic acid); B12; C; D; Iron; Lactose (low level).</p> <p><b>Metal, elements:</b> Total Arsenic; Cadmium; Lead; Mercury; Selenium.</p>
<b>Fruits, Vegetables</b>	<p><b>Nutritional analysis:</b> Drained weight; pH; Energy; Carbohydrate; Total sugars; Glucose; Fructose; Total dietary fibre; Vitamin C (as ascorbic acid); pH; Brix; Total acidity; Total solids; Ash; Salt.</p> <p><b>Mycotoxins:</b> Aflatoxins B1; B2; G1; G2; Total Aflatoxins; Ochratoxin A.</p> <p><b>Pesticides:</b> Fungicides, Herbicides, Organochlorine, Organophosphorus, Synthetic pyrethroids, Triazines.</p> <p><b>Process contaminants:</b> Nitrate, Acrylamide, Perchlorate.</p>
<b>Honey</b>	<p><b>Nutritional analysis:</b> Moisture; Electrical conductivity; Ash; pH; Free acidity; Hydroxymethylfurfural (HMF); Diastase enzymatic activity (Diastase number); Fructose; Glucose; Sucrose; Water insoluble solids.</p> <p><b>Authenticity, Quality:</b> Confirmation of authenticity.</p>
<b>Infant food</b>	<p><b>Nutritional analysis:</b> Energy; Fat; Saturates; Carbohydrate; Total sugars; Protein; Total dietary fibre; Salt; Sodium; Alanine (free); Arginine (free); Aspartic acid (free); Glutamic acid (free); Glycine (free); Histidine (free); Isoleucine (free); Leucine (free); Lysine (free); Phenylalanine (free); Proline (free); Serine (free); Threonine (free); Tyrosine (free); Valine (free); Cystein &amp; Cystine (sum of); Methionine (free); Tryptophan (total).</p> <p><b>Allergens:</b> Milk.</p> <p><b>Process contaminants:</b> Nitrate.</p>

Continued on next page

QFCS Continued

<b>Nuts, seeds, oil, fats</b>	<p><b>Nutritional analysis:</b> Energy; Fat; Carbohydrate; Total Sugars; Protein; Salt; Sodium; Total Fat; Saturates; Mono-unsaturates; Poly-unsaturates; Total trans fatty acids; Omega 3; Omega 6; Salt; Water; pH; Vitamin A; Vitamin D.</p> <p><b>Metal, elements:</b> Total Arsenic; Cadmium; Lead; Mercury.</p> <p><b>Authenticity, Quality:</b> Water; Free fatty acids; Saponification value; Unsaponifiable matter; Anisidine value; Colour; Iodine value; Peroxide value; Fatty acid composition; K232; K270; Wax content; 3,5 Stigmastadienes; Ethyl esters; Total Sterols; <math>\Delta</math>-7-stigmastenol; Insoluble Impurities; Moisture and Volatile Matter at 103°C; Total Polyphenols; <math>\Delta</math>K; <math>\beta</math>-sitosterol (apparent); Campesterol; Erythrodiol &amp; Uvaol; <math>\Delta</math>ECN 42; Accelerated Oxidation test (Rancimat) at 120°C; 2-glyceryl monopalmitate; cis Alpha-linolenic acid (ALA); cis Eicosapentaenoic acid (EPA); cis Docosapentaenoic (DPA); cis Docosahexaenoic (DHA); Monounsaturated fatty acids; Polyunsaturated fatty acids; Saturated fatty acids; Total EPA+DHA Omega-3 fatty acids; Total Omega-3 fatty acids; Total Omega-6 fatty acids; Total Omega-9 fatty acids; Omega-3 : Omega-6 ratio; Total trans fatty acids; Vitamin A; Vitamin D</p> <p><b>Additives:</b> Sudan IV.</p> <p><b>Mycotoxins:</b> Aflatoxins B1; B2; G1; G2; Total Aflatoxins.</p> <p><b>Pesticides:</b> Fungicides, Herbicides, Organochlorine, Organophosphorus, Synthetic pyrethroids, Triazines.</p> <p><b>Process contaminants:</b> Benzo[a]pyrene; Benz[a]anthracene; Benzo[b]fluoranthene; Chrysene; Sum of EU 4 PAHs; Total polar compounds; Free fatty acids (Acidity); Accelerated oxidation test (Rancimat) at 120°C; Morphine; Codeine.</p>
<b>Processed foods</b>	<p><b>Nutritional analysis:</b> Energy; Fat; Saturates; Mono-unsaturates; Poly-unsaturates; Total trans fatty acids; Carbohydrate; Total Sugars; Total Dietary Fibre; Protein; Salt; Sodium; Ash; Moisture; Phosphate; Cholesterol.</p> <p><b>Allergens:</b> Gluten, Egg, Soy, Milk.</p>
<b>Confectionery</b>	<p><b>Nutritional analysis:</b> Energy; Fat; Carbohydrate; Protein; Total sugars; Fructose; Glucose; Soluble solids; pH; Moisture; Ash; Total acidity; Brix.</p>
<b>Condiment, herbs and spices</b>	<p><b>Nutritional analysis:</b> Energy; Fat; Saturates; Carbohydrate; Total sugars; Protein; Salt; Total dietary fibre; Soluble solids; pH; Total acidity; Density; Total dry extract; Volatile acidity; Citric acid; Formol number; Total trans fatty acids; Sodium; pH; Cholesterol; Moisture; Total ash; Crude fibre, insoluble index; Volatile oil; Piperine content; Acid insoluble ash; Purity; Sulfate; Iodine; Calcium; Magnesium; Total Arsenic; Lead; Cadmium; Mercury; Copper; Ferrocyanide; Capsaicin; Dihydrocapsaicin; Nordihydrocapsaicin; Heat unit.</p> <p><b>Authenticity, Quality:</b> Confirmation of authenticity, Vanillin.</p> <p><b>Mycotoxins:</b> Aflatoxins B1; B2; G1; G2; Total Aflatoxins.</p>
<b>Non dairy cheese</b>	<p><b>Authenticity, Quality:</b> Total fat; Saturates; Mono-unsaturates; Poly-unsaturates; Total trans fatty acids; Total omega 3; Total omega 6; Total omega 3:Total omega 6 ratio; 4:0 Butyric acid; 12:0 Lauric acid.</p>
<b>Miscellaneous foods</b>	<p><b>Additives:</b> Ponceau 4R; Carmoisine; Sunset Yellow; Indigo Carmine; Allura Red; Tartrazine; Quinoline Yellow; Brilliant Blue; Sulfur dioxide.</p> <p>Sorbic Acid; Benzoic Acid; Sulfur Dioxide; Acesulfame K; Aspartame; Saccharin; Sucralose.</p> <p><b>Water activity</b></p> <p><b>Foreign bodies</b></p> <p>Cannabidiol (CBD)</p>
<b>Vegan food</b>	<p><b>Authenticity, Quality:</b> Presence of animal origin DNA.</p>
<b>Swabs</b>	<p><b>Allergens:</b> Gluten.</p>
<b>Paper exercise</b>	<p>Food labelling, declaration of nutritional value.</p>

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## QCS

### Chocolate

The LGC AXIO Quality in Chocolate Scheme (QCS) is intended for chemists and microbiologists working in the chocolate and cocoa powder manufacturing industries.

Chocolate products are one of the specific food commodities whose composition is controlled at European level. Directive 2000/36/EC 'relating to cocoa and chocolate products intended for human consumption', sets common rules and definitions with regard to the composition, manufacture, packaging and labelling of chocolate and cocoa products.

Consumption of contaminated chocolate is rare yet there have been sporadic global outbreaks which have led to product recalls. The consequences could include damaged reputations, possible legal actions resulting in huge financial damage and more. A comprehensive quality assurance programme which includes regular participation in a suitable proficiency testing scheme, may help to safeguard against such negative outcomes.

Chemistry*	Analyte*
<b>Chocolate</b>	Water activity; Moisture; Energy; Fat; Saturates; Total nitrogen; Carbohydrate; Total sugars; Fructose; Glucose; Sucrose; Salt (from sodium); Sodium; Butyric acid; Theobromine; Cadmium.
<b>Cocoa powder</b>	Carbohydrate; Total sugars; Fructose; Glucose; Sucrose; Salt (from sodium); Sodium; Ash; Moisture; Theobromine; Caffeine; Total Arsenic; Cadmium, Lead.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

Microbiology*	Analyte*
<b>Chocolate &amp; cocoa powder</b>	Enumeration of Coliforms, Enterobacteriaceae, Enterococci, Total aerobic mesophilic count, Yeast and Mould. Detection of Salmonella species.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# AFPS

## Animal Feeds

The LGC AXIO Animal Feeds Proficiency Scheme (AFPS) is specifically designed to meet the needs of laboratories performing chemical or microbiological analysis of animal feeds.

Animal feed quality is highly regulated since many animals, or their products, will ultimately be converted into food for human consumption.

Major food safety crises have occurred as a result of the contamination of animal feed causing risks to animal and human health. The resulting recalls have caused significant financial damage as large quantities of product have to be destroyed; and considerable damage to the reputation of businesses involved. Participation in the LGC AXIO AFPS Proficiency Testing scheme can form part of a comprehensive quality system that seeks to promote high standards and avoid potential risks.

Chemistry*	Analyte*
<b>Animal feed</b>	Moisture; Crude protein; Crude fat; Crude ash; Ash insoluble in hydrochloric acid; Sugars; Crude fibre; Starch; ADF; NDF; PPD; Arsenic; Cadmium; Calcium; Chloride; Chromium; Cobalt; Copper; Iron; Lead; Magnesium; Manganese; Mercury; Phosphorus; Potassium; Selenium; Sodium; Zinc; Aflatoxins B1; B2; G1; G2; Total Aflatoxins; Ochratoxin A.
<b>Animal feed, pre-mix</b>	Arsenic, Cadmium, Calcium, Chloride, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Phosphorus, Potassium, Selenium, Sodium, Zinc.
<b>Wet pet food</b>	Ash insoluble in hydrochloric acid, Crude (ash, fat, fibre, protein), Moisture, Starch, Sugars.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

Microbiology*	Analyte*
<b>Simulated animal feed</b>	Enumeration of Clostridium perfringens, Clostridium species Coliforms, Enterobacteriaceae, Escherichia coli, Total viable count, Yeast and Mould, Lactic Acid Bacteria, Sulphite-reducing Clostridia, Total anaerobic count.  Detection of E. coli O157 (non-toxigenic strain) Listeria monocytogenes, Listeria species, Salmonella species.
<b>Fish feed</b>	Energy; Moisture; Crude protein; Crude fat; Crude ash; Crude fibre.
<b>Silage</b>	Moisture; Crude protein; Crude fat; Crude ash; Crude fibre; Starch.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## QGS

### Gelatine

The LGC AXIO Quality in Gelatine Scheme (QGS) has been developed in collaboration with the trade body, Gelatine Manufacturers of Europe (GME).

GME members account for nearly half of the worldwide gelatine production and the key role of the GME is to ensure that gelatine is manufactured to a consistently high quality for the benefit of gelatine customers and consumers.

The most common use of gelatine is in the food and pharmaceutical industries as well as in the cosmetics, photographic and printing industries.

If a laboratory is involved in the quality control analysis of gelatine, QGS provides test materials in gelatine and gelatine hydrolysate matrices to represent a realistic challenge, with relevant chemical, physical, and microbial tests.

Chemistry*	Analyte*
<b>Gelatine</b>	Ash, Gel strength (Bloom), Isoelectric point, Moisture, pH, Viscosity.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

Microbiology*	Analyte*
<b>Gelatine hydrolysate</b>	Enumeration of mesophilic anaerobic spores, Sulphite-reducing bacteria, Total aerobic mesophilic count, Clostridium perfringens, Coliforms, Enterobacteriaceae, Escherichia coli, Staphylococcus aureus, Salmonella species.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## STEC

### Shiga Toxin E. coli

Most Escherichia coli (E. coli) strains are harmless and can live in the gut of humans without causing any issues. However Shiga toxin-producing E. coli (STEC) strains can cause serious illness and there is therefore a requirement to test for these organisms in foods which may be of risk of contamination by STEC. A comprehensive quality assurance programme featuring the LGC AXIO STEC Proficiency Testing scheme is an excellent way of helping to keep consumers safe and ensuring reputations for quality are maintained.

There are many different strains of STEC, and these can be distinguished by their serology. The main ones found to cause illness in humans are serovars O26, O45, O103, O111, O121, O145 (known as 'the big six' in the USA) and O157:H7.

As the organisms are pathogens, the test is qualitative rather than quantitative, seeking to identify the presence of these organisms rather than enumerating the levels.

The primary aim of the LGC AXIO Shiga toxin E. coli (STEC) Scheme is to enable laboratories performing the microbiological analysis of food and dairy products to monitor their performance and compare with that of their peers. STEC also aims to provide information to participants on technical issues and methodologies relating to testing of food and dairy products.

Test Material*	Analyte*
Skimmed milk powder with lyophilised vials	Detection of STEC (serovars O26; O45; O103; O111; O121; O145; O157:H7).
Ground beef powder with lyophilised vials	Detection of STEC (serovars O26; O45; O103; O111; O121; O145; O157:H7).

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.



## CONF-IDENT

### Confirmation & Identification

The LGC AXIO CONF-IDENT proficiency testing scheme offers a comprehensive range of analytes for the confirmation and identification of microorganisms. Fast and reliable confirmation and identification of microorganisms is a key task for many laboratories.

Regular participation in the LGC AXIO CONF-IDENT proficiency testing scheme offers a truly independent assessment of measurement quality, which enables participants to compare their analytical capabilities with peers.

The LGC AXIO CONF-IDENT proficiency testing scheme allows laboratories to confirm and/or identify strains isolated from a sample using various techniques, from traditional biochemical/serological tests to more advanced genomic or molecular techniques (such as MALDI-TOF).

Successful participation in the LGC AXIO CONF-IDENT scheme is recognised as a demonstration of laboratory quality and competency by a range of third parties and customers.

Test Material*	Analyte*
<b>Salmonella panel</b>	Confirmation and/or Identification of Salmonella species.
<b>Listeria panel</b>	Confirmation and/or Identification of Listeria species and Listeria monocytogenes.
<b>Gram-negative panel</b>	Confirmation and/or Identification of Gram-negative bacteria.
<b>Campylobacter panel</b>	Confirmation and/or Identification of Campylobacter species.
<b>Cronobacter panel</b>	Confirmation and/or Identification of Cronobacter species.
<b>Yeast strain panel</b>	Confirmation and/or Identification of Yeast strain.
<b>Gram-positive panel</b>	Confirmation and/or Identification of Gram-positive bacteria.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## Beverage

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## Beverage Scheme Selector

Scheme	Distribution per year	Test	Test Material Matrix*	Analyte Group*
<b>BAPS</b> Brewing Analytes	up to 12 (Chemistry) 6 (Microbiology) 12 (Sensory)	Chemical, Microbiological and Sensory	Ales, craft beers, lagers, and alcohol free/low alcohol beers.	Routine and complex chemical tests relevant to the brewing industry for quality control and product characterisation. Brewery spoilage microorganisms. Sensory assessments in aroma and taste evaluation.
<b>DAPS</b> Alcoholic Drinks	4	Chemical	Distilled spirits, whisky, wort, ciders, wines and fortified wines, liqueurs, cream liqueurs, and other alcoholic beverages.	Chemical tests including esters relevant for alcoholic beverages and intermediate process samples.
<b>MAPS</b> Malt Analytes	12	Chemical and Physical	Brewing/distilling malted barley, barley, malt flour, malted wheat and black/crystal malt.	Chemical and physical tests for quality checks and complex analysis, including mycotoxins analysis.
<b>QBS</b> Soft Drinks & Fruit Juice	4	Chemical and Microbiological	Carbonated drink, carbonated drink (degassed), dilutable/ ready to drink fruit juice, soft drink and apple juice.	Chemical tests for quality checks and complex parameters including vitamins and mycotoxins. Comprehensive range of microorganisms of relevance to beverage products, including pathogens, indicator organisms and spoilage organisms.
<b>SUPS</b> Sugar	12	Chemical and Microbiological	Cane or beet sugar, raw sugar and molasses.	Chemical tests of relevance to the sugar processing, food and beverage industries. Microorganisms of relevance to sugar products, including pathogens and indicator organisms.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# BAPS

## Brewing Analytes

The LGC AXIO BAPS scheme is jointly run by LGC AXIO Proficiency Testing and Campden BRI, promoting quality in the measurement of chemical, microbiological and sensory analytes in real beer.

Routine and complex chemical tests for quality control and product characterisation are available in our lager and ale test materials.

Microbiological test materials contain organisms typically encountered in the brewing industry.

For sensory analysis, participants evaluate various aroma and taste characteristics of real beers and can compare their results with the Campden BRI sensory panel that provide an expert profile for the sample to enable immediate training of panels if required.

For laboratories that perform the analysis of beer, participation in BAPS can provide confidence that results are meaningful and accurate which in turn, helps to ensure consistency in the quality of beer and integrity of the brand.

Chemistry*	Analyte*
<b>Lager/ale</b>	Alcohol by volume, Bitterness, Carbon dioxide, Colour at 430nm, Gravity (apparent, original, present), Haze (0°C, 20°C), Original extract, pH, Refractive index, Sulfur dioxide, Total gas pressure.
<b>Lager</b>	2-Methyl butanol, 3-Methyl butanol, 2+3 Methyl butanol. Acetaldehyde, Calcium, Carbohydrate (total), Chloride, Copper, Diacetyl as VDK, Dimethyl disulfide, Dimethyl sulfide, Energy value (kcal), Energy value (kJ), Ethyl acetate, Ethyl hexanoate, Foam stability (HRV), Free alpha amylase, Free diacetyl, Free 2,3-pentanedione, Glucose, Hydrogen sulfide, Iron, Iso-alpha-acids, Iso-amyl acetate, Iso-butanol, Magnesium, Maltose, Maltotetraose, Maltotriose, Methanethiol, Methylthioacetate, Nitrate, n-Propanol, Phosphate, Polyphenols (total), Potassium, Sodium, Sulfate, Tetra-iso-alpha-acids, Total Diacetyl, TSN, Zinc.
<b>Dark/craft ale</b>	Alcohol by volume, Bitterness, Colour at (430nm, 530nm), Diacetyl as VDK, Free 2,3-pentanedione, Free diacetyl, Iso-alpha-acids, Tetra-iso-alpha-acids.
<b>Alcohol free/low alcohol beer</b>	Alcohol by volume (qualitative, quantitative), Bitterness, Colour at 430nm, Gravity (apparent, present), pH.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

Sensory*	Analyte*
<b>Lager/ale</b>	Alcoholic/Solvent, Astringent, Bitter, Body, Burnt, Caramel, Cereal, DMS, Fruity/ Citrus, Fruity/Estery, Hop, Linger, Malty, Other sulfur, Oxidised/Aged, Sour, Sweet, and others.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

Microbiology*	Analyte*
<b>Lyophilised material High level/ low level</b>	Identity of organisms, Lactic acid bacteria count, Total aerobic bacterial count, Total aerobic microbial count. Total anaerobic microbial count, Wild yeast, count: Identity of organisms.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## DAPS

### Alcoholic Drinks

The LGC AXIO DAPS Alcoholic Drinks scheme covers a wide range of products including distilled spirits, wine, ciders and prepared lifestyle drinks, such as ready-to-drink cocktails and fruit based beverages.

Whilst alcohol content is an important analysis for duty payment purposes, there are many other analytes that influence the flavour of the product.

Consistent analytical performance in the laboratory, supported by participation in the LGC AXIO Proficiency Testing scheme, can help ensure the consistency of the product, keeping customers loyal to their favourite drinks.

Test Material*	Analyte*
<b>Fermented &amp; simulated wort</b>	Alcohol, Gravity (original, residual, final), pH (fermented only), Residual fermentable sugars (total amount of glucose, maltose, maltotriose).
<b>Clear/dark distilled spirit &amp; scotch whisky</b>	Acidity (total, volatile), Alcoholic strength (actual, apparent), Chill difference, Colour, Density, Ethyl carbamate, Fructose, Glucose, Sucrose, Sugars (total), NDMA, pH, Refractive index, Specific gravity, Total solids, Turbidity (Haze). 2-Methyl butanol, 3-Methyl butanol, 2 + 3 Methyl butanols, Acetal, Acetaldehyde, Ethyl acetate, Furfural, Iso-amyl acetate, Iso-butanol, Methanol, n-Butanol, n-Propanol Phenol. Calcium, Copper, Iron, Magnesium, Potassium, Sodium. 5-HMF, Coniferaldehyde, Ellagic acid, Gallic acid, Scopoletin, Sinapaldehyde, Syringaldehyde, Syringic acid, Vanillic acid, Vanillin. 2-Phenethyl acetate, 2-Phenethyl ethanol, Ethyl decanoate, Ethyl dodecanoate, Ethyl hexadecanoate, Ethyl hexanoate, Ethyl octanoate, Ethyl tetradecanoate, Ethyl-9-Hexadecenoate.
<b>Simulated spirit</b>	Alcoholic strength (actual, apparent), Citric acid, Ethyl carbamate, Fructose, Glucose, Sucrose, Sugars (total), Glycerol, Maltose, NDMA, pH, Propylene glycol.
<b>Non chill filtered whisky</b>	2-Phenethyl acetate, 2-Phenethyl ethanol, Ethyl decanoate, Ethyl dodecanoate, Ethyl hexadecanoate, Ethyl hexanoate, Ethyl linoleate, Ethyl linolenate, Ethyl octadecanoate, Ethyl octanoate, Ethyl oleate, Ethyl tetradecanoate, Ethyl-9-hexadecenoate.
<b>Ciders</b>	Acidity (total, volatile), Actual alcoholic strength, Carbon dioxide, Colour, Haze, pH, Specific gravity, Sulfur dioxide (total).
<b>White/rosé &amp; red wine</b>	Acidity (total, volatile), Alcoholic strength (actual), Ascorbic acid, Citric acid, Colour at (420nm, 520nm, 620nm), Copper, Fructose, Glucose, Iron, Lactic acid, Malic acid, pH, Reducing sugars, Sorbic acid, Specific gravity, Sulfur dioxide (free, total). Ready to drink Acidity (total, volatile), Alcoholic strength (actual), Ascorbic acid, Benzoic acid, Brix, Carbon dioxide, Citric acid, Colour absorbance, Density, Dissolved oxygen, pH, Refractive index, Sorbic acid, Specific gravity, Sugars (total).
<b>Liqueur</b>	2-Methyl butanol, 3-Methyl butanol, 2 + 3 Methyl butanols, Acidity (total, volatile), Acetal, Acetaldehyde, Alcoholic strength (actual), Brix (total), Ethyl acetate, Furfural, Iso-amyl acetate, Iso-butanol, Methanol, n-Butanol, n-Propanol, pH, Refractive index, Residue, Specific gravity, Total solids.
<b>Cream liqueur</b>	Specific Gravity, Actual Alcoholic Strength, pH, Residue, Iso-Butanol, 2+3 Methylbutanols, Furfural, Total Brix, Refractive Index (20°C), Total solids.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## MAPS

### Malt Analytes

The LGC AXIO MAPS scheme covers test materials from the full range of barley and malted barley used for brewing and distilling.

Malt is a complex product and forms a key ingredient in brewing and distilling. It is considered to be at the heart of the process, providing most of the sugars and complex carbohydrates which produce the alcohol and flavour of the final product.

These test materials are analysed for a wide range of analytes, using European Brewing Convention (EBC) and Institute of Brewing and Distilling (IBD) methods, as well as a number of other physical and chemical methods.

Meeting the demanding specifications laid down by brewers and distillers is critical to the business of any maltster and is greatly dependent on the quality of the malting barley. For this reason the accuracy of the laboratory analysis is essential as it will ultimately decide if the product is suitable for use in the production plant.

Test Material*	Analyte*
<b>Brewers &amp; distillers malt</b>	Alpha amylase, Cold water extract, Diastatic power (DP loB and DPWK), Dimethyl sulfide (free, total), Dimethyl sulfide precursor, EBC fraction IV, EBC reject fraction, Friability, Glassy (whole) corns, Glycosidic nitrile, Hartong VZ45, Homogeneity, Malt mod homogeneity, Malt modification, Moisture, NDMA, Nitrogen (total), Partly unmodified grains, Phenols (total), Residual sulfur dioxide, Sieving tests.
<b>Brewers &amp; distillers malt (EBC wort)</b>	Beta glucan, Boiled wort colour, Colour, Extracts, Extract difference, FAN, Fermentability (boiled), Kolbach index, pH, TSN, Viscosity.
<b>Brewers &amp; distillers malt (IOB wort)</b>	Beta glucan, Colour, Extracts, Extract difference, FAN, Fermentability (boiled, unboiled), pH, Predicted spirit yield, Soluble extract difference, Soluble extract, SNR, TSN, Viscosity.
<b>Barley</b>	BRF (8ml test), EBC fraction IV, EBC reject fraction, Germinative capacity, Germinative energy, Hectolitre weight, Moisture, Nitrogen (total), Sieving tests, Thousand corn weight.
<b>Black malt</b>	Colour, Moisture.
<b>Crystal malt</b>	Colour, Degrees of crystallisation, Moisture.
<b>High diastatic power malt</b>	Moisture, DPWK, Diastatic Power, Alpha Amylase, loB Soluble Extract 0.7mm, TSN (Total Soluble Nitrogen) FAN (Free Alpha Amino Nitrogen), Glycosidic Nitrile.
<b>Malt flour</b>	NDMA. Mycotoxin analysis (Ochratoxin A and Deoxynivalenol (DON)).
<b>Malted wheat</b>	Moisture, DPWK, Diastatic Power, Alpha Amylase, Protein, Extract: 0.2mm, Boiled Wort Colour, Kolbach Index, EBC Fermentability (Boiled), loB Extract 0.7mm, pH, Colour, TSN (Total Soluble Nitrogen), SNR (Soluble Nitrogen Ratio), FAN (Free Alpha Amino Nitrogen), Viscosity, Beta Glucan.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.



## QBS

### Soft Drinks & Fruit Juice

The LGC AXIO Quality in Beverages Scheme (QBS) is specifically tailored for chemists and microbiologists working in the soft drinks and fruit juice industries (including carbonated drinks).

Soft drinks and fruit juices are widely consumed throughout the world and these global customers expect their beverages to always look and taste the same. The industry continuously aims to meet these high expectations. However, maintaining and confirming the quality and reliability of a given product is a considerable challenge for production facilities and quality control laboratories meaning that

contamination from microorganisms, chemicals and foreign matter could compromise product quality.

It is vital to prevent these types of errors as they can lead to the manufacture of out-of-specification product resulting in product wastage and disposal, lost production and the associated costs.

The LGC AXIO QBS scheme will allow laboratories to monitor analytical quality, helping to ensure that products are being manufactured to the highest standards.

Chemistry*	Analyte*
Apple juice	Patulin.
Carbonated drinks	Acidity (as citric acid monohydrate), Brix, Carbon dioxide, Fructose, Glucose, pH, Sucrose.
Carbonated drinks (degassed)	Acesulfame K, Aspartame, Benzoic acid, Caffeine, Cyclamic acid (as free acid), Saccharin (as free imide), Sorbic acid (as free acid), Sucralose, Sulfur dioxide (free, total).
Dilutable & ready to drink	Acesulfame K, Acidity (as citric acid monohydrate), Aspartame, Benzoic acid, Brix, Caffeine, Cyclamic acid (as free acid), Fructose, Glucose, pH, Saccharin (as free imide), Sorbic acid (as free acid), Sucrose, Sucralose, Sulfur dioxide (free, total).
Fruit juice	Acidity (as citric acid monohydrate), Brix, Calcium, Fructose, Glucose, pH, Phosphorus, Potassium, Magnesium, Sodium, Antimony, Cadmium, Iron, Lead, Tin, Zinc.
Liquid material	Vitamin C (Ascorbic acid).
Soft drink	Antimony; Arsenic; Cadmium; Iron; Lead; Tin; Zinc; Calcium; Phosphorus; Potassium; Magnesium; Sodium; Aluminium; Manganese; Copper; Selenium*. Vitamin B3 (Nicotinamide), Vitamin B5 (Pantothenic acid), Vitamin B6 (Pyridoxine), Vitamin B12 (Cyanocobalamin), Vitamin C (Ascorbic acid), Vitamin E (DL-alpha-Tocopherol), Vitamin B2 (Riboflavin), Total steviol glycosides, Rebaudioside A.
Smoothie	Energy; Fat; Saturates; Carbohydrate; Total Sugars; Fructose; Sucrose; Protein; Salt; Sodium; Dietary Fibre; pH.
Energy drink	Energy; Carbohydrate; Total Sugars; Fructose; Sucrose; Salt; Sodium; pH; Caffeine.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

Microbiology*	Analyte*
Fruit juice	Enumeration of Lactic acid bacteria, Mould, Total aerobic mesophilic count, Yeast. Detection of Escherichia coli, Escherichia coli O157 (non toxigenic strain), Listeria monocytogenes, Salmonella species.
Liquid material (membrane filtration)	Enumeration of Lactic acid bacteria, Mould, Thermophilic acidophilic bacteria, Total aerobic mesophilic count, Yeast. Detection of Escherichia coli, Guaiacol producing thermophilic acidophilic bacteria, Listeria monocytogenes.
Soft drink	Enumeration of Lactic acid bacteria, Mould, Total aerobic mesophilic count, Yeast. Detection of Escherichia coli.
Fruit juice	Enumeration of Lactic acid bacteria, Mould, Total aerobic mesophilic count, Yeast. Detection of Escherichia coli, Escherichia coli O157 (non toxigenic strain), Listeria monocytogenes, Salmonella species.
Liquid material (membrane filtration)	Enumeration of Lactic acid bacteria, Mould, Thermophilic acidophilic bacteria, Total aerobic mesophilic count, Yeast. Detection of Escherichia coli, Guaiacol producing thermophilic acidophilic bacteria, Listeria monocytogenes.
Soft drink	Enumeration of Lactic acid bacteria, Mould, Total aerobic mesophilic count, Yeast. Detection of Escherichia coli.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# SUPS

## Sugar

The LGC AXIO SUPS scheme is suitable for all laboratories who analyse sugar and sugar products.

The quality of sugar has to be continually maintained, because in addition to its sweet taste it brings additional benefits to the foods and beverages it is used in, such as improving texture, enhancing flavour, providing consistency, providing natural preservation and many more.

LGC collaborates with the International Commission for Uniform Methods of Sugar Analysis (ICUMSA) who provide robust, internationally validated methods of analysis to aid the trade in sugar and sugar products.

ICUMSA representatives are involved in the review of progress and performance of SUPS and provide advice on the operation and future developments of the scheme.

Participating in SUPS will provide data to help identify performance issues with methods used and will underpin the quality of the analytical results used to inform the commercial decisions about the product.

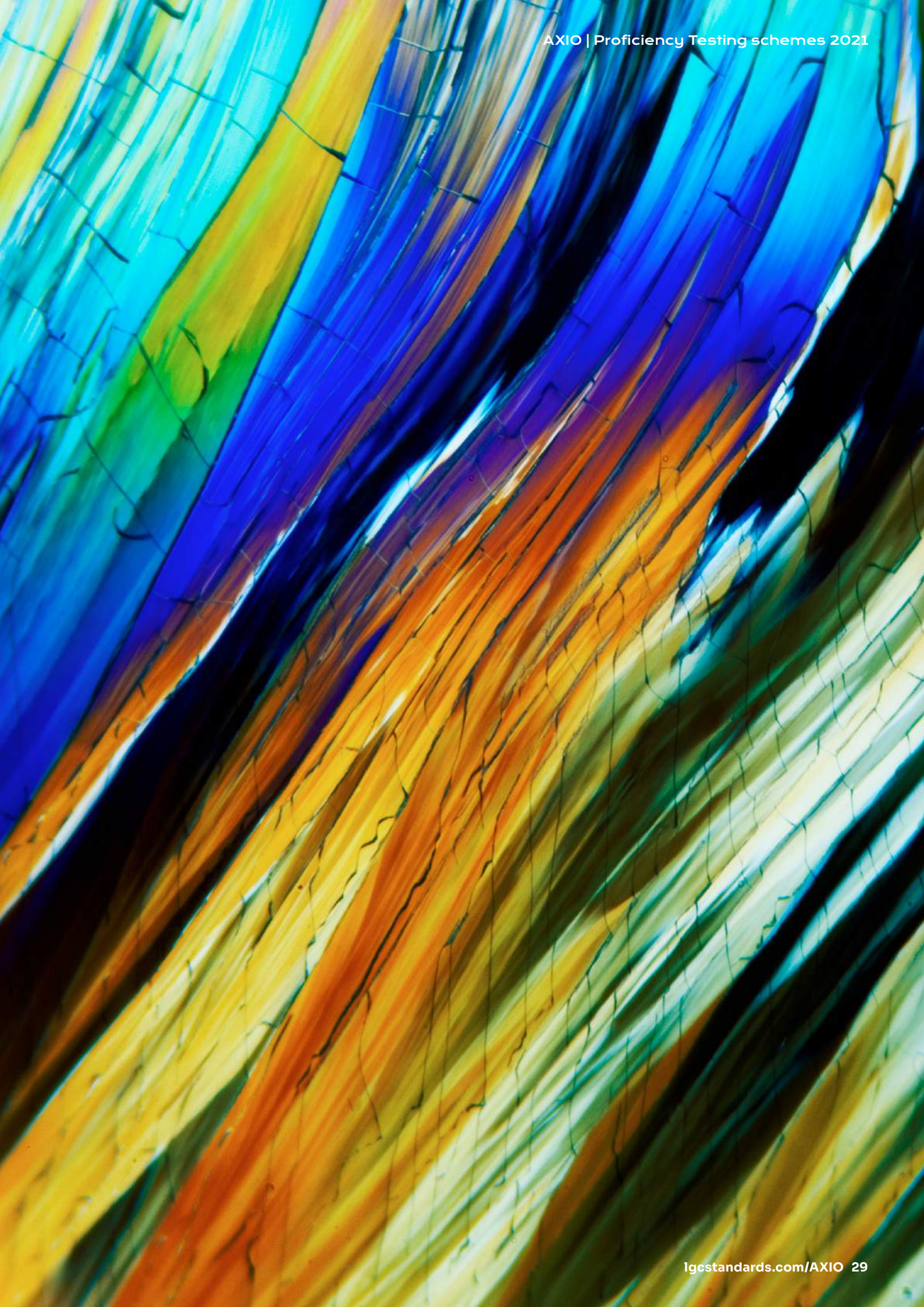
Chemistry*	Analyte*
<b>Cane or beet sugar</b>	Ash, Colour, Moisture, Polarisation, Reducing sugars, Reflectance grade, Sulfur dioxide, Sediment (insoluble), Turbidity. Arsenic, Cadmium, Copper, Iron, Lead, Mercury.
<b>Molasses</b>	Colour, Dry substance, Fermentable sugars, pH, Reducing sugars, Sucrose, Sulfated ash.
<b>Raw sugar</b>	Ash, Colour, Dextran, Moisture, Polarisation, Reducing sugars, Starch.
<b>High Fructose Corn Syrup</b>	Ash; Colour; Sucrose; Fructose; pH; Polarisation; Reducing sugars.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

Microbiology*	Analyte*
<b>Lyophilised material</b>	Enumeration of Thermophilic acidophilic bacteria (TAB), Total aerobic mesophilic count, Osmophilic yeast and mould, Yeast and mould.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.







## Water & Environment

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Water, Agricultural Soils & Sludges
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Cryptosporidium

## Water & Environment Scheme Selector

Scheme	Distribution per year	Test	Test Material Matrix*	Analyte Group*
<b>AQUACHECK</b> Water, Agricultural Soils & Sludges	20	Chemical, Ecotoxicological, Physical and Radiochemical	Clean waters and waste waters, agricultural soils and sewage sludge.	Inorganic, organic and elemental analytes for qualitative and quantitative analyses. Determination of radiochemical and ecotoxicological parameters.
<b>QWAS</b> Water Microbiology	10	Microbiological	Waters (e.g. bathing, environmental, mineral, potable, process, recreational, sea, surface, waste) and simulated effluent sludge.	Routine microbiological testing, indicator organisms and pathogens.
<b>AIRPT</b> Air & Stack Emissions	6	Chemical and Physical	Filters, tubes and impinger solutions.	Gravimetric, organic and elemental analytes at a range of concentrations.
<b>CONTEST</b> Contaminated Land	5	Chemical and Physical	Soil extracts, soil materials, solid waste, standard solutions, Incinerator bottom ash and trammel fines.	Inorganic, organic and elemental analytes measured in soil, leachates and standard solutions.
<b>HYGIENE</b> Hygiene Surface Monitoring	3	Microbiologica	Swabs, contact plates, dip slides, rinsates, air filters and ATP systems.	Routine microbiological testing, indicator organisms and pathogens.
<b>CRYPTS</b> Cryptosporidium	12	Microbiological	Slides, suspensions and filters.	Cryptosporidium.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.



# AQUACHECK

## Water, Agricultural Soils & Sludges

The industry leading LGC AXIO AQUACHECK scheme has been in continuous operation since 1985. Test materials are provided for the analysis of major inorganic/organics; metals; phenols; organochlorine pesticides and many others.

Water is vital in sustaining all natural systems. Each source requires regular analyses to determine safety and suitability of use. Potable water must be good in quality and quantity and free from harmful chemicals and microorganisms. Discharged water from local wastewater treatment plants and industry must comply with environmental guidelines.

Process waters must be kept clean to ensure product quality. As water sources can change regular testing is advised.

Participation in the LGC AXIO AQUACHECK scheme allows laboratories to identify problems before they affect the quality and safety of waters. Participants will be able to demonstrate independently that they are producing accurate and meaningful results to laboratory management and customers.

Test Material*	Analyte*
<b>Clean water (Organics)</b>	Acid herbicides, Acrylamide, BTEX, Chlorinated solvents, Chlorophyll a, Fungicides, Geosmin and MIB, Haloform solvents, OC and OP pesticides, PAHs, PCBs, PFOA, PFOS, Formaldehyde, Phenols, Taste and odour, Triazines and Urea herbicides, UV absorbing organics constituents.
<b>Clean water (Radiochemistry)</b>	Aqueous tritium, Gross alpha, Gross beta.
<b>Ground water (Metals)</b>	Metals, Toxic metals.
<b>Qualitative water (Organics)</b>	Organics by purge, trap and/or headspace GCMS, Qualitative determination of unknown contaminant.
<b>Clean water (Inorganics)</b>	BOD, Chromium (VI), COD, DOC, MBAS, Metals, Non-ionic surfactants, Suspended solids, Toxic metals, Turbidity, Microcystins.
<b>Poorly buffered water</b>	pH.
<b>Soil</b>	Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Vanadium, Zinc, Selenium, Total boron, Water extractable boron, Fluoride, Total nitrogen, Total phosphorus, Total potassium, Cobalt, Iron, Manganese, Total solids, Loss on ignition, pH, Extractable phosphorus, Extraction of potassium, Extraction of magnesium, Extraction of sodium, Organic carbon content, Conductivity, Carbonate content.
<b>Clean water</b>	Chlorine (free, total), Inorganic disinfection by-products.
<b>Hard &amp; soft water (Inorganics)</b>	Colour, Conductivity, Major inorganic components, Nutrients and others, pH, TDS.
<b>Ecotoxicology</b>	Ecotoxicology tests.
<b>High salinity potable water</b>	Conductivity, Major ions, pH, TOC, TDS.
<b>Wastewater</b>	Acid herbicides, AOX, BTEX, Chlorinated solvents, Haloforms, OC and OP pesticides, Phenols, PCBs, PAHs, Triazines and Urea herbicides. Mineral oil, Oil and grease.
<b>Effluents &amp; wastewater</b>	BOD, Chromium (VI), COD, DOC, Metals, MBAS, Non-ionic surfactants, Non specific analytes, Nutrients and other analytes, Settleable solids, Suspended solids, Toxic metals, Turbidity.
<b>Effluents &amp; wastewater (Industrial)</b>	Ammonia, Cyanide, Major wastewater analytes, Metals, Nitrogen, Phenol (total), Phosphate, Sulfate, Sulfide (total).
<b>Sludge</b>	Arsenic, Cadmium, Chromium, Cobalt, Copper, Fluoride, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Total boron, Total nitrogen, Total phosphorus, Total potassium, Vanadium, Zinc.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## QWAS

### Water Microbiology

The LGC AXIO Quality in Water Analysis Scheme (QWAS) has been specifically developed for the microbiological analysis of waters and effluent sludge.

Microorganisms occur in water naturally and the majority are relatively harmless. However contamination of water from faecal sources can lead to large outbreaks of disease.

In many countries, water microbiology is the subject of legislation.

Regulations specify how often water sources are sampled, how sampling is done, how analysis will be performed, what microorganisms are to be tested, and the acceptable limits for the target microorganisms.

For laboratories responsible for the analysis of waters, participation in a relevant LGC AXIO Proficiency Testing scheme can provide confidence that results of these analyses and the equipment used to produce those results are meaningful and accurate which, in turn, helps to ensure the safety of water.

Test Material*	Analyte*
<b>Bathing, recreational &amp; surface water</b>	Coagulase-positive staphylococci, Staphylococcus species, Sulphite-reducing Clostridia.
<b>Bathing, surface &amp; wastewater</b>	Enterococci (faecal streptococci), Escherichia coli, Faecal coliforms, Total coliforms, Salmonella species.
<b>Effluent sludge</b>	Escherichia coli, Salmonella species.
<b>Dialysis water</b>	Total Aerobic Count.
<b>Environmental water</b>	Legionella pneumophila by culture, Legionella pneumophila by PCR. Legionella species by culture, Legionella species by PCR.
<b>Potable water</b>	Clostridium perfringens, Coliforms, Enterococci (faecal streptococci), Escherichia coli, Pseudomonas aeruginosa, Sulphite-reducing Clostridia, Sulphite-reducing Clostridia spores ONLY, Total aerobic count at 22°C and 37°C, Legionella species (low levels) Yeast and mould. Identification of (non-pathogenic) organism to correct family, genus or species level.
<b>Process water</b>	Pseudomonas aeruginosa, Pseudomonas species, Total aerobic count, Yeast, Mould, Yeast and mould (total).
<b>Sea water</b>	Enterococci (faecal streptococci), Escherichia coli, Faecal coliforms, Total coliforms.
<b>Lyophilised material</b>	Unknown microorganism.
<b>Waste water</b>	SARS-CoV-2.
<b>Paper exercise (image)</b>	Colony count and calculation of number of microorganisms.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## AIR PT

### Air & Stack Emissions

Our AIR PT scheme is a partnership between LGC AXIO and the UK Health and Safety Executive. The scheme is operated by LGC and is supported by the technical testing and monitoring expertise at HSE. The scheme combines our scientific and production expertise in different areas, providing an integrated scheme for all laboratories undertaking analysis of samples from various fields of air monitoring.

We take air for granted: it is ubiquitous, essential, and life-giving. However, it is easily polluted by our activity

and so requires regular monitoring to assess exposures and the effectiveness of containment or ventilation. Many everyday activities create air pollutants with known or suspected harmful effects on human health and the environment. Such pollution can cause both short and long term effects on human, plant and animal life.

Participation in the AIR PT scheme supports a laboratory's quality system in the monitoring and measurement of air quality in a wide range of contexts.

Test Material*	Analyte*
Workplace air (filters)	Aldehydes, Chromium (VI), Metals, Respirable grade quartz by FTIR and XRD.
Workplace air (diffusion tubes)	VOCs (charcoal sorbent and thermal desorption).
Workplace air (dust)	Metals.
Ambient air (filters)	Anions, Metals.
Ambient air (diffusion tubes)	Nitrogen dioxide (as nitrite), VOCs (thermal desorption).
Indoor/chamber air (diffusion tubes)	Qualitative and quantitative VOCs (charcoal sorbent and thermal desorption).
Stack emissions (impinger solutions)	Ammonia, Hydrogen chloride, Hydrogen fluoride, Mercury, Nitrogen oxides as (NO <sub>2</sub> ), Sulphur dioxide, Metals, Volume of solution.
Stack emissions (rinsing solution)	Dust (total solids).
Gravimetric filters (workplace air, ambient air, stack emissions)	Dust by gravimetry (mass of solids), Fly ash, Metals.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description. LGC is the accredited provider of the PT scheme.

# CONTEST

## Contaminated Land

The LGC AXIO CONTEST scheme offers a comprehensive range of analytes in soils, soil extracts and standards solutions for the analysis of metals, inorganic contaminants, organics, soil leachates and solid waste.

Land contamination can pose both environmental and human health risks. The main causes of contamination are the direct discharge of industrial wastes, domestic pollution, over-usage of pesticides, oil and fuel

dumping, leaching of wastes from landfills and leaking underground storage tanks which corrode over time releasing toxic substances into previously clean soils.

Participation in a proficiency testing scheme for soil, such as CONTEST, is a requirement of the UK Environment Agency’s Monitoring Certification Scheme (MCERTS) ‘Performance Standard for Laboratories Undertaking Chemical Testing of Soil’.

Test Material*	Analyte*
Soil, acid extract of soil, standard solution	Chromium (VI), Metals, Toxic metals.
Soil &/or standard solution	Ammonia, Cyanide (complex, free, total), Dry matter, Easily liberated sulfide, Fluoride (total), Loss on ignition, pH, Sulfate (total), Sulfur (total), Thiocyanate, Water soluble (boron, chloride, fluoride, sulfate), Distillable phenolic substances, Elemental sulfur, Phenols, PAHs, PCBs, TOC, TPHs, VOCs, Soil texture.
Soil, standard solution	TPH, VOCs, OC pesticides, OP Pesticides.
Soil leachate	COD, Conductivity, Cyanide (complex, free), Major ions, Metals, pH, PI, Thiocyanide, TOC/DOC, Toxic metals.
Soil waste & leachate (waste acceptance criteria)	DOC, Dry matter content ratio, Major ions, Metals, PI, TDS, Toxic metals.
Standard solution	Qualitative test of SVOCs.
Trommel fines	Loss on ignition (FINES).
Incinerator bottom	Ash, Toxic metals, pH, Alkali reserve.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## HYGIENE

### Hygiene Surface Monitoring

Regular hygiene monitoring of environmental surfaces and equipment in manufacturing and healthcare is a key part of any quality system.

Ensuring control of microbial contamination can directly affect the quality of both product and patient care.

In food and beverage industries, it can help avoid food spoilage and food poisoning, both of which can damage brand value and profits.

In pharmaceutical manufacturing, parenteral medicines, and the environment they are produced in, need to be free from harmful microbial strains.

In healthcare, regular environmental monitoring can demonstrate cleaning and disinfection has been carried out correctly, helping to reduce the potential spread of infection.

Participation in the LGC AXIO HYGIENE scheme can help to demonstrate that environmental monitoring is effective and under control.

Regular monitoring allows information to be collected to review and assess hygiene quality to ensure legislative standards are being met. It also helps to determine the effectiveness of control systems designed to prevent microbial contamination.

Test Material*	Analyte*
<b>Surface testing by swabbing</b>	Enumeration of Enterobacteriaceae, E. coli, Total aerobic mesophilic count, Yeasts and/or Moulds. Detection of Listeria species, Listeria monocytogenes, Salmonella species.
<b>Surface testing by Contact plates</b>	Enumeration of Staphylococcus aureus, Yeast, Mould, Total aerobic mesophilic count.
<b>Surface testing by dip-slides</b>	Enumeration of Coliforms, Total viable count.
<b>Surface testing by ATP monitoring</b>	ATP levels.
<b>Surface testing (Swab rinsate)</b>	Detection of SARS-CoV-2.
<b>Swab rinsate</b>	Enumeration of Yeast; Mould; Yeast and Mould; Enterobacteriaceae; Coliforms; Escherichia coli; Total aerobic mesophilic count. Detection of Listeria species; Listeria monocytogenes; Salmonella species; E. coli O157 (non-toxigenic strain).
<b>Air filter</b>	Total viable count.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.



## CRYPTS

### Cryptosporidium

The LGC AXIO Cryptosporidium (CRYPTS) scheme is for laboratories performing microbiological analysis of cryptosporidium oocysts in treated water supplies and provides an independent assessment of measurement quality.

The CRYPTS scheme also provides information to participants on technical issues and methodologies relating to Cryptosporidium and enables participants to demonstrate to customers and regulatory bodies, on an international basis, the validity of their results.

Slides are counted by expert analysts before and after distribution to participants, suspensions and filters are prepared using highly-accurate flow-cytometry to provide homogeneous distribution sets which can be subjected to statistical.

The operation of our CRYPTS scheme is supported by an Advisory Group.

Test Material*	Analyte*
<b>Dynal slides</b>	Enumeration of Cryptosporidium oocysts.
<b>Genera slides</b>	Enumeration of Cryptosporidium oocysts.
<b>Suspensions</b>	Enumeration of Cryptosporidium oocysts.
<b>Filta-Max silters</b>	Enumeration of Cryptosporidium oocysts.
<b>Xpress filters</b>	Enumeration of Cryptosporidium oocysts.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# Petroleum

40 **OIL**  
Oils & Fuels

## Petroleum Scheme Selector

Scheme	Distribution per year	Test	Test Material Matrix*	Analyte Group*
<b>OIL**</b> Oils & Fuels	3	Chemical and Physical	Oils & Fuels.	Various chemical and physical as per ASTM, IP and ISO protocols.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

\*\* Please note that the OIL scheme is currently not included in our scope of accreditation.

# OIL\*\*

## Oils & Fuels

The LGC AXIO OIL scheme is designed specifically to assist chemists and engineers working in the refinery, fuel, used oil and lubricant laboratories.

Petroleum products, such as oils and fuels, are tested throughout their life span from the time the oil is taken from the ground to beyond the petroleum recyclers. The concentration of contaminants and trace elements is vital in ensuring the quality of oil and petroleum products.

Regulations related to cleanliness standards in engines, contamination particles and water in diesel fuel, and many more, mean it is essential that laboratories performing these measurements are capable of producing accurate data.

If a laboratory is performing the analysis of oils and fuels according to ASTM, IP and ISO protocols, participating in the LGC AXIO OIL proficiency testing scheme will enable it to monitor performance and compare it with that of other laboratories worldwide. Consistent good performance will allow laboratories to demonstrate to third parties, customers, regulators and accreditation bodies the quality of their results.

Test Material*	Analyte*
<b>#2 Diesel fuel</b>	Acid number, Ash, Base number, BP distribution, Carbon, Carbon residue, Cloud point, Cold filter plugging point, Colour, Copper corrosion, Density, Distillation, Flash point, Heat content, High temp stability, Hydrocarbon type(s), Hydrogen, Lubricity (HFRR) wear scar diameter, Nitrogen, Particulate contamination by filtration, Pour point, Sediment, Sulfur content, Viscosity, Water.
<b>Crude oil</b>	Acid number (total - potentiometric), API gravity, Asphaltenes, Density, HTSD, Iron, Micro carbon residue, Nickel, Nitrogen (total), Pour point, Reid vapour pressure, Relative density, Salt, Sediment, Sulfur, Vanadium, Viscosity, Water.
<b>Engine oil lubricants</b>	Acid number (potentiometric), Ash, Ash sulfated, Barium, Base number, Calcium, Colour, Demulsibility, Density, Evaporation loss (Noack), Flash point, Gelation, Magnesium, Molybdenum, Nitrogen, Phosphorous, Potassium, Pour point, Saponification number, Shear stability, Silicon, Sodium, Sulfur content, Viscosity (HTHS, kinematic, low temperature, tapered bearing, tapered plug), Volatility (GC), Water, Water content, Zinc.
<b>Simulated in service engine oil</b>	Acid number, Aluminium, Antimony, Barium, Base number, Boron, Cadmium, Calcium, Chromium, Copper, Flash point, FTIR (Fuel dilution, Glycol, Nitration, Oxidation, Phosphate, Sulfation, Water), Fuel dilution Glycol, Insoluble, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Particle count, Phosphorous, Potassium, Silicon, Silver, Sodium, Sulphur content, Tin, Titanium, Vanadium, Viscosity, Water content, Zinc.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

\*\* Please note that the OIL scheme is currently not included in our scope of accreditation.







## Consumer Safety

- 44 **PHARMASSURE**  
Pharmaceutical
- 45 **COSMETICS**  
Cosmetics & Toiletries
- 46 **TOYTEST**  
Toy Safety
- 47 **NiMS**  
Nickel Migration
- 48 **CANNABIS**  
Cannabis and Related Products
- 49 **CONTACT**  
Packaging and Food Contact Materials

## Consumer Safety Scheme Selector

Scheme	Distribution per year	Test	Test Material Matrix*	Analyte Group*
<b>PHARMASSURE</b> Pharmaceutical	4	Chemical, Physical and Microbiological	Pharmaceutical products and standard solutions.	Basic and advanced chemical analysis, microbiological analysis and sterility testing.
<b>COSMETICS</b> Cosmetics & Toiletries	4	Chemical and Microbiological	Cream, lipstick, lipgloss, liquids, mouthwash, and toothpaste.	Chemical parameters of relevance to the cosmetics and toiletries testing industries. Microbiological tests including spoilage and indicator organisms.
<b>TOYTEST</b> Toy Safety	4	Chemical, Microbiological, Physical and Instrument Techniques	Toys, paper exercises, real materials and standard solutions.	Interpretation of toy safety standards, various physical measurements, azo-dyes, metals and phthalates.
<b>NiMS</b> Nickel Migration	2	Chemical and Physical	Alloy disks, jewellery or other appropriate articles.	Nickel release and surface area.
<b>CANNABIS</b> Cannabis and Related Products	2	Chemical and Microbiological	Hemp oil, Simulated dry Cannabis plant	Cannabinoids (potency) Terpenes, Mycotoxins, Elements, Pesticides Microbiological tests including indicator organisms and pathogens
<b>CONTACT</b> Packaging and Food Contact Materials	1	Chemical	Food or simulated food matrix; Plastic material	Specific migration Overall migration

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# PHARMASSURE

## Pharmaceutical

The LGC AXIO PHARMASSURE proficiency testing scheme has been specifically designed to meet the needs of the pharmaceutical industry. The test materials are provided for chemical and microbiological analysis including sterility testing.

The regulations surrounding the manufacture of pharmaceutical products and laboratories testing them are wide ranging, and compliance with GMP/GLP requirements is aimed at ensuring the safety and efficacy of all pharmaceutical preparations.

Regular participation in a LGC AXIO Proficiency Testing scheme offers a truly independent assessment of measurement quality, which enables participants to compare their analytical capabilities with peers. Managers are able to monitor trends in their laboratory's performance over time and enhance the training of individuals as they participate in frequent assessment.

Successful participation in PHARMASSURE is recognised as a demonstration of laboratory quality and competency by a range of third parties, customers, regulators and accreditation bodies.

Chemistry*	Analyte*
<b>Format depends upon test type (oil, powder, solution)</b>	Acid/base titration, Density, Melting point, Other basic titration (actual analytes dependant on test), pH, Refractive index.
<b>Format depends upon test type (powder, solution)</b>	Advanced titration (potentiometric, non-aqueous), Flame spectroscopy, GC, IR/FTIR, LOD, Moisture by Karl Fischer, Polarimetry, TLC, UV, Viscosity, NMR spectroscopy and X-ray Powder Diffraction (XRPD).
<b>Powder or solution</b>	HPLC analysis.
<b>Powder</b>	Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Zinc.
<b>Tablets</b>	Dissolution, Physical measurements.
<b>Solutions</b>	Low level conductivity, Particulate determination, Endotoxins.
<b>E-cigarette liquid</b>	Nicotine; Propylene glycol; Glycerol.
<b>Dietary and herbal supplements</b>	Ginsenoside-Rb1; Ginsenoside-Rb2; Total ginsenosides; Metals, Sildenafil, Cannabidiol.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

Microbiology*	Analyte*
<b>Lyophilised material (low-level for direct culture or filtration)</b>	Enumeration and/or identification of a single microorganism.
<b>Lyophilised material (Mixed microorganisms)</b>	Enumeration of bile-tolerant Gram-negative bacteria, Candida albicans, Escherichia coli, Mould, Staphylococcus aureus, Total aerobic microbial count, Total bacterial count, Total yeast and mould, Yeast. Detection of bile-tolerant Gram-negative bacteria, Candida albicans, Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus, Burkholderia cepacia.
<b>Lyophilised material (5 vials for sterility testing)</b>	Sterility testing and identification of isolated microorganisms.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# COSMETICS

## Cosmetics & Toiletries

The LGC AXIO COSMETICS proficiency testing scheme is intended for chemists and microbiologists performing product and ingredient testing in the beauty and personal care products industries.

Cosmetics have been in use for thousands of years, and the potential for harm to the wearer has been present ever since the use of toxic chemicals such as lead sulfite (galena) as an eye make-up by the ancient Egyptians.

Manufacturers have a duty to ensure that potentially harmful products are not placed on the market. Products must undergo chemical, microbiological and physical testing to ensure safety, quality and legislative requirements are met.

If a laboratory performs these analyses, participation in the LGC AXIO COSMETICS scheme can provide confidence that results are meaningful, accurate and will allow for comparison to peers.

Chemistry*	Analyte*
Lipstick, lip gloss & powder	Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel.
Cream	Hydroquinone.
Liquid cosmetic	Density, pH, Viscosity.
Mouthwash, toothpaste	Antimony, Arsenic, Barium, Copper, Fluoride, Mercury, Selenium, Zinc.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

Microbiology*	Analyte*
Cream liquid & powder	Enumeration and detection of aerobic mesophilic bacteria, Enterobacteriaceae, Pseudomonas aeruginosa, Staphylococcus aureus, Burkholderia cepacia, Candida albicans, Escherichia coli, Yeast and mould (total count). Challenge test.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# TOYTEST

## Toy Safety

The LGC AXIO TOYTEST proficiency testing scheme is designed to work with the strict safety regulations that are in place to ensure that toys are appropriate for the target age group of children, and do not pose a hazard in use.

The scheme is intended to support laboratories testing to the key regulations in place in Europe and America, namely the EN71 standard in Europe and the ASTM F963 standard in America.

A combination of physical toys and product information is provided over the scheme year for assessment and testing according to the standards.

Additional materials are also provided for analyses ranging from solutions and paint flakes for heavy metals, materials for kinetic testing, flammability testing, and dye analysis.

Test Material*	Analyte*
<b>Toy product</b>	Paper exercise covering the scope of EN71-1 and ASTM F963 (Mechanical and physical testing).
<b>Cords, plastic films, toys or toy components</b>	Measurement testing according to EN71-1 and ASTM F963.
<b>Toy product</b>	Kinetic energy testing EN71-1 and ASTM F963, Acoustic testing EN71-1.
<b>Magnetic toys or components</b>	Flux testing EN71-1 and ASTM F963.
<b>Sections of fabric or toy product</b>	Flammability testing EN71-2.
<b>Paint flakes, crayons, fabric or finger paint plus standard solutions; Slime product</b>	Migration of elements EN71-3.
<b>Information &amp;/or toy product for paper exercise</b>	Activity toys EN71-8.
<b>Toy or other electrical item</b>	Electrical testing EN62115.
<b>Section of fabric</b>	Azo-dyes EN14362-1 and EN14362-3.
<b>Dried paint flakes</b>	Cadmium (total), Lead (total), Chromium (total).
<b>Section of plastic plus standard solutions</b>	Phthalates.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.



# NiMS

## Nickel Migration

The LGC AXIO NiMS Proficiency Testing scheme is designed to assess the performance of laboratories undertaking the determination of nickel release from articles intended to come into direct and prolonged contact with the skin according to the European Regulation (EC) 1907/2006.

The release of nickel from jewellery products, in close contact or pierced through the skin is the most widespread cause of allergic contact dermatitis - which affects an estimated 10% to 20% of the population.

Many ordinary items such as buttons, coins, spectacle frames, watchstraps and zips may also contain nickel and as such is hard for sufferers to avoid.

The method for the determination of nickel release from such products is defined in European standard EN 1811 (2011). The article to be tested is suspended in an artificial sweat solution for a period of a week, after which time the concentration of dissolved nickel in the solution is determined by ICP-MS or a similarly accurate and precise technique.

Test Material*	Analyte*
Alloy disks, jewellery or other appropriate articles	Nickel release and surface area measurement.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# CANNABIS

## Cannabis and Related Products

Increasingly cannabis is being legalised and used as a medicinal product in a range of markets. This legalisation process includes requirements for QC testing and therefore PT to assure the quality of the analytical data.

In addition many novel products (foods, beverage and supplements) are being developed which contain cannabis extracts (minus the psychoactive cannabinoids) for health benefits.

The primary aim of the CANNABIS Proficiency Testing Scheme is to enable laboratories performing the analysis of cannabis to monitor their performance and compare it with that of their peers. Cannabis PT also aims to provide information to participants on technical issues and methodologies relating to testing of cannabis.

### Chemistry

Test Material	Analyte*
Hemp oil	Cannabinoids, Terpenes, Mycotoxins, Pesticides.
Simulated dried cannabis plant	Elements.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

### Microbiology

Test Material	Analyte*
Simulated dried cannabis plant	Enumeration of Coliforms, Staphylococcus aureus, Total microbial count, Yeast and Mould Detection of Salmonella species, Yeast and mould, Aspergillus species.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## CONTACT

### Packaging and Food Contact Materials

Food Contact Materials (FCM) include a wide variety of materials that come in contact with food. Migration is the transfer of substances from FCM into the food. FCM can contain Intentionally Added Substances such as additives or Non Intentionally Added Substances (co-products of degradation, impurities, etc.)

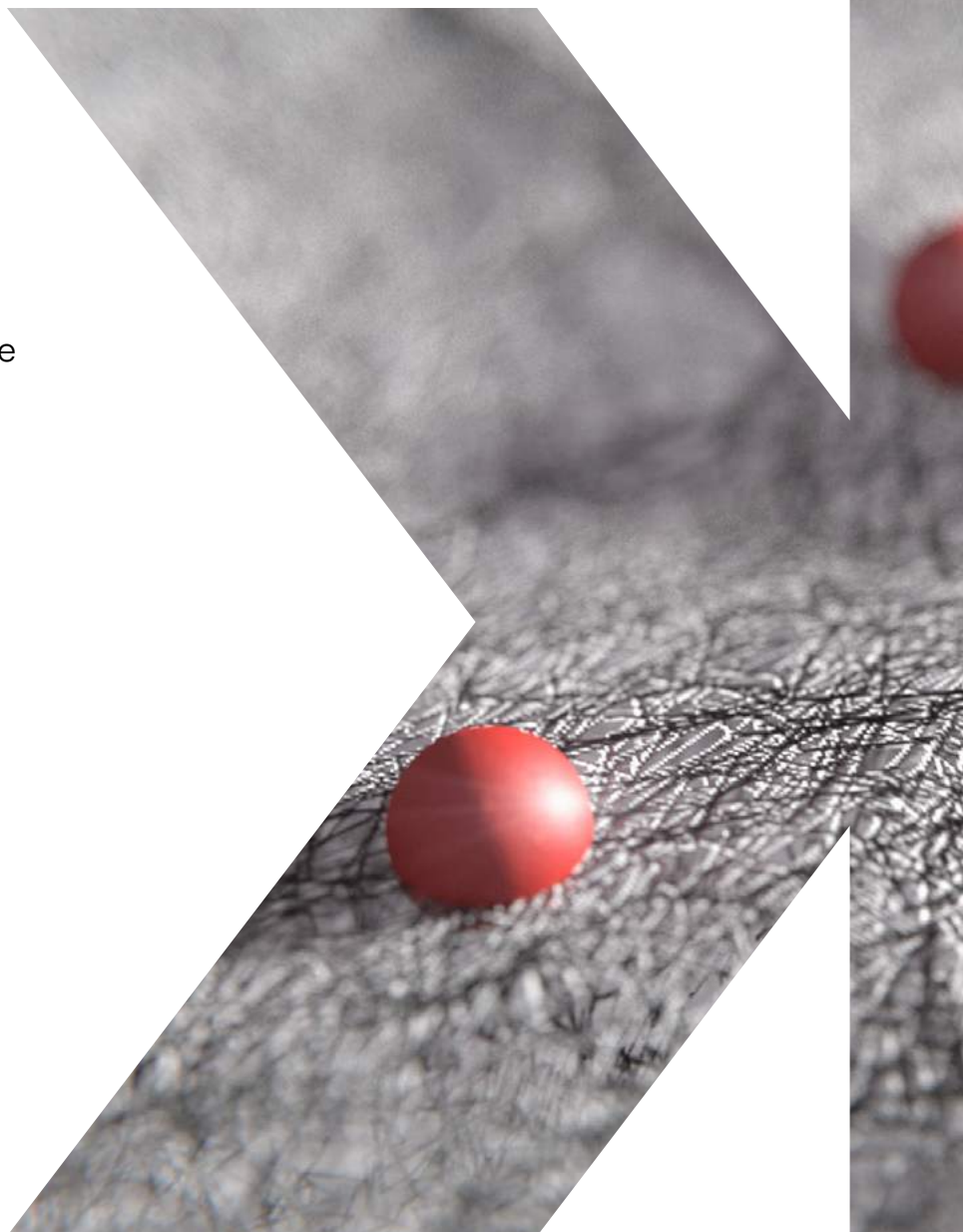
The primary aim of the Packaging and Food Contact Materials Proficiency Testing Scheme is to enable laboratories performing the analysis of packaging and food contact materials to monitor their performance and compare it with that of their peers. This PT also aims to provide information to participants on technical issues and methodologies relating to this type of testing.

Test Material*	Analyte*
Food simulants	Bisphenol A; Bisphenol S; Aniline; 4,4'-Methylenedianiline; 2,4-Toluenediamine; Lead; Cadmium.
Vegetable/seed oil	Phtalates (DEHP; BBP; DBP).
Plastic bead or pellet	Bisphenol A.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## Clinical

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Drugs of Abuse in Hair



## Clinical Scheme Selector

Scheme	Distribution per year	Test	Test Material Matrix*	Analyte Group*
<b>CLS</b> Clinical Laboratory	Up to 12	Clinical	Range of relevant materials.	Bacteriology, Chemistry, Haematology, Immunology Mycobacteriology, Mycology, Parasitology, Virology, Molecular Multiplex discipline.
<b>SAR</b> SARS-CoV-2	Up to 6	Clinical	Swabs, plasma	SARS-CoV-2 RNA/Antigens/Antibodies
<b>IPT</b> Immuno-suppressant	12	Clinical	Blood and plasma.	Routine quantification of Immunosuppressant drugs including Ciclosporin; Tacrolimus; Sirolimus; Everolimus; Mycophenolic Acid.
<b>TDM</b> Therapeutic Drugs	12	Clinical	Blood, serum and urine.	Routine quantification of therapeutic drugs including Anti-epileptics; Cardiac; Analgesics; Substance abuse treatments; Psychoactives; Antibiotics; Antifungals, Anti-hypertensive, Smoking-related.
<b>TOX</b> Toxicology	12	Clinical	Blood, serum and urine.	Drug and alcohol determination; case studies.
<b>DAU</b> Drugs of Abuse in Urine	4	Clinical	Urine from volunteers and known drug users.	Mixtures of drugs and/or their metabolites from six major classes.
<b>DOF</b> Drugs in Oral Fluid	4	Clinical	Oral fluid from volunteers and known drug users.	Mixtures of drugs and/or their metabolites from six major classes.
<b>DAH**</b> Drugs of Abuse in Hair	4	Clinical	Human hair.	Mixtures of drugs and/or their metabolites from six major classes.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

\*\* Please note that the DAH scheme is currently not included in our scope of accreditation.



# CLS

## Clinical Laboratory

The LGC AXIO Clinical Laboratory Scheme (CLS) includes a full range of programmes for laboratories performing analysis of patient samples. These ISO/IEC 17043 accredited programmes will assist laboratory professionals in monitoring laboratory performance and will provide an independent assessment of measurement quality. The CLS scheme will also provide valuable information to participants on current technical issues and methodologies relating to clinical laboratory science.

Test materials mimic clinical specimens in a wide array of samples that are included in the

CLS scheme, from the Chemistry, Haematology, Immunology, Bacteriology, Mycobacteriology, Mycology, Parasitology, Virology and Molecular Multiplex disciplines.

With a wide array of programmes covering all areas of the clinical laboratory, the CLS scheme supports laboratories' crucial role in helping healthcare providers diagnose and treat patients.

The operation of our CLS scheme is supported by an Advisory Group.

Test Material*	Analyte*
<b>Bacteriology</b>	Blood culture, CSF culture, Ear/Eye culture, Group B, Strep culture, N. gonorrhoeae culture, Sputum, Stool culture, Throat culture, Urine colony count, Urine culture, Wound culture, Susceptibility Testing, Bordetella pertussis, Bordetella Parapertussis, Bordetella parapertussis, C. difficile Toxin, C. difficile Antigen, Chlamydia trachomatis, Neisseria gonorrhoeae, Gram Stain Interpretation, Leukocytes, Stain Quality, Sputum Specimen Quality, Bacterial vaginosis, Nugent Score, Group B Strep, Legionella pneumophila Antigen, Methicillin-Resistant Staphylococcus aureus culture, Methicillin-Resistant Staphylococcus aureus, Staphylococcus aureus, Mycoplasma pneumoniae, Streptococcus pneumoniae Antigen, Group A Strep, Group C/G Strep, Vancomycin-Resistant Enterococcus.
<b>Chemistry</b>	Alcohol, Ammonia, Blood gas, Blood oximetry, Cardiac markers, Immunoassays, Glycosylated Haemoglobin, Neonatal Bilirubin, Spinal Fluid chemistry, Tumour markers, Urine chemistry.
<b>Haematology</b>	Advanced Blood Cell ID, Blood cell ID and differential, Basic haematology, Coagulation, part Diff. CBCX, Microscopy, Sedimentation rate, Urinalysis and HCG.
<b>Immunology/Serology</b>	Hepatitis serology, HIV serology, High Sensitivity CRP, Infectious mononucleosis, Immunoproteins C3 and C4, Rubella, SARS-CoV-2 serology, Syphilis serology, Thyroid antibodies.
<b>Mycobacteriology</b>	Acid Fast Bacilli Smear, Mycobacterium tuberculosis complex; Rifampin resistance, Mycobacteriology culture ID.
<b>Mycology</b>	Mycology culture ID.
<b>Parasitology</b>	Blood parasite ID, Trichomonas vaginalis, Cryptosporidium Antigen; Giardia Antigen.
<b>Virology</b>	HPV; HPV genotyping, RSV Antigen; Influenza A, Antigen; Influenza B Antigen; Influenza A or B Antigen; Adenovirus Antigen, Rotavirus Antigen, SARS-CoV-2 (molecular and serology).
<b>Molecular Multiplex Blood Pathogen panel (multiplex)</b>	Acinetobacter baumannii, Enterobacteriaceae, Enterobacter cloacae complex, Enterococcus sp., Escherichia coli, Haemophilus influenzae, Klebsiella oxytoca, Klebsiella pneumoniae, Listeria monocytogenes, Neisseria meningitidis, Proteus sp., Pseudomonas aeruginosa, Staphylococcus sp., Staphylococcus aureus, Streptococcus sp., Streptococcus agalactiae, Streptococcus pneumoniae, Streptococcus pyogenes, Candida albicans, Candida glabrata, Candida krusei, Candida parapsilosis, Candida tropicalis, Resistance Genes (mecA, vanA/B and KPC).

Continued on next page

CLS Continued

<b>Gastrointestinal panel (multiplex)</b>	Campylobacter sp., C. difficile toxin A/B, Enteroaggregative E. coli (EAEC), Enteropathogenic E. coli (EPEC), Enterotoxigenic E. coli (ETEC) It/st, E. coli O157, Plesiomonas shigelloides, Salmonella sp., Shiga-like toxin-producing E. coli (STEC) stx1/stx2, Shigella/Enteroinvasive E. coli (EIEC), Yersinia enterocolitica, Vibrio sp., Vibrio cholerae, Cryptosporidium, Cyclospora cayetanensis, Entamoeba histolytica, Giardia lamblia, Astrovirus, Sapovirus, Norovirus GI/GII, Rotavirus A, Sapovirus.
<b>Meningitis panel (multiplex)</b>	Escherichia coli K1, Haemophilus influenza, Listeria monocytogenes, Neisseria meningitides, Streptococcus agalactiae, Streptococcus pneumoniae, Cytomegalovirus, Enterovirus, Herpes simplex virus 1, Herpes simplex virus 2, Human herpesvirus 6, Human parechovirus, Varicella zoster virus, Cryptococcus neoformans/gatti.
<b>Pneumonia panel (multiplex)</b>	Acinetobacter (ACB) complex, Chlamydia pneumoniae, Enterobacter cloacae complex, Escherichia coli, Haemophilus influenzae, Klebsiella aerogenes, Klebsiella oxytoca, Klebsiella pneumoniae group, Legionella pneumophila, Moraxella catarrhalis, Mycoplasma pneumoniae, Proteus sp., Pseudomonas aeruginosa, Serratia marcescens, Staphylococcus aureus, Streptococcus agalactiae, Streptococcus pneumoniae, Streptococcus pyogenes, Adenovirus, Coronavirus, Human Metapneumovirus (hMPV), Human Rhinovirus / Enterovirus, Influenza A, Influenza B, Parainfluenza Virus, Respiratory Syncytial Virus, Resistance Genes (CTX-M, IMP, KPC, mecA/C & MREJ, NDM, OXA-48, VIM).
<b>Respiratory panel (multiplex)</b>	Bordetella holmesii, Bordetella parapertussis / bronchiseptica, Legionella pneumophila, Bordetella pertussis, Chlamydia pneumoniae, Mycoplasma pneumoniae, Adenovirus, Coronavirus HKU1, Coronavirus NL63, Coronavirus 229E, Coronavirus OC43, Human Metapneumovirus (hMPV), Human Rhinovirus/ Enterovirus, Influenza A, Influenza A/H1, Influenza A/H3, Influenza A/ H1-2009, Influenza B, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, Parainfluenza 4, Respiratory Syncytial Virus.

\* Please note that the accredited programmes within our CLS scheme are accredited to ISO/IEC 17043 by the American Association for Laboratory Accreditation (A2LA) or the United Kingdom Accreditation Service (UKAS). For accreditation status please see current application form/scheme description.

# SAR

## SARS-CoV-2

The SARS-CoV-2 Clinical Scheme (SAR) is the Proficiency Testing answer from AXIO to the Global COVID-19 pandemic.

Governments, health bodies, hospitals, virology labs and indeed most of the world’s population find themselves locked in a war with the novel virus COVID-19. LGC is now directly involved in COVID-19-related work, from supporting diagnostic kit manufacturers, diagnostic testing and clinical research to providing quality assurance tools to ensure reliability of measurements being made.

As increasing numbers of diagnostic methods are made available in the global fight against COVID-19, it is essential that laboratories ensure that their application of methods and subsequent results are reliable and accurate using external quality assurance tools, including proficiency testing.

Test materials include swab and plasma samples, to meet all Clinical laboratories and Point of Care Testing requirements.

### Microbiology

Test Material*	Analyte*
Liquid sample simulating nasopharyngeal swab	SARS-CoV-2 Molecular. SARS-CoV-2 Antigen.
Plasma samples	SARS-CoV-2 Antibodies (IgA, IgG, IgM, Total Ab).

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## IPT

### Immunosuppressant

The LGC AXIO Immunosuppressant proficiency testing scheme provides independent performance assessment for laboratories performing quantification of immunosuppressant drugs in blood and plasma.

Immunosuppressant drugs are a class of drugs that suppress, or reduce, the strength of the body's immune system.

In addition to being used to prevent organ rejection, they are often used to treat autoimmune disorders such as lupus, psoriasis, and rheumatoid arthritis.

Regular blood tests are essential for monitoring therapeutic levels and whether dosage changes are needed.

To successfully make these informed decisions laboratories need to demonstrate that drug measurements are reliable, reproducible and accurate.

The operation of the LGC AXIO IPT scheme is supported by an Advisory Group consisting of members of the professional bodies, scheme participants, and others experienced in the field.

The scheme reports on the performance of U.K. participants (who have clinical responsibilities) to the National Quality Assurance Advisory Panels for Chemical Pathology.

Test Material*	Analyte*
Human blood	Ciclosporin/Tacrolimus, Everolimus, Sirolimus.
Plasma	Mycophenolic acid.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# TDM

## Therapeutic Drugs Monitoring

The LGC AXIO Therapeutic Drugs Monitoring (TDM) proficiency testing scheme provides independent performance assessment for the routine quantification of a wide range of anti-epileptic and other therapeutic drugs.

TDM is a measurement of specific drug concentration levels at timed intervals in patients, usually through blood/serum samples, and is necessary where control of drug concentrations is required to achieve optimum treatment for the patient, or where there is a narrow range between the therapeutic and toxic levels.

The operation of the LGC AXIO TDM scheme is supported by an Advisory Group consisting of members of the professional bodies, scheme participants, and others experienced in the field. The scheme reports on the performance of U.K. participants (who have clinical responsibilities) to the National Quality Assurance Advisory Panels for Chemical Pathology.

Test Material*	Analyte*
<b>Therapeutic drug mixture (lyophilised human serum)</b>	Carbamazepine; CBZ-epoxide; Carbamazepine+CBZ-epoxide; Clonazepam; Lamotrigine; Phenytoin; Ethosuximide; Phenobarbitone; Primidone; Valproate; Caffeine; Digoxin; Lithium; Theophylline; Methotrexate; TD-Amikacin; TD-Gentamicin; Clobazam, Norclobazam. TD-Tobramycin; TD-Vancomycin.
<b>Anti-epileptic drugs (lyophilised human serum)</b>	Brivaracetam, Felbamate, Gabapentin, Lacosamide, Levetiracetam, OH-oxcarbazepine, Pregabalin, Perampanel, Retigabine (Ezogabine), Rufinamide, Tiagabine, Topiramate, Vigabatrin, Zonisamide.
<b>Cardiac drugs (lyophilised human serum)</b>	Amiodarone, Desethylamiodarone, Flecainide.
<b>Analgesic mixture (lyophilised human serum)</b>	Diclofenac, Ibuprofen, Tramadol.
<b>Substance abuse &amp; treatment (lyophilised human serum)</b>	Buprenorphine, EDDP, Methadone, Norbuprenorphine.
<b>Psychoactive drugs (lyophilised human serum, new born calf serum)</b>	Amisulpride, Amitriptyline/Nortriptyline, Aripiprazole/Dehydroaripiprazole, Citalopram/Norcitalopram, Clomipramine/Norclomipramine, Clozapine/ Norclozapine, Doxepin/Nordoxepin, Dothiepin/Northiaden, Duloxetine, Escitalopram, Fluphenazine, Fluvoxamine, Haloperidol, Imipramine/Desipramine, Fluoxetine/Norfluoxetine, Maprotiline/Normaprotiline, Mianserin, Mirtazapine/ Normirtazapine, Olanzapine, Paroxetine, Perphenazine, Quetiapine/Norquetiapine, Risperidone/HO-risperidone, Sertraline/ Norsertraline, Sulpiride, Thioridazine, Trazodone, Trimipramine/Nortrimipramine, Venlafaxine/ Norvenlafaxine, Ziprasidone, Zuclopenthixol. Brexpiprazole, Lurasidone, Sertindole, Iloperidone.
<b>Psychostimulants (lyophilised human serum)</b>	Atomoxetine, Methylphenidate. Ritalinic Acid.
<b>Non-smoking compliance (lyophilised human serum)</b>	Cotinine, Nicotine.
<b>Antibiotics and Antifungals (liquid human serum)</b>	Amikacin, Gentamicin, Teicoplanin, Tobramycin, Vancomycin, Antibiotics, Antifungals.
<b>Anti-hypertensive drugs (urine)</b>	Drug identification.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.



# TOX

## Toxicology

The LGC AXIO Toxicology (TOX) proficiency testing scheme is designed to provide an independent performance assessment of laboratories undertaking clinical and/or forensic toxicological analytical services.

Toxicological analyses may be undertaken on biological specimens, predominantly blood, serum and urine. In general, analyses are undertaken for a range of substances including prescription and nonprescription drugs, illicit drugs and alcohol.

For laboratories performing these analyses, participation in TOX can provide confidence that results are meaningful and accurate. The operation of our TOX scheme is supported by an Advisory Group consisting of members of the professional bodies, scheme participants, and others experienced in the field. The scheme reports on the performance of U.K. participants (who have clinical responsibilities) to the National Quality Assurance Advisory Panels for Chemical Pathology.

Test Material*	Analyte*
Human serum	Ethanol, Paracetamol (Acetaminophen), Salicylic acid.
Human blood	Carboxyhaemoglobin, Ethanol, Paracetamol (Acetaminophen), Salicylic acid.
Urine	Ethanol.
Lyophilised urine	Gammahydroxybutyrate.
Whole blood	Acetone, Ethanol, Ethylene glycol, Isopropyl alcohol, Methanol.
Human serum & urine	Toxicology case studies include various analytes with clinical or forensic scenario.
Whole blood toxicology	Test materials contain analytes which are pre-defined by our Advisory Group and the requests of participants.
Lyophilised human serum	Diazepam, Nitrazepam, Nordazepam, Oxazepam, Temazepam. Zaleplon, Zolpidem, Zopiclone. Alprazolam, Bromazepam, Clonazepam, Lorazepam, Midazolam.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## DAU

### Drugs of Abuse in Urine

The LGC AXIO Drugs of Abuse in Urine (DAU) scheme is designed to provide an independent performance assessment of laboratories and clinics that provide routine services for detection of drugs of abuse in urine.

Human urine has been used for many years to detect the presence of illicit drugs. Urine testing may be requested for a variety of reasons, including health care, occupational monitoring, insurance screening, legal and forensic purposes. Errors in tests could have severe consequences, such as dismissal from work or miscarriage of justice.

Laboratories and clinics are encouraged to participate in suitable PT/EQA schemes to ensure the highest standard of drug testing is achieved through independent assessment of measurement quality.

The operation of the LGC AXIO DAU scheme is supported by an Advisory Group consisting of members of professional bodies, scheme participants, and others experienced in the field. The scheme reports on the performance of U.K. participants (who have clinical responsibilities) to the National Quality Assurance Advisory Panels for Chemical Pathology.

Test Material*	Analyte*
<p><b>Urine test materials obtained from volunteers &amp; known drug users which regularly contain mixtures of drugs &amp; their metabolites</b></p>	<p>Amfetamines and stimulants, Cannabinoids, Cocaine and metabolites, Ethyl glucuronide, Ethyl sulfate, Gamma-Hydroxybutyrate (GHB), Minor tranquilizers, Non-opiate narcotics, Opiates. Other current drugs and/or metabolites may also be included.</p>

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## DOF

### Drugs in Oral Fluid

The LGC AXIO Drugs in Oral Fluid (DOF) scheme provides performance assessment for laboratories and clinics who provide analytical services for drugs in oral fluid. Samples are provided as real human oral fluid.

Advances in technology have enabled oral fluid testing for the presence of many drugs. Oral fluid collection is often less invasive, relatively easy to perform, and, in forensic situations, can be achieved under close supervision to prevent adulteration or substitution of the samples.

Drug testing is extremely accurate and reliable when all aspects of the testing process are carried out correctly.

However, if poor procedures and inadequate testing methods are utilised, the information obtained may be very misleading and inaccurate.

To minimise this risk, laboratories should perform routine quality control tests and participate in suitable PT/EQA schemes.

The operation of our DOF scheme is supported by an Advisory Group consisting of members of the professional bodies, scheme participants, and others experienced in the field. The scheme reports on the performance of U.K. participants (who have clinical responsibilities) to the National Quality Assurance Advisory Panels for Chemical Pathology.

Test Material*	Analyte*
<b>Oral fluid test materials obtained from volunteers &amp; known drug users which regularly contain mixtures of drugs &amp; their metabolites from six major classes</b>	Amfetamines and stimulants, Cannabinoids, Cocaine and metabolites, Minor tranquillizers, Non-opiate narcotics, Opiates, Other current drugs and/or metabolites may also be included.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## DAH\*\*

### Drugs of Abuse in Hair

The LGC AXIO Drugs of Abuse in Hair (DAH) scheme is suitable for laboratories performing forensic analysis of hair for drugs of abuse and provides an independent assessment of measurement quality.

Drugs and their metabolites become incorporated in hair when ingested. An analysis for these drug residues can provide a useful assessment of an individual's intake of drugs over a prolonged period of time.

The detection time of drugs in hair is significantly greater than other samples commonly tested such as blood, urine and saliva.

Advantages of analysing hair samples for the presence of drugs include a large window of detection,

the assessment of the regularity of drug use (or continued abstinence) and sample stability.

Test materials provided consist of real cut (2–3mm pieces) human hair that has been declared free from common drugs of abuse.

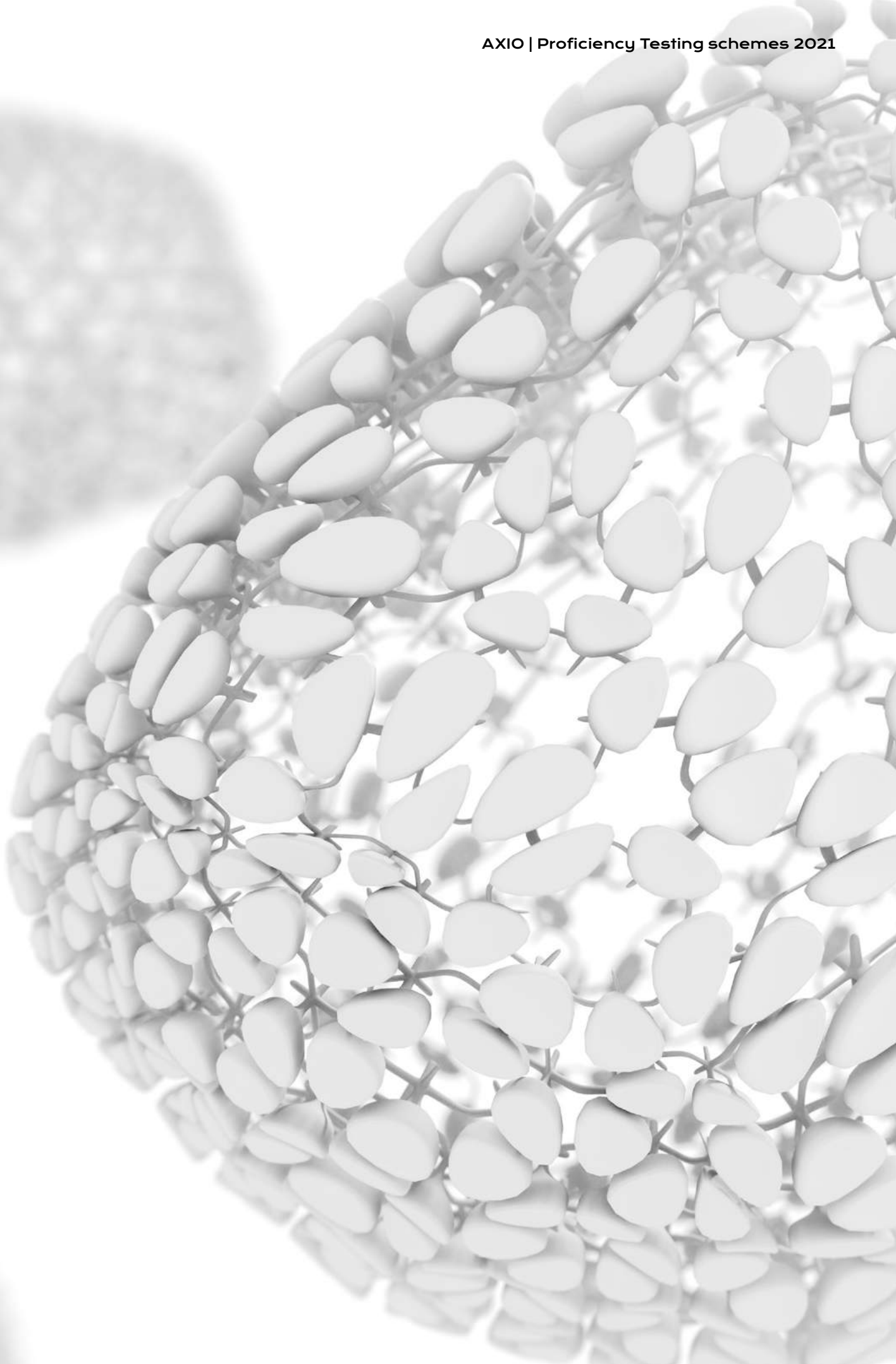
The analytes are then incorporated by a method that includes soaking. Drugs (and/or metabolites) from six major classes are included during the scheme year.

The operation of our DAH scheme is supported by an Advisory Group consisting of members of the professional bodies, scheme participants, and others experienced in the field.

Test Material*	Analyte*
Human hair	Identification and quantification of Amfetamines and stimulants, Benzodiazepines, Cannabinoids Cocaine and metabolites, Opiates. Other current drugs and/or metabolites may also be included.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

\*\* Please note that the DAH scheme is currently not included in our scope of accreditation.





## Forensic

- 64 **QUARTZ**  
Forensic Blood Toxicology
- 65 **FAE**  
Forensic Analysis for Explosives
- 66 **FIRMS**  
Forensic Isotope Ratio Mass Spectrometry

## Forensic Scheme Selector

Scheme	Distribution per year	Test	Test Material Matrix*	Analyte Group*
<b>QUARTZ</b> Forensic Blood Toxicology	4	Toxicology and Case Study	Blood and urine.	Quantification/Identification of drugs and psychoactive substances, Alcohol Technical Defense case study.
<b>FAE</b> Forensic Analysis for Explosives	1	Chemical	Range of relevant materials.	Explosive, trace explosives and unknowns.
<b>FIRMS</b> Forensic Isotope Ratio Mass Spectrometry	2	Chemical	Range of products in sealed amber vials.	Variations in isotope ratios.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# QUARTZ

## Forensic Blood Toxicology

The LGC AXIO QUARTZ scheme is aimed at laboratories undertaking forensic toxicology and coroners work. Test analytes and case scenarios included in the scheme are discussed regularly with the Advisory Group.

The scheme offers the choice of a number of test materials comprising blood and urine spiked with drugs and metabolites. Case scenarios provided for interpretation covered include sudden and suspicious deaths, drug facilitated sexual assaults (DFSA), impaired driving and other relevant cases.

There is an Alcohol Technical Defence (ATD) exercise that allows practitioners to demonstrate competency in performing these types of calculations.

Participation in QUARTZ will provide independent performance assessment and confidence that results are meaningful and accurate. Consistent good performance will allow laboratories to demonstrate to third parties, customers, regulators and accreditation bodies the quality of their results.

The operation of our QUARTZ scheme is supported by an Advisory Group consisting of members of the professional bodies, scheme participants, and others experienced in the field.

Test Material*	Analyte*
<b>Blood</b>	Forensic drug identification, quantification and case study covering the following: Anaesthetics, Anticholinergics, Anticonvulsants, Antidepressants, Antihistamines, Antipsychotics, Barbiturates, Benzodiazepines, Cannabinoids, Carboxyhaemoglobin, Cardiovascular drugs, Erectile dysfunction, Hypnotic drugs, Non steroidal anti-Inflammatory analgesics, Opioid analgesics, Stimulants.
	Abuse and prescribed drug quantification of commonly encountered drugs (alternate rounds of drugs of abuse and prescription drugs).
	Alcohol in blood quantification of Ethanol and Fluoride.
	Interpretation of a case study (with analytical data, and a scenario or witness statement) to determine the potential blood alcohol level in a given time (Alcohol Technical Defence).
	Quantification of up to 4 New Psychoactive Substances (NPS).
	Identification of one of the most common synthetic Cannabinoids.
<b>Urine</b>	Identification of up to 4 drugs or metabolites relevant to forensic toxicology.
	Identification of Synthetic Cannabinoids.
	Identification of New Psychoactive Substances.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

# FAE

## Forensic Analysis for Explosives

The LGC AXIO Forensic Analysis for Explosives (FAE) scheme aims to provide information depicting realistic scenarios and test materials to allow participating laboratories to demonstrate the competent analysis of trace explosives and associated chemicals.

The European Network of Forensic Science Institute (ENFSI) Working Group on Explosives provides technical advice to LGC Proficiency Testing on the organisation of this scheme.

Forensic examination for explosives may include the analysis of raw materials found at a scene, the identification of potentially explosive substances and the forensic identification of post-blast explosive residues.

Participation in FAE will allow laboratories to monitor performance and compare it with that of peers against the international standards ISO/IEC 17025 and ISO/IEC 17020.

Test Material*	Analyte*
<b>Range of relevant test materials</b>	Explosives, trace explosives and unknowns.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description.

## FIRMS

### Forensic Isotope Ratio Mass Spectrometry

Isotope Ratio Mass Spectrometry (IRMS) is a specialised technique that precisely measures small differences in the abundances of isotopes such as  $2\text{H}/1\text{H}$ ,  $13\text{C}/12\text{C}$ ,  $15\text{N}/14\text{N}$  and  $18\text{O}/16\text{O}$ . Subtle variations to the ‘natural’ abundance of these isotopes may be introduced during biological, chemical and physical processes.

These changes enable the differentiation of materials that otherwise may not be separated such that IRMS

is used in many fields, such as archeology, medicine, geology, food authenticity and Forensic.

Participation in the LGC AXIO FIRMS scheme will help laboratories demonstrate competence in this analytical technique. The scheme is operated by LGC Proficiency Testing and is supported by the FIRMS Network which provides input for the choice of test materials and scheme performance.

Test Material*	Analyte*
<b>Range of products in sealed amber vials</b>	Variations in isotope ratios.

\* The full range and availability of test materials and analytes is determined on an annual basis and may be added or removed. For accredited and non-accredited status please see current application form/scheme description. LGC is the accredited provider of the PT scheme.





# Index of Analytes

## Index of Analytes

Analyte	Scheme ID	Matrix	Sample
% reduction in microbial load	COSMETICS	Cream	30
(-)-Caryophyllene oxide	CANNABIS	Hemp oil	2
(-)- $\alpha$ -Bisabolol	CANNABIS	Hemp oil	2
(1S)-(-)- $\beta$ -Pinene	CANNABIS	Hemp oil	2
1,1,1,2-Tetrachloroethane	CONTEST	Standard solutions & soil	25
		Standard solution	Group C, 19
1,1,1-Trichloroethane	AIR	Charcoal filled glass sorbent tubes (Workplace air)	6
	AQUACHECK	Synthetic effluent	19B
		Groundwater	7B
	CONTEST	Standard solutions & soil	25
		Standard solution	Group C, 19
PHARMASSURE	Residual Solvents	2E	
1,1,2,2-Tetrachloroethane	CONTEST	Standard solutions & soil	25
1,1,2-Trichloroethane	CONTEST	Standard solutions & soil	25
1,1-Dichloroethane	CONTEST	Standard solutions & soil	25
	PHARMASSURE	Residual Solvents	2E
1,1-Dichloroethylene	CONTEST	Standard solutions & soil	25
1,1-Dichloropropylene	CONTEST	Standard solutions & soil	25
1,2,3-Trichlorobenzene	AQUACHECK	Clean water	56
		Synthetic effluent	19B
		Groundwater	7B
	CONTEST	Standard solutions & soil	25
		Standard solution	Group C, 19
1,2,3-Trichloropropane	AQUACHECK	Clean water	55
	CONTEST	Standard solutions & soil	25
1,2,4-Trichlorobenzene	AQUACHECK	Clean water	56
		Synthetic effluent	19B
		Groundwater	7B
		Groundwater	6C
	CONTEST	Standard solutions & soil	25
		Standard solution	Group C, 19
1,2,4-Trimethylbenzene (TMB)	AIR	Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
1,2-Dibromo-3-chloropropane	AQUACHECK	Clean water	55
	CONTEST	Standard solutions & soil	25
1,2-Dibromoethane	AQUACHECK	Clean water	55
	CONTEST	Standard solutions & soil	25
1,2-Dichlorobenzene	CONTEST	Standard solutions & soil	25

## Index of Analytes

Analyte	Scheme ID	Matrix	Sample
1,2-Dichloroethane	AQUACHECK	Synthetic effluent	18A
		Synthetic effluent	19B
		Water Framework Directive	34H
		Groundwater	6A
		Groundwater	7B
	CONTEST	Standard solutions & soil	25
		Standard solution	Group C, 19
PHARMASSURE	Residual Solvents	2E	
1,2-Dichloropropane	AQUACHECK	Clean water	55
	CONTEST	Standard solutions & soil	25
1,3,5-Trichlorobenzene	AQUACHECK	Clean water	56
		Synthetic effluent	19B
		Groundwater	7B
1,3,5-Trinitrobenzene	AQUACHECK	Clean water	65
1,3-Dichlorobenzene	CONTEST	Standard solutions & soil	25
1,3-Dichloropropane	CONTEST	Standard solutions & soil	25
1,3-Dinitrobenzene	AQUACHECK	Clean water	65
1,4-Dichlorobenzene	AQUACHECK	Clean water	55
1,4-Dichlorobenzene	CONTEST	Standard solutions & soil	25
11-Deoxycortisol	CLS	Lyophilized Serum	CHM
12:0 Lauric acid	QFCS	Oil or fat	778
		Grated cheese	800
1-25-(OH) Vitamin D (D3)	CLS	Lyophilized Serum	IAS
14:0 Myristic acid	QFCS	Oil or fat	778
14:1 n-5 Myristoleic acid	QFCS	Oil or fat	778
15 minute luminescent bacteria IC50 tests	AQUACHECK	Ecotoxicology	50
15:0 Pentadecanoic acid	QFCS	Oil or fat	778
16:0 Palmitic acid	QFCS	Oil or fat	778
16:1 Palmitoleic acid	QFCS	Oil or fat	778
17:0 Heptadecanoic acid	QFCS	Oil or fat	778
17-OH-Progesterone	CLS	Lyophilized Serum	CHM
18:0 Stearic acid	QFCS	Oil or fat	778
18:1 cis n-9 Oleic & cis 18:1 n-11 Vaccenic (sum)	QFCS	Oil or fat	778
18:1 cis-9 Oleic acid	QFCS	Oil or fat	778
18:2 n-6 Linoleic acid	QFCS	Oil or fat	778
18:3 n-3 Linolenic acid	QFCS	Oil or fat	778
2 + 3 Methylbutanol	BAPS	Lager	2L
2,2,4,4,5,6-Hexabromodiphenylether (BDE 154)	AQUACHECK	Water Framework Directive	34H
		Water Framework Directive	34I

## Index of Analytes

Analyte	Scheme ID	Matrix	Sample
2,2,4,4,5-Pentabromodiphenylether (BDE 99)	AQUACHECK	Water Framework Directive	34H
		Water Framework Directive	34I
2,2-Dichloropropane	CONTEST	Standard solutions & soil	25
2,2-Dichloropropionic acid	AQUACHECK	Clean water	44
2,3,6-TBA	AQUACHECK	Groundwater	8
		Synthetic effluent	20
2,4,4-Tribromodiphenylether (BDE 28)	AQUACHECK	Water Framework Directive	34H
		Water Framework Directive	34I
2,4,5-T	AQUACHECK	Groundwater	8
		Synthetic effluent	20
2,4,5-TP (Fenoprop)	AQUACHECK	Groundwater	8
		Synthetic effluent	20
2,4,5-Trichlorophenol	AQUACHECK	Groundwater	06B
		Synthetic effluent	18B
2,4,6-Trichlorophenol	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
2,4-D	AQUACHECK	Groundwater	8
		Synthetic effluent	20
2,4-DB	AQUACHECK	Groundwater	8
		Synthetic effluent	20
2,4-Dichlorophenol	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
2,4-Dimethylphenol	AQUACHECK	Groundwater	06B
		Synthetic effluent	18B
2,4-Dinitrotoluene	AQUACHECK	Clean water	65
2,4-Toluediamine	CONTACT	Simulant	2
2,5-Dimethylphenol	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
2,6-Dichlorophenol	AQUACHECK	Groundwater	06B
		Synthetic effluent	18B
2,6-Dinitrotoluene	AQUACHECK	Clean water	65
2+3 Methylbutanol	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Liqueur	Group E, E2
		Cream liqueur	Group E, E3



## Index of Analytes

Analyte	Scheme ID	Matrix	Sample
20:0 Eicosanoic arachidic acid	QFCS	Oil or fat	778
22:0 Behemic acid	QFCS	Oil or fat	778
22:1 Erucic acid (cis-13-docosenoic acid)	QFCS	Oil or fat	778
22:1 Methyl erucate	QFCS	Oil or fat	778
234Uranium	AQUACHECK	Clean water	42
235Uranium	AQUACHECK	Clean water	42
238Uranium	AQUACHECK	Clean water	42
239Plutonium	AQUACHECK	Clean water	42
25-OH Vitamin D	CLS	Lyophilized Serum	IAS
2-Amino-4,6-dinitrotoluene	AQUACHECK	Clean water	65
2-Chlorophenol	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
2-Chlorotoluene	CONTEST	Standard solutions & soil	25
		Standard solution	Group C, 19
2-Glycerol monopalmitate	QFCS	Olive oil	791
2-Methylbutanol	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Lager	2L
		Scotch whisky	Group B, B1
		Liqueur	Group E, E2
2-Methylphenol (o-cresol)	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
2-Nitrotoluene	AQUACHECK	Clean water	65
2-Phenethyl Acetate	DAPS	Non chill filtered whisky	Group B, B5
2-Phenethyl Ethanol	DAPS	Non chill filtered whisky	Group B, B5
3,5 Stigmastadienes	QFCS	Extra virgin olive oil	790
3,5-Dimethylphenol	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
3.5 Stigmastadienes	QFCS	Olive oil	791
30 min luminescent bacteria (other) IC50 tests	AQUACHECK	Ecotoxicology	50
3-Bromophenol	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B

## Index of Analytes

Analyte	Scheme ID	Matrix	Sample
3-Methylbutanol	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Liqueur	Group E, E2
	Cream liqueur	Group E, E3	
	BAPS	Lager	2L
3-Methylphenol (m-cresol)	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
3-Nitrotoluene	AQUACHECK	Clean water	65
4,4'-Methylenedianiline	CONTACT	Simulant	2
4:0 Butyric acid	QFCS	Grated cheese	800
4-Amino-2,6-dinitrotoluene	AQUACHECK	Clean water	65
4-Chloro-3-Methylphenol	AQUACHECK	Groundwater	06B
		Synthetic effluent	18B
4-Chlorophenol	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
4-Chlorotoluene	CONTEST	Standard solutions & soil	25
4-Isopropyltoluene	CONTEST	Standard solutions & soil	25
4-Methylphenol (p-cresol)	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
4-Nitrotoluene	AQUACHECK	Clean water	65
4-Phenylcyclohexene (4-PCH)	AIR	Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
5-HMF	DAPS	Scotch whisky	Group B, B1
6-Monoacetylmorphine screen	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3

## Index of Analytes | A

Analyte	Scheme ID	Matrix	Sample	
ABV (qualitative)	BAPS	Alcohol free/low alcohol beer	7	
ABV (quantitative)	BAPS	Alcohol free/low alcohol beer	7	
Accelerated oxidation test (Rancimat) at 120°C	QFCS	frying oil	796	
ACE	CLS	Lyophilized Serum	CHM	
Acenaphthene	AQUACHECK	Synthetic effluent	19C	
		Groundwater	7C	
	CONTEST	Soil	Group C, 3C	
		Standard solution	Group C, 5	
Acenaphthylene	AQUACHECK	Synthetic effluent	19C	
		Groundwater	7C	
	CONTEST	Soil	Group C, 3C	
		Standard solution	Group C, 5	
Acesulfame K	QBS	Carbonated drinks (degassed)	516B	
		Dilutable and ready to drink materials	517B	
Acesulfame K (E950)	QFCS	Liquid	761	
Acetal	DAPS	Bourbon	B2-A	
		Dark Rum	B2-B	
		Brandy	B2-C	
		Irish Whisky	B2-D	
		Gin	B3-A	
		Vodka	B3-B	
		White Rum	B3-C	
		Scotch whisky	Group B, B1	
		Liqueur	Group E, E2	
		Cream liqueur	Group E, E3	
Acetaldehyde	AIR	Glass fibre filter 25mm diameter (Workplace air)	8	
	BAPS	Lager	2L	
	DAPS	Bourbon	B2-A	
		Dark Rum	B2-B	
		Brandy	B2-C	
		Irish Whisky	B2-D	
		Gin	B3-A	
		Vodka	B3-B	
		White Rum	B3-C	
		Scotch whisky	Group B, B1	
		Liqueur	Group E, E2	
		Cream liqueur	Group E, E3	
	Acetate	AQUACHECK	Waste water	63

## Index of Analytes | A

Analyte	Scheme ID	Matrix	Sample
Acetic acid	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
Acetone	PHARMASSURE	Residual Solvents	2E
	TOX	Blood	TAK
		Serum	TAS
Acetone (Ketones)	CLS	Serum	ALM
Acetonitrile	CONTEST	Standard solutions & soil	25
Acid and Base titration	PHARMASSURE	Acid solution	1B
Acid detergent fibre (ADF)	AFPS	Animal feed	1
Acid Fast Bacilli Smear	CLS	Glass slides	AFB
Acid insoluble ash	QFCS	Ground pepper	815
Acid Number	OIL	#2 Diesel fuel	2
		Service Engine Oil	6
Acid Number – Total (potentiometric)	OIL	Crude oil	4
Acid Number (potentiometric)	OIL	Engine oil lubricants	5
Acid Phosphatase, total	CLS	Lyophilized Serum	CHM
Acidity	QFCS	Cake	793
		Bread	776
Acidity (as Citric acid monohydrate)	QBS	Fruit juice	510
		Carbonated drinks	515
		Dilutable and ready to drink materials	517A
Acinetobacter baumannii	CLS	Liquid samples	BCP
Acinetobacter calcoaceticus-baumannii (ACB) complex	CLS	Liquid samples	BCP
		Liquid samples	PNE
Acinetobacter species	CLS	Liquid samples	BCP
Acoustic testing (EN71-1)	TOYTEST	Toy product	13
Acrylamide	AQUACHECK	Spiking solution	37
	QFCS	Snacks (e.g. potato crisps)	788
ACTH	CLS	Lyophilized Serum	IAS

## Index of Analytes | A

Analyte	Scheme ID	Matrix	Sample
Actual alcoholic strength	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Simulated spirit	Group B, B4
		Ciders	Group C, C1
		White or Rosé wine	Group D, D1
		Red wine	Group D, D2
		Ready to drink	Group E, E1
		Liqueur	Group E, E2
Cream liqueur	Group E, E3		
Adenovirus	CLS	Liquid samples	PNE
		Liquid samples	RSP
		Liquid samples	VIR
Adenovirus F 40/41	CLS	Liquid samples	GIP
Advanced titration (potentiometric, non-aqueous)	PHARMASSURE	Sample format will depend upon test type	6J
Aerobic mesophilic bacteria (detection)	COSMETICS	Powder	10A
		Cream	13A
		Liquid	16A
Aerobic mesophilic bacteria (enumeration)	COSMETICS	Powder	10A
		Cream	13A
		Liquid	16A
Aerobic psychrotrophs (enumeration)	QMAS	Lyophilised meat	758
	QMS	Oatmeal	25
		Oatmeal	25
Aflatoxin B1	AFPS	Animal feed	5
	CANNABIS	Hemp oil	3
	QFCS	Nuts	779
		Rice	845
		Chilli powder	794
		Dried fruit	804
Aflatoxin B2	AFPS	Animal feed	5
	CANNABIS	Hemp oil	3
	QFCS	Nuts	779
		Rice	845
		Chilli powder	794
		Dried fruit	804



## Index of Analytes | A

Analyte	Scheme ID	Matrix	Sample
Aflatoxin G1	AFPS	Animal feed	5
	CANNABIS	Hemp oil	3
	QFCS	Nuts	779
		Rice	845
		Chilli powder	794
		Dried fruit	804
Aflatoxin G2	AFPS	Animal feed	5
	CANNABIS	Hemp oil	3
	QFCS	Nuts	779
		Rice	845
		Chilli powder	794
		Dried fruit	804
Aflatoxin M1	QDCS	Freeze dried milk	60
		Soft cheese	62
Aflatoxins (Total)	AFPS	Animal feed	5
Alachlor	AQUACHECK	Groundwater	8
		Clean water	53
		Water Framework Directive	34C
Alanine	QFCS	Infant formula powder	823
Albumin	CLS	Lyophilized Serum	CHM
		Simulated CSF	SFC
Albumin / Creatinine Ratio (ACR)	CLS	Urine	UC
Albumin/Microalbumin	CLS	Urine	UC
Alcohol	AIR	Tenax TA filled sorbent tubes (Workplace air)	22
	DAPS	Fermented wort	Group A, A1
		Simulated wort	Group A, A2
	QUARTZ	Blood	4
Alcohol by volume	BAPS	Ale	3
		Ale (Bitter)	1B
		Lager	1L
Alcohol in blood alcohol technical defence (ATD)	QUARTZ	Paper exercise	5
Aldosterone	CLS	Lyophilized Serum	CHM
Aldrin	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26
Aliphatic	AIR	Tenax TA filled sorbent tubes (Workplace air)	22
Alkali reserve	CONTEST	Standard solution	Group A, 29
Alkaline Phosphatase (ALP)	CLS	Lyophilized Serum	CHM

## Index of Analytes | A

Analyte	Scheme ID	Matrix	Sample
Alkalinity	AQUACHECK	Marine water	6I
		Hard water	1H
		Soft water	1S
Allura Red (E129)	QFCS	Liquid	763
Almond	QFCS	Rice flour	808
Alpha Amylase	MAPS	Brewers and distillers malt	1
		Malt	6
		Wheat	7
Alpha Endosulphan	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26
Alpha Hexachlorocyclohexane	AQUACHECK	Clean water	58
		Synthetic effluent	19A
		Groundwater	7A
	CONTEST	Standard solutions & soil	26
Alpha1-acid-glycoprotein	CLS	Lyophilized Serum	IPR
Alpha1-antitrypsin (AAT)	CLS	Lyophilized Serum	IPR
Alpha2-macroglobulin	CLS	Lyophilized Serum	IPR
Alpha-fetoprotein (AFP)	CLS	Lyophilized Serum	CHM
Alprazolam	TOX	Serum	BNBZ
ALT	CLS	Lyophilized Serum	CHM
Aluminium	AQUACHECK	Natural water	4
		Synthetic effluent	12
		Industrial wastewater	17C
		Groundwater	4G
	BAPS	Lager	2L
	OIL	Service Engine Oil	6
	QBS	Soft drink	519
Ametryn	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Amfetamine	QUARTZ	Blood	3
Amfetamines and Stimulants	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Amfetamines screen	DAH	Hair	DH01
		Hair	DH02

## Index of Analytes | A

Analyte	Scheme ID	Matrix	Sample
Amikacin	CLS	Lyophilized Serum	CHM
	TDM	Human serum	AT03
		Human serum	TD1
Amiodarone	TDM	Human serum	CRD
Amisulpride	TDM	New born calf serum	PS24
Amitriptyline	QUARTZ	Blood	3
	TDM	New born calf serum	PS01
Ammonia	AIR	Impinger solution (Stack emissions)	37
	AQUACHECK	Spiking solution	10
		Waste water	60
		Marine water	61
		Industrial wastewater	17D
		Hard water	2H
		Soft water	2S
	CLS	Serum	ALM
	CONTEST	Soil	Group B, 3B
Soil		Group D, 18	
Ammoniacal Nitrogen	AQUACHECK	Sewage sludge	16
AMPA	AQUACHECK	Synthetic effluent	20
	QFCS	Barley flour	807
Amylase	CLS	Urine	UC
Amylase, pancreatic	CLS	Lyophilized Serum	CHM
Amylase, total	CLS	Lyophilized Serum	CHM
Anaerobic sulphite-reducing bacteria (enumeration)	QMS	Skimmed milk powder	15
		Oatmeal	15
Anaesthetic drugs	QUARTZ	Blood	1
		Blood and case study	2
Androstenedione	CLS	Lyophilized Serum	CHM
Aniline	CONTACT	Simulant	2
Animal DNA (detection)	QFCS	Vegan food	848
Anionic-active matter	COSMETICS	Powder detergent	29
		Liquid detergent	32
Anisidine value	QFCS	Oil or fat	778
Anthracene	AQUACHECK	Synthetic effluent	19C
		Water Framework Directive	34F
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5
Antibiotics (Beta Lactam based)	QDCS	Freeze dried milk	34 (A,B&C)
Antibiotics (Penicillin and Sulfur based)	QDCS	Freeze dried milk	57 (A,B&C)
Anticholinergic drugs	QUARTZ	Blood	1
		Blood and case study	2

## Index of Analytes | A

Analyte	Scheme ID	Matrix	Sample	
Anticonvulsant drugs	QUARTZ	Blood	1	
		Blood and case study	2	
Antidepressant drugs	QUARTZ	Blood	1	
		Blood and case study	2	
Anti-HAV, IgG	CLS	Serum	HEP	
Anti-HAV, IgM	CLS	Serum	HEP	
Anti-HAV, total	CLS	Serum	HEP	
Anti-HBc, IgM	CLS	Serum	HEP	
Anti-HBc, total	CLS	Serum	HEP	
Anti-HBs	CLS	Serum	HEP	
		Serum	HEP	
Anti-HCV	CLS	Serum	HEP	
Antihistamine drugs	QUARTZ	Blood	1	
		Blood and case study	2	
Anti-HIV-1	CLS	Serum	HIV	
Anti-HIV-1/2	CLS	Serum	HIV	
Anti-HIV-2	CLS	Serum	HIV	
Antimony	AIR	Quartz fibre filter 47mm diameter (Ambient)	13	
		Metals impinger solution (Stack emissions)	33	
		Metals and fly ash on quartz filter 47mm diameter (Stack emissions)	38	
	AQUACHECK	Natural water	5	
		Synthetic effluent	12	
		Industrial wastewater	17C	
		Clean water	5A	
		Groundwater	5G	
	CONTEST	Solid waste leachate	24	
		Standard solution	Group A, 1b	
		Soil extract	Group A, 2	
		Soil	Group A, 3A	
		Soil	Group D, 18	
	COSMETICS	Mouthwash sample	24	
		Toothpaste sample	25	
	OIL	Service Engine Oil	6	
	QBS	Fruit juice	518	
		Soft drink	519	
	Antipsychotic drugs	QUARTZ	Blood	1
			Blood and case study	2

## Index of Analytes | A

Analyte	Scheme ID	Matrix	Sample
Anti-Streptolysin O	CLS	Lyophilized Serum	IPR
		Lyophilized Serum	IPR
		Lyophilized Serum	IPR
Anti-TG	CLS	Serum	TA
Antithrombin III	CLS	Lyophilized Serum	IPR
Antithrombin III Activity	CLS	Lyophilized Plasma	COA
Anti-TPO	CLS	Serum	TA
AOX	AQUACHECK	Wastewater	27
API Gravity	OIL	Crude oil	4
Apparent alcoholic strength	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
Simulated spirit	Group B, B4		
Apparent gravity	BAPS	Ale (Bitter)	1B
		Alcohol free/low alcohol beer	7
		Lager	1L
APTT	CLS	Lyophilized Plasma	COA
Aqueous tritium	AQUACHECK	Clean water	31
Arachidic acid C20:0	QFCS	Olive oil	791
Arginine	QFCS	Infant formula powder	823
Aripiprazole	TDM	New born calf serum	PS25
Aroma - Alcoholic/Solvent	BAPS	Lager/ale (Bitter)	5
Aroma - Burnt	BAPS	Lager/ale (Bitter)	5
Aroma - Caramel	BAPS	Lager/ale (Bitter)	5
Aroma - Cereal	BAPS	Lager/ale (Bitter)	5
Aroma - DMS	BAPS	Lager/ale (Bitter)	5
Aroma - Fruity/Citrus	BAPS	Lager/ale (Bitter)	5
Aroma - Fruity/Estery	BAPS	Lager/ale (Bitter)	5
Aroma - Hop	BAPS	Lager/ale (Bitter)	5
Aroma - Malty	BAPS	Lager/ale (Bitter)	5
Aroma - Other	BAPS	Lager/ale (Bitter)	5
Aroma - Other Sulfur	BAPS	Lager/ale (Bitter)	5
Aroma - Oxidised/Aged	BAPS	Lager/ale (Bitter)	5
Aroma - Sweet	BAPS	Lager/ale (Bitter)	5
Aromatic ester	AIR	Tenax TA filled sorbent tubes (Workplace air)	22



## Index of Analytes | A

Analyte	Scheme ID	Matrix	Sample	
Arsenic	AFPS	Animal feed	2	
		Premix	8	
	AIR	Quartz fibre filter 47mm diameter (Ambient air)	13	
		Metals impinger solution (Stack emissions)	33	
		Metals and fly ash on quartz filter 47mm diameter (Stack emissions)	38	
	AQUACHECK	Natural water	5	
		Synthetic effluent	12	
		Sewage sludge	13	
		Agricultural soil	14	
		Marine water	62	
		Industrial wastewater	17C	
		Clean water	5A	
		Groundwater	5G	
	CONTEST	Solid waste leachate	24	
		Standard solution	Group A, 1b	
		Soil extract	Group A, 2	
		Standard solution	Group A, 29	
		Soil	Group A, 3A	
		Soil	Group D, 18	
		Soil	Group E, 21	
	COSMETICS	Lipstick	19	
		Lip gloss	20	
		Powder	21	
		Mouthwash sample	24	
		Toothpaste sample	25	
	PHARMASSURE	Supplement	14	
		Powder material	2B	
	QBS	Fruit juice	518	
		Soft drink	519	
	QFCS	Dried tea	780	
		Cereal	784	
		Edible Oil	785	
		Dried Fruit	786	
	QMAS	Shellfish	741	
		Fish	742	
		Meat	747	
	SUPS	Cane or beet sugar	2	
	TOYTEST	EN71 - 3 Standard solution and real material	3	
	CANNABIS	Simulated dried cannabis plant	4	
	Arsenic (total)	QCS	Cocoa powder	718

## Index of Analytes | A

Analyte	Scheme ID	Matrix	Sample	
Arsenic III	QFCS	Rice	789	
Arsenic V	QFCS	Rice	789	
Ascorbic acid	DAPS	White or Rosé wine	Group D, D1	
		Red wine	Group D, D2	
		Ready to drink	Group E, E1	
Ash	AFPS	Fish feed	13	
	OIL	Engine oil lubricants	5	
	QCS	Cocoa powder	716	
	QDCS	Hard cheese	37	
		Whole protein concentrate	43	
		Soft cheese	59	
		Cheese powder	63	
		Skimmed milk powder	38A	
		Whey powder	38B	
	QFCS	Instant coffee	824	
		Non-wheat flour	832	
		Cereal	770	
		'Ready to eat' product	772	
		Flour	775	
		Bread	776	
		Tomato paste/puree	783	
		Cake	793	
		Honey	801	
		Coffee	802	
		Ground pasta	816	
		Jam or marmalade	817	
	QGS	Gelatine	606	
	QMAS	Fish	728	
		Dried or cured meat	730	
		Precooked, raw or processed meat	731	
		Fish	734	
	SUPS	Syrup	11	
		Cane or beet sugar	1	
		Raw sugar	7	
	OIL	#2 Diesel fuel	2	
	Ash insoluble in hydrochloric acid	AFPS	Animal feed	1
			Wet Pet Food	9
	Ash Sulfated	OIL	Engine oil lubricants	5
Aspartame	QBS	Carbonated drinks (degassed)	516B	
		Dilutable and ready to drink materials	517B	
	QFCS	Liquid	761	
Aspartic acid	QFCS	Infant formula powder	823	

## Index of Analytes | A & B

Analyte	Scheme ID	Matrix	Sample
Aspergillus species (detection)	CANNABIS	Simulated dried cannabis plant	7
Asphaltenes	OIL	Crude oil	4
AST	CLS	Lyophilized Serum	CHM
Astrovirus	CLS	Liquid samples	GIP
Asulam	AQUACHECK	Groundwater	8
Atomoxetine	TDM	Lyophilised human serum	PST1
Atrazine	AQUACHECK	Clean water	53
		Synthetic effluent	20B
		Water Framework Directive	34B
		Groundwater	8B
Azinphos-ethyl	AQUACHECK	Groundwater	9
		Synthetic effluent	21
	CONTEST	Standard solutions & soil	30
Azinphos-methyl	AQUACHECK	Groundwater	9
		Synthetic effluent	21
	CONTEST	Standard solutions & soil	30
Azo - Dyes (EN14362-1 & EN14362-3)	TOYTEST	Toy material	8
Azoxystrobin	AQUACHECK	Spiking solution	40

Analyte	Scheme ID	Matrix	Sample
Bacillus cereus (enumeration)	AFPS	Animal Feed	15
	QMAS	Meat	756
	QMS	Skimmed milk powder	17
		Oatmeal	17
		Skimmed milk powder	36
		Herbs	36H
		Spices	36SP
Bacillus cereus group	CLS	Liquid samples	BCP
Bacillus species (enumeration)	QMS	Skimmed milk powder	17
		Oatmeal	17
Bacillus subtilis group	CLS	Liquid samples	BCP
Bacterial level by Bactoscan	QMS	Skimmed milk	39
Bacterial level by colony count	QMS	Skimmed milk	39
Bacterial vaginosis	CLS	Virtual Gram stained slides	GSV
Barbiturate drugs	QUARTZ	Blood	1
		Blood and case study	2
Barbiturates Screen	DAU	Urine	1
		Urine	2
		Urine	3

## Index of Analytes | B

Analyte	Scheme ID	Matrix	Sample
Barbiturates Screen cont.	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Barium	AQUACHECK	Natural water	4
		Marine water	62
		Industrial wastewater	17C
		Hard water	1H
		Soft water	1S
		Groundwater	4G
	CONTEST	Solid waste leachate	24
		Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Standard solution	Group A, 29
		Soil	Group A, 3A
		Soil	Group D, 18
		Soil	Group E, 21
	COSMETICS	Mouthwash sample	24
		Toothpaste sample	25
	OIL	Engine oil lubricants	5
		Service Engine Oil	6
	TOYTEST	EN71 - 3 Standard solution and real material	3
	Base Number	OIL	#2 Diesel fuel
Engine oil lubricants			5
Service Engine Oil			6
Basophils	CLS	Virtual slide	BID
		Simulated whole blood	HMX
Basophils, absolute	CLS	Simulated whole blood	HMX
BBP	CONTACT	Vegetable/seed oil	4
Benazolin	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Bentazone	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Benz(a)anthracene	AQUACHECK	Synthetic effluent	19C
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5
Benz(a)pyrene	AQUACHECK	Synthetic effluent	19C
		Water Framework Directive	34F
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5

## Index of Analytes | B

Analyte	Scheme ID	Matrix	Sample
Benz[a]anthracene	QFCS	Vegetable oil	805
Benzene	AIR	Charcoal filled glass sorbent tubes (Workplace air)	5
		Tenax TA filled sorbent tubes (Workplace air)	7
		Tenax TA filled sorbent tubes (Ambient)	12
		Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
		Carbopack X filled sorbent tubes	12A
	AQUACHECK	Synthetic effluent	18C
		Water Framework Directive	34J
		Groundwater	6C
	CONTEST	Standard solutions & soil	25
		Standard solution	Group C, 15
PHARMASSURE	Residual Solvents	2E	
Benzo(a)pyrene	AQUACHECK	Clean water	52
Benzo(b)fluoranthene	AQUACHECK	Synthetic effluent	19C
		Water Framework Directive	34F
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
Standard solution		Group C, 5	
Benzo(b/k)fluoranthene (Sum)	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5
Benzo(ghi)perylene	AQUACHECK	Synthetic effluent	19C
		Water Framework Directive	34F
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
Standard solution		Group C, 5	
Benzo(k)fluoranthene	AQUACHECK	Synthetic effluent	19C
		Water Framework Directive	34F
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
Standard solution		Group C, 5	
Benzo[a]pyrene	QFCS	Vegetable oil	805
Benzo[b]fluoranthene	QFCS	Vegetable oil	805
Benzodiazepine	DAH	Hair	DH01
		Hair	DH02
Benzodiazepine drugs	QUARTZ	Blood	1
		Blood and case study	2

## Index of Analytes | B

Analyte	Scheme ID	Matrix	Sample
Benzodiazepine Screen	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Benzoic acid	COSMETICS	Cream sample	27
		Mascara	31
	DAPS	Ready to drink	Group E, E1
	QBS	Carbonated drinks (degassed)	516A
		Dilutable and ready to drink materials	517A
Benzoic acid (E210-E213)	QFCS	Liquid	760
Beryllium	AIR		18
	AQUACHECK	Natural water	5
		Synthetic effluent	12
		Industrial wastewater	17C
		Groundwater	5G
	CONTEST	Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Soil	Group A, 3A
Beta 2 Microglobulin	CLS	Lyophilized Serum	TMS
Beta Endosulphan	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26
Beta Glucan	MAPS	Brewers and distillers malt	1
		Brewers and distillers malt	1
Beta Glucan (EBC Wort)	MAPS	Wheat	7
Beta Glucan (IoB Wort)	MAPS	Wheat	7
Beta Hexachlorocyclohexane	AQUACHECK	Clean water	58
		Synthetic effluent	19A
		Groundwater	7A
	CONTEST	Standard solutions & soil	26
Bicarbonate	AQUACHECK	Clean water	59
	CLS	Lyophilized Serum	CHM
	QBS	Liquid test material	524
Bicarbonate (tCO <sub>2</sub> )	CLS	Ampoule	BLG
Bifenox	AQUACHECK	Clean water	53
Bifenthrin	AQUACHECK	Waste water	51
Bifidobacterium species (enumeration)	QMS	Lyophilised test material	27
Bile Acid	CLS	Lyophilized Serum	CHM



## Index of Analytes | B

Analyte	Scheme ID	Matrix	Sample
Bile-tolerant gram-negative bacteria (enumeration)	PHARMASSURE	Lyophilised test material	4A
Bilirubin	CLS	Urine	UA
Bilirubin, confirmatory	CLS	Urine	UA
Bilirubin, direct	CLS	Lyophilized Serum	CHM
		Serum	NB
Bilirubin, indirect	CLS	Lyophilized Serum	CHM
Bilirubin, total	CLS	Lyophilized Serum	CHM
		Serum	NB
Bisphenol A	AQUACHECK	Water Framework Directive	34D
	CONTACT	Simulant	1
		Plastic bead or pellet	16
Bisphenol S	CONTACT	Simulant	1
Bitterness	BAPS	Ale (Bitter)	1B
		Lager	1L
		Ale	3
		Alcohol free/low alcohol beer	7
Blood Cell Identification	CLS	Virtual slide	ABI
		Virtual slide	BID
Blood Culture Identification	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-BASIC
		Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Blood Culture Susceptibility	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-BASIC
		Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Blood parasite ID	CLS	Giemsa stained blood smears; 2 x virtual Giemsa stained blood smears	BPS
Blood/Haemoglobin	CLS	Urine	UA
BNP	CLS	Lyophilized Serum	CAR
BOD	AQUACHECK	Spiking solution	35
BOD (5 day)	AQUACHECK	Spiking solution	3
		Spiking solution	11
Boiled Wort Colour	MAPS	Brewers and distillers malt	1
Boiled Wort Colour (EBC Wort)	MAPS	Wheat	7
Bordetella holmesii	CLS	Liquid samples	RSP
Bordetella parapertussis	CLS	Liquid samples	BTP
		Liquid samples	RSP
Bordetella parapertussis / bronchiseptica	CLS	Liquid samples	RSP
Bordetella pertussis	CLS	Liquid samples	BTP
		Liquid samples	RSP

## Index of Analytes | B

Analyte	Scheme ID	Matrix	Sample
Boron	AQUACHECK	Natural water	4
		Marine water	62
		Industrial wastewater	17C
		Groundwater	4G
	CONTEST	Soil	Group D, 18
	OIL	Service Engine Oil	6
	TOYTEST	EN71 - 3 Standard solution and real material	3
Slime		17	
Boscalid	AQUACHECK	Spiking solution	40
BP Distribution	OIL	#2 Diesel fuel	2
Breath alcohol (Alcohol technical defence - ATD)	QUARTZ	Paper exercise	5
Brexpiprazole	TDM	New born calf serum	PS33
BRF 8ml	MAPS	Barley	2
Brilliant blue (E133)	QFCS	Liquid	763
Brivaracetam	TDM	Human serum	AE5
Brix	QBS	Fruit juice	510
		Carbonated drinks	515
		Dilutable and ready to drink materials	517A
	QFCS	Jam or marmalade	817
		Tomato paste/puree	783
Brix (total)	DAPS	Ready to drink	Group E, E1
		Liqueur	Group E, E2
		Cream liqueur	Group E, E3
Bromacil	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Bromate	AQUACHECK	Spiking solution	3A
Bromazepam	TOX	Serum	BNBZ
Bromide	AQUACHECK	Spiking solution	3A
Bromobenzene	CONTEST	Standard solutions & soil	25
Bromochloroacetic acid	AQUACHECK	Clean water	44
Bromochloromethane	CONTEST	Standard solutions & soil	25
Bromodichloroacetic acid	AQUACHECK	Clean water	44
Bromodichloromethane	AQUACHECK	Waste water	64
		Synthetic effluent	18A
		Groundwater	6A
	CONTEST	Standard solutions & soil	25
	Bromoform	AQUACHECK	Synthetic effluent
Groundwater			6A
CONTEST		Standard solutions & soil	25
Bromomethane	AQUACHECK	Clean water	55
	CONTEST	Standard solutions & soil	25

## Index of Analytes | B & C

Analyte	Scheme ID	Matrix	Sample
Bromoxynil	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Bulk density	QDCS	Whole protein concentrate	43
Buprenorphine	DAH	Hair	DH01
	TDM	Human serum	SA01
Buprenorphine and Metabolite Screen	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Burkholderia cepacia (detection)	COSMETICS	Powder	10B
		Cream	13B
		Liquid	16B
	PHARMASSURE	Lyophilised test material	4B
Butyl acetate	AIR	Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
Butylparaben	COSMETICS	Cream sample	27
		Mascara	31
Butyric acid	QCS	Chocolate	715

Analyte	Scheme ID	Matrix	Sample
C. difficile Antigen	CLS	Liquid samples	CDF
C. difficile Toxin	CLS	Liquid samples	CDF
C. difficile Toxin A/B	CLS	Liquid samples	GIP
CA 15-3	CLS	Lyophilized Serum	TMS
CA 19-9	CLS	Lyophilized Serum	TMS
CA 27.29	CLS	Lyophilized Serum	TMS
CA-125	CLS	Lyophilized Serum	TMS
Cadium	QFCS	Dried tea	780
Cadmium	AFPS	Animal feed	2
		Premix	8
	AIR	25 mm Cellulose acetate (Workplace air)	1
		37 mm Cellulose acetate (Workplace air)	1A
		Quartz fibre filter 47mm diameter (Ambient)	13
		Metals impinger solution (Stack emissions)	33

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Cadmium cont.	AIR cont.	Metals and fly ash on quartz filter 47mm diameter (Stack emissions)	38
		37 mm Cellulose acetate (Workplace air)	1B
		25 mm Cellulose acetate (Workplace air)	1C
	AQUACHECK	Natural water	5
		Synthetic effluent	12
		Sewage sludge	13
		Agricultural soil	14
		Marine water	62
		Industrial wastewater	17C
		Water Framework Directive	34A
		Clean water	5B
		Groundwater	5G
	CONTACT	Simulant	3
		Solid waste leachate	24
		Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Standard solution	Group A, 29
		Soil	Group A, 3A
		Soil	Group D, 18
		Soil	Group E, 21
	COSMETICS	Lipstick	19
		Lip gloss	20
		Powder	21
	OIL	Service Engine Oil	6
	PHARMASSURE	Supplement	14
		Powder material	2B
	QBS	Fruit juice	518
		Soft drink	519
	QCS	Chocolate	719
		Cocoa powder	718

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Cadmium cont.	QFCS	Cereal	784
		Dried Fruit	786
		Infant fruit/vegetable pureé	827
		Edible Oil	785
		Brown rice	789
		lyophilised mushrooms	795
		Table salt	819
	QMAS.	Shellfish	741
		Fish	742
		Meat	747
	SUPS	Cane or beet sugar	2
TOYTEST	EN71 - 3 Standard solution and real material	3	
CANNABIS	Simulated dried cannabis plant	4	
Caffeine	QBS	Energy drink	526
		Carbonated drinks (degassed)	516A
		Dilutable and ready to drink materials	517A
	QCS	Cocoa powder	716
	QFCS	Instant coffee	824
		Dried tea	829
		Coffee	802
TDM	Human serum	TD1	
Calcitonin	CLS	Lyophilized Serum	IAS
Calcium	AFPS	Animal feed	2
		Premix	8
	AQUACHECK	Sewage sludge	16
		Clean water	59
		Marine water	61
		Hard water	1H
		Soft water	1S
	BAPS	Lager	2L
	CANNABIS	Simulated dried cannabis plant	4
	CLS	Urine	UC
CONTEST	Soil	Group D, 18	

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample	
Calcium cont.	DAPS	Bourbon	B2-A	
		Dark Rum	B2-B	
		Brandy	B2-C	
		Irish Whisky	B2-D	
		Gin	B3-A	
		Vodka	B3-B	
		White Rum	B3-C	
		Scotch whisky	Group B, B1	
	OIL	Engine oil lubricants	5	
		Service Engine Oil	6	
	QBS	Fruit juice	510	
		Soft drink	519	
		Liquid test material	524	
	QDCS	Milk	28	
		Hard cheese	37	
		Whole milk powder	41	
		Soft cheese	59	
	QFCS	Non-wheat flour	832	
		Flour	775	
		Bread	776	
		Cake	793	
		Coffee	802	
		Table salt	819	
	QMAS	Precooked, raw or processed meat	731	
	Calcium, ionised	CLS	Ampoule	BLG
			Lyophilized Serum	CHM
	Calcium, total	CLS	Lyophilized Serum	CHM
Campesterol	QFCS	Olive oil	791	
Campylobacter species	CLS	Liquid samples	GIP	
Campylobacter species (confirmation)	CONF-IDENT	lyophilised material	4	
Campylobacter species (detection)	QMAS	Lyophilised meat	743	
	QMS	Lyophilised test material	21	
Campylobacter species (enumeration)	QMAS	Meat	726	
	QMS	Lyophilised test material	32	
Campylobacter species (identification)	CONF-IDENT	lyophilised material	4	
Candida albicans	CLS	Liquid samples	BCP	
Candida albicans (detection)	COSMETICS	Powder	10B	
		Cream	13B	
		Liquid	16B	
	PHARMASSURE	Lyophilised test material	4B	
Candida auris	CLS	Liquid samples	BCP	



## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Candida dubliniensis	CLS	Liquid samples	BCP
Candida famata	CLS	Liquid samples	BCP
Candida glabrata	CLS	Liquid samples	BCP
Candida guilliermondii	CLS	Liquid samples	BCP
Candida kefyr	CLS	Liquid samples	BCP
Candida krusei	CLS	Liquid samples	BCP
Candida lusitanae	CLS	Liquid samples	BCP
Candida parapsilosis	CLS	Liquid samples	BCP
Candida tropicalis	CLS	Liquid samples	BCP
Cannabichromene (CBC)	CANNABIS	Hemp oil	1A
		Hemp oil	1B
Cannabicyclol (CBL)	CANNABIS	Hemp oil	1A
		Hemp oil	1B
Cannabidiol (CBD)	CANNABIS	Hemp oil	1A
		Hemp oil	1B
	PHARMASSURE	Oil or Powder	16
	QFCS	Food	849
Cannabidiolic Acid (CBDA)	CANNABIS	Hemp oil	1A
		Hemp oil	1B
Cannabidivarin (CBDV)	CANNABIS	Hemp oil	1A
		Hemp oil	1B
Cannabidivarinic acid (CBDVA)	CANNABIS	Hemp oil	1A
		Hemp oil	1B
Cannabigerol (CBG)	CANNABIS	Hemp oil	1A
		Hemp oil	1B
Cannabinoid drugs	QUARTZ	Blood	1
		Blood and case study	2
Cannabinoids	DAH	Hair	DH01
		Hair	DH02
Cannabinoids Screen	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Cannabinol (CBN)	CANNABIS	Hemp oil	1A
		Hemp oil	1B
Capsaicin	QFCS	Dried chilli powder	826
Captan	AQUACHECK	Spiking solution	40
Carbamazepine	CLS	Lyophilized Serum	CHM
	TDM	Human serum	TD1

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Carbamazepine + CBZ-epoxide	TDM	Human serum	TD1
Carbendazim	AQUACHECK	Spiking solution	40
Carbetamide	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Carbofuran	AQUACHECK	Groundwater	8B
Carbohydrates	QBS	Smoothie	525
		Energy drink	526
	QCS	Chocolate	715
		Cocoa powder	716
	QDCS	Condensed milk	66
		Processed cheese	67
	QFCS	Dehydrated food product	821
		Instant coffee	824
		Processed nut product	828
		Food pureé	833
		Ketchup	811
		Mayonnaise	812
		Mustard	813
		Canned fruit	814
		Ground pasta	816
		Jam or marmalade	817
		Food product	834
	Food product	835	
	QMAS	Fish	728
		Dried or cured meat	730
Precooked, raw or processed meat		731	
Carbohydrates (Total and available)	QFCS	Cereal	770
		'Ready to eat' product	772
Carbon	OIL	#2 Diesel fuel	2
Carbon Dioxide	BAPS	Ale (Bitter)	1B
		Lager	1L
	DAPS	Ciders	Group C, C1
		Ready to drink	Group E, E1
	QBS	Carbonated drinks	515
Liquid test material		524	
Carbon disulfide	CONTEST	Standard solutions & soil	25
Carbon Residue	OIL	#2 Diesel fuel	2

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Carbon tetrachloride	AQUACHECK	Synthetic effluent	18A
		Synthetic effluent	19B
		Groundwater	6A
		Groundwater	7B
	CONTEST	Standard solutions & soil	25
	PHARMASSURE	Residual Solvents	2E
Carbonate content	AQUACHECK	Agricultural soil	14
Carbophenothion	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Carboxyhaemoglobin	CLS	Ampoule	BLX
	TOX	Human blood	BLD
Carboxyhaemoglobin drugs	QUARTZ	Blood	1
		Blood and case study	2
Cardiovascular drugs	QUARTZ	Blood	1
		Blood and case study	2
Carmoisine	QFCS	Liquid	762
Cationic-active matter	COSMETICS	Powder detergent	29
		Liquid detergent	32
CBZ-epoxide	TDM	Human serum	TD1
CEA	CLS	Lyophilized Serum	CHM
Ceruloplasmin	CLS	Lyophilized Serum	IPR
Chill difference	DAPS	Scotch whisky	Group B, B1
Chlamydia pneumoniae	CLS	Liquid samples	PNE
Chlamydia trachomatis	CLS	Liquid samples	CGC
Chlamydothila pneumoniae	CLS	Liquid samples	RSP
Chloramphenicol	QMAS	Shellfish	754
Chlorate (High level)	AQUACHECK	Spiking solution	3A
Chlorate (Low level)	AQUACHECK	Spiking solution	3A
Chlorfenvinphos	AQUACHECK	Groundwater	9
		Synthetic effluent	21
		Water Framework Directive	34C
		Clean water	56
	CONTEST	Standard solutions & soil	30
Chloridazon	AQUACHECK	Groundwater	8

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Chloride	AFPS	Animal feed	2
		Premix	8
	AIR	Quartz fibre filter 47mm diameter (Ambient)	14
	AQUACHECK	Spiking solution	10
		Clean water	59
		Higher salinity potable water	1A
		Hard water	1H
		Soft water	1S
	BAPS	Lager	2L
	CLS	Ampoule	BLG
		Lyophilized Serum	CHM
		Simulated CSF	SFC
		Urine	UC
	CONTEST	Solid waste leachate	24
		Soil	Group D, 18
		Soil	Group E, 21
	QBS	Liquid test material	524
	QDCS	Whole milk powder	42
	QFCS	Bread	776
		Cake	793
Chlorides (as Cl )	COSMETICS	Powder detergent	29
		Liquid or solid soap	28
		Liquid detergent	32
Chlorine (Free)	AQUACHECK	Clean water	3B
Chlorite (High level)	AQUACHECK	Spiking solution	3A
Chlorite (Low level)	AQUACHECK	Spiking solution	3A
Chlorobenzene	CONTEST	Standard solutions & soil	25
Chloroethane	CONTEST	Standard solutions & soil	25
Chloroform	AQUACHECK	Synthetic effluent	18A
		Synthetic effluent	19B
		Groundwater	6A
		Groundwater	7B
	CONTEST	Standard solutions & soil	25
	PHARMASSURE	Residual Solvents	2E
Chloromethane	CONTEST	Standard solutions & soil	25
Chlorophyll a	AQUACHECK	Clean water	33
Chlorothalonil	AQUACHECK	Spiking solution	40
Chloroxuron	AQUACHECK	Groundwater	8B
Chlorpromazine	TDM	New born calf serum	PS31

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Chlorpyrifos	AQUACHECK	Groundwater	9
		Synthetic effluent	21
		Clean water	56
		Water Framework Directive	34C
	CONTEST	Standard solutions & soil	30
Chlortoluron	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Cholesterol	QDCS	Processed cheese	67
		Hard cheese	37
		Soft cheese	59
	QFCS	Dehydrated food product	821
		'Ready to eat' product	772
		Mayonnaise	812
	QMAS	Dried or cured meat	730
		Precooked, raw or processed meat	731
Cholesterol, HDL	CLS	Lyophilized Serum	CHM
Cholesterol, LDL	CLS	Lyophilized Serum	CHM
Cholesterol, total	CLS	Lyophilized Serum	CHM
Cholinesterase	CLS	Lyophilized Serum	CHM
Chorine (Total)	AQUACHECK	Clean water	3C
Chromium	AFPS	Animal feed	2
		Premix	8
	AIR	25 mm Cellulose acetate (Workplace air)	1
		37 mm Cellulose acetate (Workplace air)	1A
		Metals impinger solution (Stack emissions)	33
		Metals and fly ash on quartz filter 47mm diameter (Stack emissions)	38
		bulk welding fume sample	10A
		37 mm Cellulose acetate (Workplace air)	1B
		25 mm Cellulose acetate (Workplace air)	1C
	AQUACHECK	Natural water	5
		Synthetic effluent	12
		Sewage sludge	13
		Agricultural soil	14
		Industrial wastewater	17C
		Groundwater	5G

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Chromium cont.	CONTEST	Solid waste leachate	24
		Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Soil	Group A, 3A
		Soil	Group D, 18
		Soil	Group E, 21
	COSMETICS	Lipstick	19
		Lip gloss	20
		Powder	21
	OIL	Service Engine Oil	6
	TOYTEST	EN71 - 3 Standard solution and real material	3
Chromium (III)	TOYTEST	EN71 - 3 Standard solution and real material	3
Chromium (Total)	AQUACHECK	Clean water	5B
Chromium (VI)	AIR	Welding fume or Paint dust	19
		spiked NaOH treated Millipore PVDF filters 25 mm Ø	9
	AQUACHECK	Synthetic Wastewater	12C
		Clean water	5C
	CONTEST	Standard solution	Group A, 13
		Soil	Group A, 3A
		Soil	Group D, 18
	TOYTEST	EN71 - 3 Standard solution and real material	3
Chrysene	AQUACHECK	Synthetic effluent	19C
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5
	QFCS	Vegetable oil	805
Ciclosporin	IPT	human blood	CICTAC
cis Alpha-linolenic acid (ALA)	QFCS	Cod liver oil	806
cis Docosahexaenoic (DHA)	QFCS	Cod liver oil	806
cis Docosapentaenoic (DPA)	QFCS	Cod liver oil	806
cis Eicosapentaenoic acid (EPA)	QFCS	Cod liver oil	806
cis-1,2-Dichloroethylene	CONTEST	Standard solutions & soil	25
cis-1,3-Dichloropropene	AQUACHECK	Clean water	55
cis-1,3-Dichloropropylene	CONTEST	Standard solutions & soil	25
cis-chlordane	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
cis-Permethrin	AQUACHECK	Waste water	51
Citalopram	TDM	New born calf serum	PS18
	QUARTZ	Blood	3



## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Citric acid	DAPS	Simulated spirit	Group B, B4
		White or Rosé wine	Group D, D1
		Red wine	Group D, D2
		Ready to drink	Group E, E1
	QFCS	Ketchup	811
Citrobacter species	CLS	Liquid samples	BCP
CK-MB, activity	CLS	Lyophilized Serum	CAR
CK-MB, mass	CLS	Lyophilized Serum	CAR
Clobazam	TDM	Human serum	CN1
Clomipramine	TDM	New born calf serum	PS03
Clonazepam	TOX	Serum	BNBZ
	TDM	Human serum	TD1
Cloparylid	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Clostridium perfringens (detection)	QGS	Gelatine	603
	QMS	Skimmed milk	38
Clostridium perfringens (enumeration)	AFPS	Simulated animal feed	10
	QMAS	Lyophilised meat	738
	QMS	Skimmed milk powder	10D
		Oatmeal	10F
		Skimmed milk powder	10
		Oatmeal	10
QWAS	Potable water	413	
Clostridium species (detection)	QMS	Skimmed milk powder	10
		Oatmeal	10
Clostridium species (enumeration)	AFPS	Simulated animal feed	10
	QMS	Skimmed milk powder	10D
		Oatmeal	10F
Cloud Point	OIL	#2 Diesel fuel	2
Clozapine	TDM	Human serum	PS04
Coagulase positive Staphylococci (detection and/or enumeration)	QMAS	Meat	756
Coagulase positive Staphylococci (detection)	QMS	Skimmed milk powder	36
		Skimmed milk	38
		Herbs	36H
		Spices	37SP
	QWAS	Mineral water	424

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Coagulase positive Staphylococci (enumeration)	AFPS	Animal Feed	15
	QMAS	Lyophilised meat	738
		Lyophilised fish or shellfish	739
		Lyophilised fish or shellfish	739
	QMS	Skimmed milk powder	17
		Oatmeal	17
		Tea	29
		Skimmed milk powder	36
		Ready meal	41
		Herbs	36H
		Spices	37SP
QWAS	Bathing, recreational and surface water	421	
Cobalt	AFPS	Animal feed	2
		Premix	8
	AIR	25 mm Cellulose acetate (Workplace air)	1
		37 mm Cellulose acetate (Workplace air)	1A
		Metals impinger solution (Stack emissions)	33
		Metals and fly ash on quartz filter 47mm diameter (Stack emissions)	38
		bulk welding fume sample	10A
		37 mm Cellulose acetate (Workplace air)	1B
		25 mm Cellulose acetate (Workplace air)	1C
	AQUACHECK	Natural water	5
		Sewage sludge	13
		Agricultural soil	14
		Marine water	62
		Industrial wastewater	17C
		Groundwater	5G
	CONTEST	Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Soil	Group A, 3A
	TOYTEST	EN71 - 3 Standard solution and real material	3
	Cocaine and metabolites	DAH	Hair
Hair			DH02
DAU		Urine	1
		Urine	2
		Urine	3

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Cocaine and metabolites cont.	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
COD	AQUACHECK	Spiking solution	3
		Spiking solution	11
		Spiking solution	35
		Waste water	60
	CONTEST	Soil	Group D, 18
	QDCS	Potassium hydrogen phthalate	35
COD (High)	AQUACHECK	Spiking solution	29
COD (Low)	AQUACHECK	Spiking solution	29
COD (Total)	AQUACHECK	Wastewater	17A
Codeine	QFCS	Ground poppy seeds	831
	QUARTZ	Blood	3
Cold Filter Plugging Point	OIL	#2 Diesel fuel	2
Cold water extract	MAPS	Brewers and distillers malt	1
Coliforms (detection and/or enumeration)	PHARMASSURE	Medicinal herb	10
Coliforms (detection)	CANNABIS	Simulated dried cannabis plant	7
	QGS	Gelatine	602
	QMS	Skimmed milk powder	18
		Oatmeal	18
Coliforms (enumeration)	AFPS	Simulated animal feed	7
	CANNABIS	Simulated dried cannabis plant	7
	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	1
		Lyophilised test material	10
	QCS	Cocoa powder	713
		Chocolate	717
	QMAS	Lyophilised meat	735
	QMS	Skimmed milk powder	16
		Oatmeal	16
		Skimmed milk powder	18
		Oatmeal	18
		Tea	29
		Ready meal	41
		Herbs	36H
		Spices	36SP
	QWAS	Potable water	412
Potable water		425	
Sterile water		428	
Colony (count)	QWAS	Water	427
Colony enumeration (calculation)	QMS	Photograph and a scenario	35

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Colour	AQUACHECK	Hard water	2H
		Soft water	2S
	DAPS	Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Ciders	Group C, C1
		Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		MAPS	Brewers and distillers malt
	Brewers and distillers malt		1
	Black Malt		4A
	Crystal malt		4B
	OIL	#2 Diesel fuel	2
		Engine oil lubricants	5
	QDCS	Cheese powder	63
	QFCS	Oil or fat	778
	SUPS	Molasses	5
		Syrup	11
		Cane or beet sugar	1
		Raw sugar	7
Colour (EBC Wort)	MAPS	Wheat	7
Colour (IoB Wort)	MAPS	Wheat	7
Colour absorbance	DAPS	Ready to drink	Group E, E1
Colour at 420nm	DAPS	White or Rosé wine	Group D, D1
		Red wine	Group D, D2
Colour at 430nm	BAPS	Ale (Bitter)	1B
		Ale	3
		Alcohol free/low alcohol beer	7
		Lager	1L
Colour at 520nm	DAPS	White or Rosé wine	Group D, D1
		Red wine	Group D, D2
Colour at 530nm	BAPS	Ale	3
Colour at 620nm	DAPS	White or Rosé wine	Group D, D1
		Red wine	Group D, D2
Complement C3	CLS	Lyophilized Serum	IPR
Complement C4	CLS	Lyophilized Serum	IPR
Complex cyanide	CONTEST	Soil	Group B, 3B
Conductivity	AQUACHECK	Agricultural soil	14

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Conductivity (20°C)	QBS	Liquid test material	524
	AQUACHECK	Waste water	60
		Marine water	61
		Wastewater	17A
		Hard water	1H
		Soft water	1S
		Hard water	2H
		Soft water	2S
		Higher salinity potable water	1A
	CONTEST	Soil	Group D, 18
Confirmation of authenticity	QFCS	Dried oregano or ground pepper	825
		Honey	847
Coniferaldehyde	DAPS	Scotch whisky	Group B, B1
Copper	AFPS	Animal feed	2
		Premix	8
	AIR	25 mm Cellulose acetate (Workplace air)	1
		37 mm Cellulose acetate (Workplace air)	1A
		Metals impinger solution (Stack emissions)	33
		Metals and fly ash on quartz filter 47mm diameter (Stack emissions)	38
		bulk welding fume sample	10A
		37 mm Cellulose acetate (Workplace air)	1B
		25 mm Cellulose acetate (Workplace air)	1C
	AQUACHECK	Natural water	4
		Synthetic effluent	12
		Sewage sludge	13
		Agricultural soil	14
		Marine water	62
		Industrial wastewater	17C
		Groundwater	4G
	Clean water	5B	
	BAPS	Lager	2L
	CANNABIS	Simulated dried cannabis plant	4
	CLS	Lyophilized Serum	CHM

## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Copper cont.	CONTEST	Solid waste leachate	24
		Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Standard solution	Group A, 29
		Soil	Group A, 3A
		Soil	Group D, 18
		Soil	Group E, 21
	COSMETICS	Mouthwash sample	24
		Toothpaste sample	25
	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		White or Rosé wine	Group D, D1
	Red wine	Group D, D2	
	OIL	Service Engine Oil	6
	QBS	Soft drink	519
	QDCS	Whole milk powder	41
	QFCS	Coffee	802
Table salt		819	
SUPS	Cane or beet sugar	2	
TOYTEST	EN71 - 3 Standard solution and real material	3	
Copper Corrosion	OIL	#2 Diesel fuel	2
Coronavirus	CLS	Liquid samples	PNE
		Liquid samples	RSP
Coronavirus 229E	CLS	Liquid samples	RSP
Coronavirus HKU1	CLS	Liquid samples	RSP
Coronavirus NL63	CLS	Liquid samples	RSP
Coronavirus OC43	CLS	Liquid samples	RSP
Cortisol	CLS	Lyophilized Serum	CHM
Corynebacterium species	CLS	Liquid samples	BCP
Cotinine	TDM	Lyophilised human urine	NC01
C-peptide	CLS	Lyophilized Serum	IAS
C-Reactive Protein	CLS	Lyophilized Serum	IPR
C-Reactive Protein, hs	CLS	Serum	HS
Creatine Kinase (CK)	CLS	Lyophilized Serum	CHM
Creatine Kinase (CK), total	CLS	Lyophilized Serum	CAR



## Index of Analytes | C

Analyte	Scheme ID	Matrix	Sample
Creatinine	CLS	Ampoule	BLG
		Lyophilized Serum	CHM
		Urine	UA
		Urine	UC
Cresols	CONTEST	Soil	Group C, 3C
Cresols (Total)	CONTEST	Standard solution	Group C, 7b
Cronobacter sakazakii	CLS	Liquid samples	BCP
Cronobacter species (confirmation)	CONF-IDENT	lyophilised material	5
Cronobacter species (detection)	QMS	Skimmed milk powder	42
		Skimmed milk powder	43
		Oatmeal	04F
		Skimmed milk powder	4
Cronobacter species (identification)	CONF-IDENT	lyophilised material	5
Crude ash	AFPS	Animal feed	1
		Wet Pet Food	9
		Silage	14
Crude fat	AFPS	Animal feed	1
		Wet Pet Food	9
		Silage	14
Crude fibre	AFPS	Animal feed	1
		Wet Pet Food	9
		Silage	14
	QFCS	Dried tea	829
Crude fibre, insoluble index	QFCS	Ground pepper	815
Crude protein	AFPS	Animal feed	1
		Wet Pet Food	9
		Silage	14
Cryptococcus gattii	CLS	Liquid samples	BCP
Cryptococcus neoformans	CLS	Liquid samples	BCP
Cryptococcus neoformans/gattii	CLS	Liquid samples	BCP
		Liquid samples	MEP
Cryptosporidium Antigen	CLS	Liquid samples	CRG
Cryptosporidium oocysts (enumeration)	CRYPTS	Dynal Slide	1
Cryptosporidium species	CLS	Liquid samples	GIP
CSF culture identification	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
CSF culture susceptibility	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
CTX-M	CLS	Liquid samples	BCP
		Liquid samples	PNE
Cutibacterium acnes	CLS	Liquid samples	BCP
Cyanazine	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B

## Index of Analytes | C & D

Analyte	Scheme ID	Matrix	Sample
Cyanide	AQUACHECK	Industrial wastewater	17B
Cyanide (Free)	AQUACHECK	Spiking solution	10
		Hard water	2H
		Soft water	2S
	CONTEST	Soil	Group B, 3B
		Soil	Group D, 18
Cyanide (Total)	AQUACHECK	Hard water	2H
		Soft water	2S
	CONTEST	Soil	Group B, 3B
		Soil	Group D, 18
Cyclamic acid (as free acid)	QBS	Carbonated drinks (degassed)	516B
		Dilutable and ready to drink materials	517B
Cyclohexanone	AIR	Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
Cyclospora cayetanensis	CLS	Liquid samples	GIP
Cyfluthrin	AQUACHECK	Waste water	51
Cypermethrin	AQUACHECK	Groundwater	9
		Synthetic effluent	21
		Waste water	51
		Clean water	52
	CONTEST	Standard solutions & soil	30
Cyproconazole	AQUACHECK	Spiking solution	40
Cyprodinil	AQUACHECK	Spiking solution	40
Cyromazine	AQUACHECK	Groundwater	8B
Cystein and Cystine (sum of)	QFCS	Infant formula powder	823
Cytomegalovirus	CLS	Liquid samples	MEP

Analyte	Scheme ID	Matrix	Sample
D-3-Hydroxybutyrate	CLS	Lyophilized Serum	CHM
Daphnia Magna 24hr EC50	AQUACHECK	Ecotoxicology	50
Daphnia Magna 48hr EC50	AQUACHECK	Ecotoxicology	50
DBP	CONTACT	Vegetable/seed oil	4
D-dimer	CLS	Lyophilized Serum	CAR
Degrees of crystallisation	MAPS	Crystal malt	4B
DEHP	AQUACHECK	Water Framework Directive	34J
	CONTACT	Vegetable/seed oil	4
Dehydroaripiprazole	TDM	New born calf serum	PS25

## Index of Analytes | D

Analyte	Scheme ID	Matrix	Sample
Delta Hexachlorocyclohexane	AQUACHECK	Clean water	58
		Synthetic effluent	19A
		Groundwater	7A
	CONTEST	Standard solutions & soil	26
Delta-7-stigmastanol	QFCS	Extra virgin olive oil	790
Demeton	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Demeton-O	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Demeton-S	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Demulsibility	OIL	Engine oil lubricants	5
Density	COSMETICS	Liquid cosmetics	23
	PHARMASSURE	Standard material	1D
	QFCS	Vinegar	822
Density (20°C)	DAPS	Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Ready to drink	Group E, E1
Density at 15°C	OIL	#2 Diesel fuel	2
		Crude oil	4
		Engine oil lubricants	5
Deoxynivalenol (DON)	MAPS	Malt flour	3
Desethylamiodarone	TDM	Human serum	CRD
Desethylatrazine	AQUACHECK	Groundwater	8B
Desipramine	TDM	New born calf serum	PS02
Desisopropylatrazine	AQUACHECK	Groundwater	8B
Determination of fatty acid methyl esters (FAMES)	OIL	#2 Diesel fuel	2
Dextran	SUPS	Raw sugar	7
DHEA Sulfate	CLS	Lyophilized Serum	CHM
DHEA, unconjugated	CLS	Lyophilized Serum	CHM
Diacetyl	AIR	Tenax TA filled sorbent tubes (Workplace air)	21
Diastase enzymatic activity	QFCS	Honey	801
Diastatic Power (DP IoB)	MAPS	Brewers and distillers malt	1
		Malt	6
		Wheat	7
Diastatic Power (DPWK)	MAPS	Brewers and distillers malt	1
Diazepam	QUARTZ	Blood	3
	TOX	Human serum	BNZ

## Index of Analytes | D

Analyte	Scheme ID	Matrix	Sample
Diazinon	AQUACHECK	Groundwater	9
		Synthetic effluent	21
		Clean water	56
	CONTEST	Standard solutions & soil	30
Dibenz(ah)anthracene	AQUACHECK	Synthetic effluent	19C
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5
Dibromoacetic acid	AQUACHECK	Clean water	44
Dibromochloroacetic acid	AQUACHECK	Clean water	44
Dibromochloromethane	AQUACHECK	Waste water	64
		Synthetic effluent	18A
		Groundwater	6A
	CONTEST	Standard solutions & soil	25
Dibromomethane	CONTEST	Standard solutions & soil	25
Dicamba	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Dichlobenil	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Dichloroacetic acid	AQUACHECK	Clean water	44
Dichlorodifluoromethane	CONTEST	Standard solutions & soil	25
Dichloromethane	AQUACHECK	Water Framework Directive	34H
	CONTEST	Standard solution	Group C, 19
Dichlorprop	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Dichlorvos	AQUACHECK	Groundwater	9
		Synthetic effluent	21
		Clean water	56
	CONTEST	Standard solutions & soil	30
Diclofenac	AQUACHECK	Clean water	57
	TDM	Human serum	AM1
Diclofol	AQUACHECK	Clean water	53
Dieldrin	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26
Dietary fibre	QBS	Smoothie	525
	QMAS	Fish	728
		Dried or cured meat	730
		Precooked, raw or processed meat	731
Diflufenican	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B

## Index of Analytes | D

Analyte	Scheme ID	Matrix	Sample
Digoxin	CLS	Lyophilized Serum	CHM
	TDM	Human serum	TD1
Dihydrocapsaicin	QFCS	Dried chilli powder	826
Dimethoate	AQUACHECK	Groundwater	9
Dimethyl sulfide	BAPS	Lager	2L
Dimethyl sulfide precursor (DMSP)	MAPS	Brewers and distillers malt	1
		Brewers and distillers malt	1
Dioxathion	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Diphenylamine	AQUACHECK	Clean water	65
Dipotassium Hydrogen Phosphate	PHARMASSURE	Standard solution	1C
Dissolution	PHARMASSURE	Sample format varies for each round	2C
		Dissolution testing	7A
Dissolved Organic Carbon (DOC)	AQUACHECK	Spiking solution	3
	CONTEST	Solid waste leachate	24
		Soil	Group E, 21
Dissolved Oxygen	DAPS	Ready to drink	Group E, E1
Dissolved/Total organic carbon	AQUACHECK	Spiking solution	11
Distillable phenolic substances	CONTEST	Soil	Group C, 3C
Distillation	OIL	#2 Diesel fuel	2
Disulfoton	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Diuron	AQUACHECK	Synthetic effluent	20B
		Water Framework Directive	34B
		Groundwater	8B
Dodecane	AIR	Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
Dothiepin	TDM	New born calf serum	PS19
Doxepin	TDM	New born calf serum	PS05
"DPWK (Diastatic power)"	MAPS	Wheat	7
		Malt	6
Drained weight	QFCS	Canned fruit	814
Drug identification	TDM	Lyophilised human urine	AH01
Dry matter	CONTEST	Soil	Group B, 3B
Dry Matter Content Ratio	CONTEST	Soil	Group E, 21
Dry Residue	AQUACHECK	Clean water	59
Dry residue (180°C)	QBS	Liquid test material	524
Dry substance	SUPS	Molasses	5
Duloxetine	TDM	New born calf serum	PS27
Dynamic Viscosity	PHARMASSURE	Sample format will depend upon test type	6C

## Index of Analytes | E

Analyte	Scheme ID	Matrix	Sample
E. coli O157 (non toxigenic strain) (detection)	QMAS	Lyophilised tablet	727
		Meat	757
	QMS	Skimmed milk powder	22
		Oatmeal	22
		Skimmed milk powder	37
E.coli O157 (detection)	HYGIENE	Lyophilised test material	11
	QMAS	Lyophilised meat	744
	QMS	Ready-to-eat	44
	STEC	Milk Powder	D
		Powdered beef	M
Ear/Eye culture identification	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Easily liberated sulfide	CONTEST	Standard solution	Group B, 12
		Soil	Group B, 3B
EBC Fermentability (Boiled)	MAPS	Wheat	7
EDDP	TDM	Human serum	SA02
EDDP Screen	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Egg white protein	QFCS	Canned meat	852
		Biscuits	854
		Cake Mix	799
Electrical conductivity	QFCS	Honey	801
Electrical testing analysis	TOYTEST	Electrical	15
Elemental carbon	AIR	Quartz fibre filter 47mm diameter (Ambient)	16
Elemental sulfur	CONTEST	Soil	Group C, 3C
Ellagic Acid	DAPS	Scotch whisky	Group B, B1
EN71-8 (assessment)	TOYTEST	EN71 - 8 paper exercise	5
Endosulfan Sulfate	AQUACHECK	Synthetic effluent	19A
		Groundwater	07A
Endosulphan	AQUACHECK	Water Framework Directive	34E
Endotoxins	PHARMASSURE	Solution	11
Endrin	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26
Endrin Aldehyde	AQUACHECK	Groundwater	07A
		Synthetic effluent	19A

## Index of Analytes | E

Analyte	Scheme ID	Matrix	Sample	
Energy	AFPS	Fish feed	13	
	QBS	Smoothie	525	
		Energy drink	526	
	QCS	Chocolate	715	
		Cocoa powder	716	
	QDCS	Butter	36	
		Hard cheese	37	
		Condensed milk	66	
		Processed cheese	67	
	QFCS	Cake	793	
		Dehydrated food product	821	
		Processed nut product	828	
		Food pureé	833	
		Cereal	770	
		'Ready to eat' product	772	
		Ketchup	811	
		Mayonnaise	812	
		Mustard	812	
		Canned fruit	814	
		Ground pasta	816	
		Jam or marmalade	817	
		Food product	834	
		Food product	835	
	QMAS	Fish	728	
		Dried or cured meat	730	
		Precooked, raw or processed meat	731	
	Energy Value (kcal)	BAPS	Lager	2L
	Energy Value (kJ)	BAPS	Lager	2L
	Entamoeba histolytica	CLS	Liquid samples	GIP
	Enteroaggregative E. coli (EAEC)	CLS	Liquid samples	GIP
Enterobacter cloacae complex	CLS	Liquid samples	BCP	
		Liquid samples	PNE	
Enterobacter species	CLS	Liquid samples	BCP	
Enterobacteriales	CLS	Liquid samples	BCP	
Enterobacteriaceae (detection)	QGS	Gelatine	602	
	QMS	Skimmed milk powder	18	
		Oatmeal	18	
Enterobacteriaceae (enumeration)	AFPS	Simulated animal feed	7	
	COSMETICS	Powder	10A	
		Cream	13A	
		Liquid	16A	



## Index of Analytes | E

Analyte	Scheme ID	Matrix	Sample
Enterobacteriaceae (enumeration) cont.	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	1
		Lyophilised test material	10
	QCS	Cocoa powder	713
		Chocolate	717
	QMAS	Meat	756
		Lyophilised meat	735
		Lyophilised fish or shellfish	739
		Lyophilised fish or shellfish	739
	QMS	Skimmed milk powder	16
		Oatmeal	16
		Skimmed milk powder	18
		Oatmeal	18
		Skimmed milk powder	36
		Herbs	36H
Spices		36SP	
Enterococci (enumeration)	QCS	Cocoa powder	713
		Chocolate	717
Enterococci (faecal streptococci) (detection)	QWAS	Potable water	425
Enterococci (faecal Streptococci) (enumeration)	QMS	Skimmed milk powder	9
		Oatmeal	9
	QWAS	Potable water	412
		Bathing, surface and wastewater	419
		Mineral water	420
Sea water	422		
Enterococcus faecalis	CLS	Liquid samples	BCP
Enterococcus faecium	CLS	Liquid samples	BCP
Enterococcus species	CLS	Liquid samples	BCP
Enteropathogenic E. coli (EPEC)	CLS	Liquid samples	GIP
Enterotoxigenic E. coli (ETEC) lt/st	CLS	Liquid samples	GIP
Enterovirus	CLS	Liquid samples	MEP
Enumeration of Cryptosporidium oocysts	CRYPTS	Genera Slide	2
		Suspension	3
		Filta Max Filters	4
		Xpress Filter	5
Eosinophils	CLS	Virtual slide	BID
		Simulated whole blood	HMX
Eosinophils, absolute	CLS	Simulated whole blood	HMX
Epoxyconazole	AQUACHECK	Spiking solution	40

## Index of Analytes | E

Analyte	Scheme ID	Matrix	Sample	
Erectile dysfunction drugs	QUARTZ	Blood	1	
		Blood and case study	2	
Erythrodiol & Uvaol	QFCS	Olive oil	791	
Escherichia coli	CLS	Liquid samples	BCP	
		Liquid samples	PNE	
Escherichia coli (detection)	COSMETICS	Powder	10A	
		Cream	13A	
		Liquid	16A	
	QBS	Fruit juice	500	
		Soft drink	501	
		Lyophilised test material	505	
	QGS	Gelatine	602	
	QMS	Skimmed milk powder	18	
		Oatmeal	18	
	QWAS	Potable water	425	
	Escherichia coli (enumeration)	AFPS	Simulated animal feed	7
		HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	1
			Lyophilised test material	10
PHARMASSURE		Lyophilised test material	4A	
QMAS		Meat	756	
		Lyophilised meat	735	
		Lyophilised fish or shellfish	739	
		Lyophilised fish or shellfish	739	
QMS		Skimmed milk powder	16	
		Oatmeal	16	
		Skimmed milk powder	18	
		Oatmeal	18	
		Skimmed milk powder	20	
		Oatmeal	20	
		Skimmed milk powder	36	
		Herbs	36H	
		Spices	36SP	
QWAS		Potable water	412	
		Effluent sludge	416	
		Bathing, surface and wastewater	419	
		Mineral water	420	
		Sea water	422	
Escherichia coli K1		CLS	Liquid samples	MEP
Escherichia coli O157	CLS	Liquid samples	GIP	
Escherichia coli O157 (detection)	QBS	Fruit juice	507	
Escitalopram	TDM	New born calf serum	PS28	

## Index of Analytes | E

Analyte	Scheme ID	Matrix	Sample
Ethanol	CLS	Serum	ALM
	PHARMASSURE	Residual Solvents	2E
	TOX	Human blood	BLD
		Human serum	SM
		Blood	TAK
		Serum	TAS
		Urine	URN
Ethanol (Alcohol in blood)	QUARTZ	Blood	4
Ethanol insoluble matter	COSMETICS	Liquid or solid soap	28
Ethion	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Ethoprophos	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Ethosuximide	TDM	Human serum	TD1
Ethyl acetate	BAPS	Lager	2L
	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Liqueur	Group E, E2
Cream liqueur	Group E, E3		
Ethyl benzene	AIR	Charcoal filled glass sorbent tubes (Workplace air)	5
		Tenax TA filled sorbent tubes (Workplace air)	7
		Tenax TA filled sorbent tubes (Ambient)	12
		Carbopack X filled sorbent tubes	12A
	AQUACHECK	Groundwater	6C
	CONTEST	Standard solution	Group C, 15
Ethyl carbamate	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Simulated spirit	Group B, B4

## Index of Analytes | E

Analyte	Scheme ID	Matrix	Sample
Ethyl Dodecanoate	DAPS	Non chill filtered whisky	Group B, B5
Ethyl esters	QFCS	Extra virgin olive oil	790
Ethyl glucuronide	DAU	Urine	1
		Urine	2
		Urine	3
Ethyl Hexadecanoate	DAPS	Non chill filtered whisky	Group B, B5
Ethyl Hexanoate	BAPS	Lager	2L
	DAPS	Non chill filtered whisky	Group B, B5
Ethyl Linoleate	DAPS	Non chill filtered whisky	Group B, B5
Ethyl Linolenate	DAPS	Non chill filtered whisky	Group B, B5
Ethyl Octadecanoate	DAPS	Non chill filtered whisky	Group B, B5
Ethyl Oleate	DAPS	Non chill filtered whisky	Group B, B5
Ethyl Sulfate	DAU	Urine	1
		Urine	2
		Urine	3
Ethyl Tetradecanoate	DAPS	Non chill filtered whisky	Group B, B5
Ethyl-9-Hexadecenoate	DAPS	Non chill filtered whisky	Group B, B5
Ethylbenzene	AQUACHECK	Synthetic effluent	18C
	CONTEST	Standard solutions & soil	25
Ethylene glycol	TOX	Blood	TAK
		Serum	TAS
Evaporation Loss (Noack)	OIL	Engine oil lubricants	5
Everolimus	IPT	human blood	EVE
Extract 0.2mm	MAPS	Brewers and distillers malt	1
		Brewers and distillers malt	1
Extract 0.7mm	MAPS	Brewers and distillers malt	1
Extract 1.0mm	MAPS	Brewers and distillers malt	1
Extract difference (0.2 - 0.7)	MAPS	Brewers and distillers malt	1
Extract difference (0.2 - 1.0)	MAPS	Brewers and distillers malt	1
Extract: 0.2mm	MAPS	Wheat	7
Extractable phosphorus	AQUACHECK	Agricultural soil	14
Extraction of magnesium	AQUACHECK	Agricultural soil	14
Extraction of potassium	AQUACHECK	Agricultural soil	14
Extraction of sodium	AQUACHECK	Agricultural soil	14

## Index of Analytes | F

Analyte	Scheme ID	Matrix	Sample
Factor II Activity	CLS	Lyophilized Plasma	COA
Factor IX Activity	CLS	Lyophilized Plasma	COA
Factor V Activity	CLS	Lyophilized Plasma	COA
Factor VII Activity	CLS	Lyophilized Plasma	COA
Factor VIII Activity	CLS	Lyophilized Plasma	COA
Factor X Activity	CLS	Lyophilized Plasma	COA
Factor XI Activity	CLS	Lyophilized Plasma	COA
Factor XII Activity	CLS	Lyophilized Plasma	COA
Faecal coliforms (enumeration)	QWAS	Bathing, surface and wastewater	419
		Sea water	422
Famphur	AQUACHECK	Groundwater	9
		Synthetic effluent	21
FAN (Free Alpha Amino Nitrogen)	MAPS	Wheat	7
FAN (IoB Wort) (Free Alpha Amino Nitrogen)	MAPS	Malt	6
		Wheat	7
Fat	AFPS	Fish feed	13
	QBS	Smoothie	525
	QCS	Chocolate	715
		Cocoa powder	716
	QDCS	Butter	36
		Condensed milk	66
		Processed cheese	67
		Skimmed milk	27
		Hard cheese	37
		Whipping cream	39
		Semi skimmed milk	40
		Whole protein concentrate	43
		Skimmed milk powder	51
		Whole milk powder	52
		Single cream	53
		Double cream	54
		Whole milk	55
		Yogurt	58
Soft cheese		59	
Cheese powder	63		
Whey powder	38B		

## Index of Analytes | F

Analyte	Scheme ID	Matrix	Sample
Fat cont.	QFCS	Dehydrated food product	821
		Instant coffee	824
		Processed nut product	828
		Non-wheat flour	832
		Food pureé	833
		Cereal	770
		Cake	793
		Ketchup	811
		Mayonnaise	812
		Mustard	813
		Ground pasta	816
		Food product	834
		Food product	835
		Jam or marmalade	
		'Ready to eat' product	772
	Flour	775	
	Bread	776	
	QMAS	Fish	728
		Fish	734
Fecal WBC	CLS	Virtual images for microscopy	MP
Felbamate	TDM	Human serum	AE2
Fenchlorphos	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Fenitrothion	AQUACHECK	Groundwater	9
		Synthetic effluent	21
		Clean water	56
	CONTEST	Standard solutions & soil	30
Fenpropimorph	AQUACHECK	Spiking solution	40
Fenthion	AQUACHECK	Groundwater	9
		Synthetic effluent	21
	CONTEST	Standard solutions & soil	30
Fermentability (Boiled)	MAPS	Brewers and distillers malt	1
		Brewers and distillers malt	1
Fermentability (Unboiled 0.2mm)	MAPS	Brewers and distillers malt	1
Fermentability (Unboiled 0.7mm)	MAPS	Brewers and distillers malt	1
Fermentable sugars	SUPS	Molasses	5
Fern Test	CLS	Virtual images for microscopy	MP
Ferritin	CLS	Lyophilized Serum	CHM
Ferrocyanide	QFCS	Salt	819
Fibre	AFPS	Fish feed	13
Fibrinogen	CLS	Lyophilized Plasma	COA

## Index of Analytes | F

Analyte	Scheme ID	Matrix	Sample
Final gravity	DAPS	Fermented wort	Group A, A1
		Simulated wort	Group A, A2
Fish speciation	QMAS	Fish	752
Fixed acidity	DAPS	Scotch whisky	Group B, B1
Fixed acidity (previously volatile acidity)	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
Flame Spectroscopy	PHARMASSURE	Sample format will depend upon test type	6H
Flash Point	OIL	#2 Diesel fuel	2
		Service Engine Oil	6
Flash Point (Open Cup)	OIL	Engine oil lubricants	5
Flecainide	TDM	Human serum	CRD
Florasulam	AQUACHECK	Groundwater	8B
Fluconazole	TDM	Human serum	AF01
Flufenacet	AQUACHECK	Groundwater	8
Flumethrin	AQUACHECK	Waste water	51
Fluoranthene	AQUACHECK	Clean water	52
		Synthetic effluent	19C
		Water Framework Directive	34F
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5
Fluorene	AQUACHECK	Synthetic effluent	19C
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5
Fluoride	AQUACHECK	Sewage sludge	13
		Agricultural soil	14
		Hard water	1H
		Soft water	1S
	CONTEST	Solid waste leachate	24
		Soil	Group D, 18
		Soil	Group E, 21
	COSMETICS	Mouthwash sample	24
		Toothpaste sample	25
	QUARTZ	Blood	4
Fluoxetine	AQUACHECK	Clean water	57
	TDM	New born calf serum	PS06



## Index of Analytes | F

Analyte	Scheme ID	Matrix	Sample
Fluphenazine	TDM	New born calf serum	PS07
Fluroxypyr	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Flusilazole	AQUACHECK	Spiking solution	40
Flutriafol	AQUACHECK	Spiking solution	40
Fluvoxamine	TDM	New born calf serum	PS22
Flux testing (EN71-1 & ASTM F963)	TOYTEST	Magnets	14
Foam stability (HRV)	BAPS	Lager	2L
Folate	CLS	Lyophilized Serum	CHM
Follicle Stimulating Hormone	CLS	Lyophilized Serum	CHM
Fonofos	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Food labelling	QFCS	Benchmark	846
Foreign body (identification)	QFCS	Sample A / Sample B (both potentially contaminated)	818
Foreign body (detection)	QFCS	Sample A / Sample B (both potentially contaminated)	818
Formaldehyde	AQUACHECK	Spiking solution	28
Formaldehyde2,4-DNPH derivative	AIR	Glass fibre filter 25mm diameter (Workplace air)	8
Formol number	QFCS	Ketchup	811
Fraction IV (<2.2mm + damaged corns from all other sieves)	MAPS	Brewers and distillers malt	1
		Barley	2
Free 2,3-Pentanedione	BAPS	Ale	3
		Lager	2L
Free acidity	QFCS	Honey	801
Free Alpha Amino Nitrogen (FAN)	BAPS	Lager	2L
	MAPS	Brewers and distillers malt	1
		Brewers and distillers malt	1
Free caustic alkali (as NaOH)	COSMETICS	Liquid or solid soap	28
Free diacetyl	BAPS	Ale	3
		Lager	2L
Free dimethyl sulfide (DMS)	MAPS	Brewers and distillers malt	1
Free fatty acids	QFCS	Oil or fat	778
Free fatty acids (Acidity)	QFCS	Extra virgin olive oil	790
		Olive oil	791
		frying oil	796
Free fatty acids (as oleic acid)	COSMETICS	Liquid or solid soap	28
Freezing point depression (FPD)	QDCS	Milk	56
Freshwater algae growth inhibition test - biomass reduction	AQUACHECK	Ecotoxicology	50
Friability	MAPS	Brewers and distillers malt	1
Fructosamine	CLS	Lyophilized Serum	CHM

## Index of Analytes | F

Analyte	Scheme ID	Matrix	Sample
Fructose	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Simulated spirit	Group B, B4
		White or Rosé wine	Group D, D1
		Red wine	Group D, D2
	QBS	Fruit juice	510
		Carbonated drinks	515
		Smoothie	525
		Energy drink	526
		Dilutable and ready to drink materials	517B
	QCS	Chocolate	715
		Cocoa powder	716
	QFCS	Honey	801
		Canned fruit	814
		Jam or marmalade	817
	SUPS	Syrup	11
	FTIR, Glycol	OIL	Service Engine Oil
FTIR, Nitration (procedure A)	OIL	Service Engine Oil	6
FTIR, Nitration (procedure B)	OIL	Service Engine Oil	6
FTIR, Oxidation (procedure A)	OIL	Service Engine Oil	6
FTIR, Oxidation (procedure B)	OIL	Service Engine Oil	6
FTIR, Phosphate (procedure A)	OIL	Service Engine Oil	6
FTIR, Phosphate (procedure B)	OIL	Service Engine Oil	6
FTIR, Sulfation (procedure A)	OIL	Service Engine Oil	6
FTIR, Sulfation (procedure B)	OIL	Service Engine Oil	6
FTIR, Water	OIL	Service Engine Oil	6
Fuel Dilution	OIL	Service Engine Oil	6

## Index of Analytes | F & G

Analyte	Scheme ID	Matrix	Sample
Furfural	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Liqueur	Group E, E2
		Cream liqueur	Group E, E3
Fusarium	CLS	Liquid samples	BCP
Fusobacterium necrophorum	CLS	Liquid samples	BCP
Fusobacterium nucleatum	CLS	Liquid samples	BCP

Analyte	Scheme ID	Matrix	Sample
Gabapentin	TDM	Human serum	AE1
Gadoleic acid 20:1 (cis & trans)	QFCS	Olive oil	791
Galactose	QDCS	Whey powder	38B
Gallic acid	DAPS	Scotch whisky	Group B, B1
Gammahydroxybutyrate (GHB)	DAU	Urine	1
		Urine	2
		Urine	3
	TOX	Urine	GHB
Gastrin	CLS	Lyophilized Serum	IAS
GC	PHARMASSURE	Sample format will depend upon test type	6A
Gel strength (Bloom)	QGS	Gelatine	606
Gentamicin	CLS	Lyophilized Serum	CHM
	TDM	Human serum	AT01
		Human serum	TD1
Geosmin	AQUACHECK	Spiking solution	39
Germinative capacity	MAPS	Barley	2
Germinative energy	MAPS	Barley	2
GGT	CLS	Lyophilized Serum	CHM
Giardia Antigen	CLS	Liquid samples	CRG
Giardia lamblia	CLS	Liquid samples	GIP
Ginsenoside Rb1	PHARMASSURE	Supplement	13
Ginsenoside Rb2	PHARMASSURE	Supplement	13
Glassy (Whole) corns	MAPS	Brewers and distillers malt	1
GLDH	CLS	Lyophilized Serum	CHM

## Index of Analytes | G

Analyte	Scheme ID	Matrix	Sample
Glucose	BAPS	Lager	2L
	CLS	Ampoule	BLG
		Lyophilized Serum	CHM
		Simulated CSF	SFC
		Urine	UA
		Urine	UC
	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Simulated spirit	Group B, B4
		White or Rosé wine	Group D, D1
		Red wine	Group D, D2
	QCS	Chocolate	715
		Cocoa powder	716
	QFCS	Honey	801
		Canned fruit	814
		Jam or marmalade	817
	QBS	Fruit juice	510
Carbonated drinks		515	
Dilutable and ready to drink materials		517B	
Glutamic acid	QFCS	Infant formula powder	823
Gluten	BAPS	Gluten free beer	8
	QFCS	Flour	781
		Pasta sauce	851
		Canned meat	852
		Biscuits	854
Swabs	855		
Glycerol	DAPS	Simulated spirit	Group B, B4
	PHARMASSURE	Solution	12
Glycine	QFCS	Infant formula powder	823
Glycol	OIL	Service Engine Oil	6
Glycosidic nitrile	MAPS	Brewers and distillers malt	1
		Malt	6
Glycosylated haemoglobin (as HbA1c)	CLS	Lyophilized Human blood	GLH
Glyphosate	AQUACHECK	Synthetic effluent	20
	QFCS	Barley flour	807

## Index of Analytes | G & H

Analyte	Scheme ID	Matrix	Sample
Gram negative organisms (confirmation)	CONF-IDENT	lyophilised material	3
Gram negative organisms (identification)	CONF-IDENT	lyophilised material	3
Gram positive organisms (identification)	CONF-IDENT	lyophilised material	7
Gram positive organisms (confirmation)	CONF-IDENT	lyophilised material	7
Gram Stain Interpretation	CLS	Virtual Gram stained slides	VGS
Gross Alpha as <sup>230</sup> Thorium	AQUACHECK	Clean water	30
Gross alpha as <sup>239</sup> Plutonium	AQUACHECK	Clean water	30
Gross alpha as <sup>241</sup> Americium	AQUACHECK	Clean water	30
Gross beta as <sup>137</sup> Caesium	AQUACHECK	Clean water	30
Gross beta as <sup>40</sup> Potassium	AQUACHECK	Clean water	30
Gross beta as <sup>90</sup> Strontium	AQUACHECK	Clean water	30
Group A Streptococcus	CLS	Lyophilised swabs	SPY
Group B Strep culture	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Group B Streptococcus	CLS	Lyophilised swabs	GBS
Group C/G Streptococcus	CLS	Lyophilised swabs	SPY
Growth Hormone (hGH)	CLS	Lyophilized Serum	CHM
Guaiacol producing thermophilic acidophilic bacteria (detection)	QBS	Lyophilised test material	506
	QMS	Fruit	45
	SUPS	Lyophilised test material	8

Analyte	Scheme ID	Matrix	Sample
Haematocrit	CLS	Simulated whole blood	BHM
		Simulated whole blood	HMX
Haematocrit, calculated	CLS	Ampoule	BLX
Haemoglobin	CLS	Simulated whole blood	BHM
		Simulated whole blood	HMX
Haemoglobin, total	CLS	Ampoule	BLX
Haemophilus influenzae	CLS	Liquid samples	BCP
		Liquid samples	MEP
		Liquid samples	PNE
Hakicarbon	AIR	Tenax TA filled sorbent tubes (Workplace air)	22
Haloperidol	TDM	New born calf serum	PS14
Haptoglobin	CLS	Lyophilized Serum	IPR
Hartong VZ45	MAPS	Brewers and distillers malt	1
Haze	DAPS	Ciders	Group C, C1
Haze at 0°C	BAPS	Ale (Bitter)	1B
		Lager	1L
Haze at 20°C	BAPS	Ale (Bitter)	1B
		Lager	1L

## Index of Analytes | H

Analyte	Scheme ID	Matrix	Sample
HBDH	CLS	Lyophilized Serum	CHM
HBsAg	CLS	Serum	HEP
hCG	CLS	Lyophilized Serum	CHM
		Urine	UA
Heat Content	OIL	#2 Diesel fuel	2
Heat unit	QFCS	Dried chilli powder	826
Hectolitre weight	MAPS	Barley	2
Heptachlor	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26
Heptachlor epoxide	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26
Heptylphenol	AQUACHECK	Water Framework Directive	34D
Herpes simplex virus 1	CLS	Liquid samples	MEP
Herpes simplex virus 2	CLS	Liquid samples	MEP
Hexachloro-1,3-butadiene	CONTEST	Standard solution	Group C, 19
Hexachlorobenzene	AQUACHECK	Synthetic effluent	19A
		Water Framework Directive	34E
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26
Hexachlorobutadiene	AQUACHECK	Clean water	56
		Synthetic effluent	19B
		Water Framework Directive	34E
		Groundwater	7B
	CONTEST	Standard solutions & soil	25
Hexachlorocyclohexane	AQUACHECK	Water Framework Directive	34E
Hexachloroethane	CONTEST	Standard solutions & soil	25
Hexane	PHARMASSURE	Residual Solvents	2E
Hexylphenol	AQUACHECK	Water Framework Directive	34D
Highly heat resistant thermophilic aerobic spores (enumeration)	QMS	Skimmed milk powder	11
Histamine	QMAS	Fish	748
Histidine	QFCS	Infant formula powder	823
HIV-1 p24 Antigen	CLS	Serum	HIV
HMX (Octogen)	AQUACHECK	Clean water	65
Homocysteine	CLS	Lyophilized Serum	CAR
Homogeneity	MAPS	Brewers and distillers malt	1

## Index of Analytes | H & I

Analyte	Scheme ID	Matrix	Sample
HO-risperidone	TDM	New born calf serum	PS10
HPV genotyping	CLS	Preservative solution with cells containing HPV	HPV
HTHS Viscosity at 150°C	OIL	Engine oil lubricants	5
Human herpesvirus 6	CLS	Liquid samples	MEP
Human Metapneumovirus (hMPV)	CLS	Liquid samples	PNE
		Liquid samples	RSP
Human papillomavirus	CLS	Preservative solution with cells containing HPV	HPV
Human parechovirus	CLS	Liquid samples	MEP
Human Rhinovirus / Enterovirus	CLS	Liquid samples	PNE
		Liquid samples	RSP
Hydrocarbon Type	OIL	#2 Diesel fuel	2
Hydrogen	OIL	#2 Diesel fuel	2
Hydrogen chloride	AIR	Impinger solution (Stack emissions)	36
Hydrogen fluoride	AIR	Impinger solution (Stack emissions)	35
Hydroquinone	COSMETICS	Cream	22
Hydroxymethylfurfural (HMF)	QFCS	Honey	801
Hydroxyproline	QMAS	Meat	733
Hypnotic drugs	QUARTZ	Blood	1
		Blood and case study	2

Analyte	Scheme ID	Matrix	Sample
Ibuprofen	AQUACHECK	Clean water	57
	TDM	Human serum	AM1
Identification of microorganism	PHARMASSURE	Lyophilised test material	3
		Lyophilised test material	5
Identification of organism	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	3 - Hygiene Tests
Identity of organism	BAPS	Lyophilised test material	4H
		Lyophilised test material	4L
IgA	CLS	Lyophilized Serum	IPR
IgE, total	CLS	Lyophilized Serum	IPR
IGF-1	CLS	Lyophilized Serum	IAS
IgG	CLS	Lyophilized Serum	IPR
IgM	CLS	Lyophilized Serum	IPR
Iloperidone	TDM	New born calf serum	PS36
Imipramine	TDM	New born calf serum	PS02
Immature Cells	CLS	Virtual slide	BID
Immature Granulocytes	CLS	Simulated whole blood	HMX
Immature Granulocytes, absolute	CLS	Simulated whole blood	HMX



# Index of Analytes | I

Analyte	Scheme ID	Matrix	Sample
IMP	CLS	Liquid samples	BCP
		Lyophilised swabs	CRO
		Liquid samples	PNE
Indeno(1,2,3-cd)pyrene	AQUACHECK	Synthetic effluent	19C
		Groundwater	7C
		Water Framework Directive	34F
	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5
Indigo carmine (E132)	QFCS	Liquid	762
Infectious Mononucleosis	CLS	Serum	IM
Influenza A	CLS	Liquid samples	PNE
		Liquid samples	RSP
		Liquid samples	VIR
Influenza A / H1-2009	CLS	Liquid samples	RSP
Influenza A H1	CLS	Liquid samples	RSP
Influenza A H3	CLS	Liquid samples	RSP
Influenza A or B	CLS	Liquid samples	VIR
Influenza B	CLS	Liquid samples	PNE
		Liquid samples	RSP
		Liquid samples	VIR
Inorganic arsenic	QFCS	Infant fruit/vegetable pureé	827
		Brown rice	789
INR	CLS	Lyophilized Plasma	COA
Insolubility index	QDCS	Whole protein concentrate	43
		Skimmed milk powder	51
		Whole milk powder	52
Insoluble	OIL	Service Engine Oil	6
Insoluble Impurities	QFCS	Extra virgin olive oil	790
Insulin	CLS	Lyophilized Serum	IAS
IoB Extract 0.7mm	MAPS	Wheat	7
IoB Soluble Extract 0.7mm	MAPS	Malt	6
Iodide	AQUACHECK	Waste water	63
	QFCS	Table salt	819
Iodine value	QFCS	Oil or fat	778
Iodosulfuron methyl	AQUACHECK	Groundwater	8B
Ioxynil	AQUACHECK	Groundwater	8
		Synthetic effluent	20
IR/FTIR	PHARMASSURE	Sample format will depend upon test type	6E

# Index of Analytes | I

Analyte	Scheme ID	Matrix	Sample
Iron	AFPS	Animal feed	2
		Premix	8
	AIR	25 mm Cellulose acetate (Workplace air)	1
		37 mm Cellulose acetate (Workplace air)	1A
		bulk welding fume sample	10A
		37 mm Cellulose acetate (Workplace air)	1B
		25 mm Cellulose acetate (Workplace air)	1C
	AQUACHECK	Natural water	4
		Synthetic effluent	12
		Sewage sludge	13
		Agricultural soil	14
		Marine water	62
		Industrial wastewater	17C
		Groundwater	4G
	BAPS	Lager	2L
	CANNABIS	Simulated dried cannabis plant	4
	CLS	Lyophilized Serum	CHM
	CONTEST	Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Standard solution	Group A, 29
		Soil	Group A, 3A
		Soil	Group D, 18
	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		White or Rosé wine	Group D, D1
	Red wine	Group D, D2	
	OIL	Crude oil	4
		Service Engine Oil	6
	QBS	Fruit juice	518
		Soft drink	519
	QDCS	Whole milk powder	42

# Index of Analytes | I

Analyte	Scheme ID	Matrix	Sample
Iron cont.	QFCS	Cereal	771
		Flour	775
		Bread	776
	QMAS	Precooked, raw or processed meat	731
	SUPS	Cane or beet sugar	2
Isavuconazole	TDM	Human serum	AF01
Iso-amyl acetate	BAPS	Lager	2L
	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Liqueur	Group E, E2
		Cream liqueur	Group E, E3
Iso-apha-acids	BAPS	Ale	3
		Lager	2L
Iso-butanol	BAPS	Lager	2L
	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Liqueur	Group E, E2
		Cream liqueur	Group E, E3
Isoelectric point	QGS	Gelatine	606
Isoleucine	QFCS	Infant formula powder	823
Iso-propyl alcohol (IPA)	TOX	Blood	TAK
		Serum	TAS
Isopropylbenzene	CONTEST	Standard solutions & soil	25
Isoproturon	AQUACHECK	Synthetic effluent	20B
		Water Framework Directive	34B
		Groundwater	8B
Itraconazole	TDM	Human serum	AF01

## Index of Analytes | K & L

Analyte	Scheme ID	Matrix	Sample
K232	QFCS	Extra virgin olive oil	790
K270	QFCS	Extra virgin olive oil	790
		Olive oil	791
Kappa Light Chain, free	CLS	Lyophilized Serum	IPR
Kappa Light Chain, total	CLS	Lyophilized Serum	IPR
Ketamine	DAH	Hair	DH01
Ketones	CLS	Urine	UA
Kinetic energy testing (EN71-1 & ASTM F963)	TOYTEST	Toy product	12
Kjeldahl nitrogen	AQUACHECK	Spiking solution	10
		Hard water	1H
		Soft water	1S
Klebsiella aerogenes	CLS	Liquid samples	PNE
Klebsiella oxytoca	CLS	Liquid samples	BCP
		Liquid samples	PNE
Klebsiella pneumoniae	CLS	Liquid samples	BCP
Klebsiella pneumoniae group	CLS	Liquid samples	PNE
Kolbach index	MAPS	Brewers and distillers malt	1
KPC	CLS	Liquid samples	BCP
		Lyophilised swabs	CRO
		Liquid samples	PNE
Kresoxym-methyl	AQUACHECK	Spiking solution	40

Analyte	Scheme ID	Matrix	Sample
Lacosamide	TDM	Human serum	AE2
Lactate	CLS	Ampoule	BLG
		Lyophilized Serum	CHM
		Simulated CSF	SFC
Lactic acid	DAPS	White or Rosé wine	Group D, D1
		Red wine	Group D, D2
Lactic acid bacteria (enumeration)	AFPS	Simulated animal feed	7
	BAPS	Lyophilised test material	4H
		Lyophilised test material	4L
	QBS	Fruit juice	500
		Soft drink	501
		Lyophilised test material	505
	QMAS	Lyophilised meat	746
QMS	Skimmed milk powder	24	
	Oatmeal	24	
Lactobacillus species	CLS	Liquid samples	BCP
Lactobacillus species (enumeration)	QMS	Lyophilised test material	27

## Index of Analytes | L

Analyte	Scheme ID	Matrix	Sample
Lactose	AIR	Glass fibre filter 25mm diameter (Workplace air)	15
	QDCS	Milk	28
		Hard cheese	37
		Whole protein concentrate	43
		Soft cheese	59
		Whey powder	38B
	QFCS	Food product	820
Lambda Light Chain, free	CLS	Lyophilized Serum	IPR
Lambda Light Chain, total	CLS	Lyophilized Serum	IPR
Lamotrigine	TDM	Human serum	TD1
Lanthanum	AQUACHECK	Groundwater	5G
LDH	CLS	Lyophilized Serum	CHM
		Simulated CSF	SFC
Lead	AFPS	Animal feed	2
		Premix	8
	AIR	25 mm Cellulose acetate (Workplace air)	1
		bulk lead-containing dust sample	10B
		37 mm Cellulose acetate (Workplace air)	1A
		Quartz fibre filter 47mm diameter (Ambient)	13
		Metals impinger solution (Stack emissions)	33
		Metals and fly ash on quartz filter 47mm diameter (Stack emissions)	38
		37 mm Cellulose acetate (Workplace air)	1B
		25 mm Cellulose acetate (Workplace air)	1C
	AQUACHECK	Natural water	5
		Synthetic effluent	12
		Sewage sludge	13
		Agricultural soil	14
		Marine water	62
		Industrial wastewater	17C
		Water Framework Directive	34A
		Clean water	5B
	Groundwater	5G	
	CANNABIS	Simulated dried cannabis plant	4
	CONTACT	Simulant	3

## Index of Analytes | L

Analyte	Scheme ID	Matrix	Sample	
Lead cont.	CONTEST	Solid waste leachate	24	
		Standard solution	Group A, 1a	
		Soil extract	Group A, 2	
		Standard solution	Group A, 29	
		Soil	Group A, 3A	
		Soil	Group D, 18	
		Soil	Group E, 21	
	COSMETICS		Lipstick	19
			Lip gloss	20
			Powder	21
	OIL		Service Engine Oil	6
	PHARMASSURE		Supplement	14
			Powder material	2B
	QBS		Fruit juice	518
			Soft drink	519
	QCS		Cocoa powder	718
	QFCS		Dried tea	780
			Cereal	784
			Edible Oil	785
			Dried Fruit	786
			Infant fruit/vegetable pureé	827
			Brown rice	789
			lyophilised mushrooms	795
			Table salt	819
	QMAS		Shellfish	741
			Fish	742
			Meat	747
	SUPS		Cane or beet sugar	2
	TOYTEST		EN71 - 3 Standard solution and real material	3
	Legionella pneumophila	CLS	Liquid samples	PNE
			Liquid samples	RSP
	Legionella pneumophila (detection)	QWAS	Environmental water	417
			Environmental water	418
Legionella pneumophila (enumeration by culture)	QWAS	Environmental water	417	
		Environmental water	418	
Legionella pneumophila (enumeration by direct count)	QWAS	Environmental water	417	
		Environmental water	417	
Legionella pneumophila (enumeration by PCR)	QWAS	Environmental water	417	
		Environmental water	418	
Legionella pneumophila (identification)	QWAS	Environmental water	417	
		Environmental water	418	

## Index of Analytes | L

Analyte	Scheme ID	Matrix	Sample
Legionella pneumophila Antigen	CLS	Liquid samples	LG
Legionella species (enumeration)	QWAS	Potable water	423
Legionella species (low level) (detection)	QWAS	Potable water	423
Leucine	QFCS	Infant formula powder	823
Leukocyte Esterase	CLS	Urine	UA
Leukocytes	CLS	Virtual Gram stained slides	VGS
Level of ATP	HYGIENE	Lyophilised tablet/	5
Levetiracetam	TDM	Human serum	AE1
IgG	CLS	Simulated CSF	SFC
LH	CLS	Lyophilized Serum	CHM
Limonene	AIR	Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
Linalool	CANNABIS	Hemp oil	2
Linalool (gin only)	DAPS	Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
Lindane (Gamma HCH)	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26
Linezolid	TDM	Human serum	AT08
Linoleic acid C18:2 (cis & trans)	QFCS	Extra virgin olive oil	790
Linoleic acid C18:2 (trans)	QFCS	Olive oil	791
Linoleic acid C18:3 (cis & trans)	QFCS	Extra virgin olive oil	790
Linolenic acid C18:3 (trans)	QFCS	Olive oil	791
Linuron	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Lipase	CLS	Lyophilized Serum	CHM
Listeria monocytogenes	CLS	Liquid samples	BCP
		Liquid samples	MEP
Listeria monocytogenes (detection)	AFPS	Simulated animal feed	11
	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	2
		Lyophilised test material	11
	QBS	Fruit juice	507
	QMAS	Meat	757
		Lyophilised meat	737
	QMS	Ready-to-eat	44
		Cheese	7C
		Salad and Vegetables	7V
		Skimmed milk powder	7
Oatmeal		7	
Skimmed milk powder	37		



## Index of Analytes | L

Analyte	Scheme ID	Matrix	Sample
Listeria monocytogenes (detection) cont.	QMS cont.	Herbs	7F
Listeria monocytogenes (enumeration)	QMAS	Lyophilised meat	759
	QMS	Skimmed milk powder	8
		Oatmeal	8
Listeria species	CLS	Liquid samples	BCP
Listeria species (confirmation)	CONF-IDENT	lyophilised material	2
Listeria species (detection)	AFPS	Simulated animal feed	11
	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	2
		Lyophilised test material	11
	QMAS	Meat	757
		Lyophilised meat	737
	QMS	Skimmed milk powder	7
		Oatmeal	7
		Skimmed milk powder	37
		Ready-to-eat	44
		Cheese	07C
		Salad and Vegetables	07F
Listeria species (enumeration)	QMAS	Lyophilised meat	759
	QMS	Skimmed milk powder	8
		Oatmeal	8
Listeria species (identification)	CONF-IDENT	lyophilised material	2
	QMAS	Meat	757
		Lyophilised meat	737
	QMS	Ready-to-eat	44
		Skimmed milk powder	37
Lithium	AQUACHECK	Natural water	4
		Marine water	62
		Groundwater	4G
	CLS	Lyophilized Serum	CHM
	TDM	Human serum	TD1
Log10 reduction in microbial load	COSMETICS	Cream	30
Lorazepam	TOX	Serum	BNBZ
Loss on drying (LOD)	PHARMASSURE	Sample format will depend upon test type	6D
Loss on ignition	AQUACHECK	Agricultural soil	14
	CONTEST	Soil	Group B, 3B
Loss on ignition (500±5°C)	AQUACHECK	Sewage sludge	16
Loss on Ignition at 440oC	CONTEST	Soil	27
Low level conductivity	PHARMASSURE	Sample format will depend upon test type	2D
		Sample format will depend upon test type	8A

## Index of Analytes | L & M

Analyte	Scheme ID	Matrix	Sample
Low level enumeration	PHARMASSURE	Lyophilised test material	3
LSD and Metabolite Screen	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Lubricity (HFRR) Wear scar diameter at 60°C	OIL	#2 Diesel fuel	2
Lurasidone	TDM	New born calf serum	PS34
Lymphocytes	CLS	Virtual slide	BID
		Simulated whole blood	HMX
Lymphocytes, absolute	CLS	Simulated whole blood	HMX
Lymphocytes, reactive	CLS	Virtual slide	BID
Lysine	QFCS	Infant formula powder	823

Analyte	Scheme ID	Matrix	Sample
m + p-Xylenes	AQUACHECK	Synthetic effluent	18C
		Groundwater	6C
	CONTEST	Standard solutions & soil	25
		Standard solution	Group C, 15
Magnesium	AFPS	Animal feed	2
		Premix	8
	AQUACHECK	Sewage sludge	16
		Clean water	59
		Marine water	61
		Higher salinity potable water	1A
		Hard water	1H
		Soft water	1S
	BAPS	Lager	2L
	CANNABIS	Simulated dried cannabis plant	4
	CLS	Lyophilized Serum	CHM
		Urine	UC
	CONTEST	Standard solution	Group A, 29
		Soil	Group D, 18

## Index of Analytes | M

Analyte	Scheme ID	Matrix	Sample
Magnesium cont.	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
	OIL	Engine oil lubricants	5
		Service Engine Oil	6
	QBS	Fruit juice	510
		Soft drink	519
		Liquid test material	524
	QDCS	Whole milk powder	42
	QFCS	Cereal	770
		Coffee	802
		Table salt	819
QMAS	Precooked, raw or processed meat	731	
PHARMASSURE	Standard solution	1C	
Magnesium, ionised	CLS	Ampoule	BLG
Malathion	AQUACHECK	Groundwater	9
		Synthetic effluent	21
		Clean water	56
	CONTEST	Standard solutions & soil	30
Malic acid	DAPS	White or Rosé wine	Group D, D1
		Red wine	Group D, D2
Malt mod homogeneity	MAPS	Brewers and distillers malt	1
Malt modification	MAPS	Brewers and distillers malt	1
Maltose	BAPS	Lager	2L
	DAPS	Simulated spirit	Group B, B4
Maltotriose	BAPS	Lager	2L
Manganese	AFPS	Animal feed	2
		Premix	8

## Index of Analytes | M

Analyte	Scheme ID	Matrix	Sample	
Manganese cont.	AIR	25 mm Cellulose acetate (Workplace air)	1	
		37 mm Cellulose acetate (Workplace air)	1A	
		Metals impinger solution (Stack emissions)	33	
		Metals and fly ash on Quartz filter 47mm diameter (Stack emissions)	38	
		bulk welding fume sample	10A	
		37 mm Cellulose acetate (Workplace air)	1B	
		25 mm Cellulose acetate (Workplace air)	1C	
	AQUACHECK	Natural water	4	
		Synthetic effluent	12	
		Sewage sludge	13	
		Agricultural soil	14	
		Marine water	62	
		Industrial wastewater	17C	
		Groundwater	4G	
	BAPS	Lager	2L	
	CANNABIS	Simulated dried cannabis plant	4	
	CONTEST	Standard solution	Group A, 1a	
		Soil extract	Group A, 2	
		Standard solution	Group A, 29	
		Soil	Group A, 3A	
	OIL	Service Engine Oil	6	
	QBS	Soft drink	519	
	QDCS	Whole milk powder	42	
	TOYTEST	EN71 - 3 Standard solution and real material	3	
	Maprotiline	TDM	New born calf serum	PS12
	Mass of solids	AIR	Dust on glass fibre filter 25mm diameter (Workplace air)	3
			Dust on glass fibre filter 37mm diameter (Workplace air)	4
Quartz fibre filter 47mm diameter (Ambient)			17	
Dust on glass fibre filter 47mm diameter (Stack emissions)			40	
MCH	CLS	Simulated whole blood	BHM	
		Simulated whole blood	HMX	
MCHC	CLS	Simulated whole blood	BHM	
		Simulated whole blood	HMX	

## Index of Analytes | M

Analyte	Scheme ID	Matrix	Sample
MCPA	AQUACHECK	Groundwater	8
		Synthetic effluent	20
MCPB	AQUACHECK	Groundwater	8
		Synthetic effluent	20
mcr-1	CLS	Liquid samples	BCP
MCV	CLS	Simulated whole blood	BHM
		Simulated whole blood	HMX
Measurement testing (EN71-1 & ASTM F963)	TOYTEST	Various	11
Meat authenticity	QMAS	Meat	749
mecA	CLS	Liquid samples	BCP
mecA/C	CLS	Liquid samples	BCP
mecA/C & MREJ	CLS	Liquid samples	BCP
		Liquid samples	PNE
Mechanical and physical properties	TOYTEST	ASTM F963 Toy product for paper exercise	7
Mecoprop	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Melting point	PHARMASSURE	Standard material	1F
Mercury	AFPS	Animal feed	2
		Premix	8
	AIR	Impinger solution (Stack emissions)	31
		Impinger solution (Stack emissions)	32
	AQUACHECK	Natural water	5
		Synthetic effluent	12
		Sewage sludge	13
		Agricultural soil	14
		Industrial wastewater	17C
		Water Framework Directive	34A
		Clean water	5B
	Groundwater	5G	
	CONTEST	Solid waste leachate	24
		Standard solution	Group A, 1c
		Soil extract	Group A, 2
Soil		Group A, 3A	
Soil		Group D, 18	
Soil	Group E, 21		

## Index of Analytes | M

Analyte	Scheme ID	Matrix	Sample
Mercury cont.	COSMETICS	Lipstick	19
		Lip gloss	20
		Powder	21
		Mouthwash sample	24
		Toothpaste sample	25
	PHARMASSURE	Supplement	14
		Powder material	2B
	QFCS	Dried tea	780
		Cereal	784
		Edible Oil	785
		Dried Fruit	786
		Table salt	819
	QMAS	Shellfish	741
		Fish	742
		Meat	747
	SUPS	Cane or beet sugar	2
	TOYTEST	EN71 - 3 Standard solution and real material	3
CANNABIS	Simulated dried cannabis plant	4	
Meropenem	TDM	Human serum	AT08
Mesophilic aerobic spores (enumeration)	QMS	Skimmed milk powder	11
		Oatmeal	11
Mesophilic anaerobic spores (enumeration)	QGS	Gelatine	605
	QMS	Skimmed milk powder	15
		Oatmeal	15
Mesosulfuron methyl	AQUACHECK	Groundwater	8B
Metaldehyde	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Metamitron	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Metazachlor	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Methabenzthiazuron	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Methadone	QUARTZ	Blood	3
	TDM	Human serum	SA02
Methadone and Metabolite Screen	DAU	Urine	1
		Urine	2
		Urine	3
Methadone EDDP	DAH	Hair	DH01

## Index of Analytes | M

Analyte	Scheme ID	Matrix	Sample
Methadone Screen	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Methaemoglobin	CLS	Ampoule	BLX
Methanethiol	BAPS	Lager	2L
Methanol	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Liqueur	Group E, E2
		Cream liqueur	Group E, E3
	PHARMASSURE	Residual Solvents	2E
	TOX	Blood	TAK
Serum		TAS	
Methaqualone Screen	DAU	Urine	1
		Urine	2
		Urine	3
Methicillin-Resistant Staphylococcus aureus	CLS	Lyophilised swabs	MRM
		Lyophilised swabs	MRS
Methiocarb	AQUACHECK	Groundwater	8B
Methionine	QFCS	Infant formula powder	823
Methotrexate	TDM	Human serum	TD1
Methoxychlor	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
Methyl isoborneol	AQUACHECK	Spiking solution	39
Methyl isobutyl ketone (MIBK)	AIR	Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
Methyl t-butyl ether	CONTEST	Standard solutions & soil	25
Methylene blue active substances (MBAS)	AQUACHECK	Spiking solution	3
		Spiking solution	11
Methylene chloride	CONTEST	Standard solutions & soil	25
Methylparaben	COSMETICS	Cream sample	27
		Mascara	31
Methylphenidate	TDM	Lyophilised human serum	PST1
Metoxuron	AQUACHECK	Groundwater	8B
Metribuzin	AQUACHECK	Groundwater	8B
Metsulfuron methyl	AQUACHECK	Groundwater	8B



## Index of Analytes | M

Analyte	Scheme ID	Matrix	Sample
Mevinphos	AQUACHECK	Groundwater	9
		Synthetic effluent	21
	CONTEST	Standard solutions & soil	30
Mianserin	TDM	New born calf serum	PS32
Micro Carbon Residue	OIL	Crude oil	4
Microbial enumeration	COSMETICS	Cream	30
Micrococcus species	CLS	Liquid samples	BCP
Microcystin-LR	AQUACHECK	Spiking solution	41
Microcystin-RR	AQUACHECK	Spiking solution	41
Microcystin-YR	AQUACHECK	Spiking solution	41
Midazolam	TOX	Serum	BNBZ
Milk protein	QFCS	Non-dairy milk	853
		Biscuits	854
Minor tranquillizers	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Mirtazapine	TDM	New born calf serum	PS11
Moisture	AFPS	Animal feed	1
		Wet Pet Food	9
		Fish feed	13
		Silage	14
	MAPS	Brewers and distillers malt	1
		Barley	2
		Malt	6
		Wheat	7
		Black malt	4A
		Crystal malt	4B
	QCS	Chocolate	715
		Cocoa powder	716
	QDCS	Butter	36
		Hard cheese	37
		Whole protein concentrate	43
		Whole milk powder	52
		Soft cheese	59
Cheese powder		63	
Skimmed milk powder		38A	
Whey powder		38B	

## Index of Analytes | M

Analyte	Scheme ID	Matrix	Sample
Moisture cont.	QFCS	Instant coffee	824
		Dried tea	829
		Non-wheat flour	832
		Cereal	770
		'Ready to eat' product	772
		Flour	775
		Bread	776
		Cake	793
		Honey	801
		Ground pepper	815
		Ground pasta	816
		Jam or marmalade	817
		Table salt	819
		Food product	834
	Food product	835	
	QGS	Gelatine	606
	QMAS	Fish	728
		Dried or cured meat	730
		Precooked, raw or processed meat	731
		Fish	734
SUPS	Raw sugar	7	
	Cane or beet sugar	10	
Moisture and volatile matter	COSMETICS	Liquid or solid soap	28
		Powder detergent	29
		Liquid detergent	32
Moisture and volatile matter at 103°C	QFCS	Extra virgin olive oil	790
Moisture by Karl Fischer	PHARMASSURE	Sample format will depend upon test type	6F
Molybdenum	AQUACHECK	Natural water	5
		Synthetic effluent	12
		Sewage sludge	13
		Agricultural soil	14
		Marine water	62
		Industrial wastewater	17C
		Groundwater	5G
	CONTEST	Solid waste leachate	24
		Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Soil	Group A, 3A
		Soil	Group D, 18
		Soil	Group E, 21
	OIL	Engine oil lubricants	5
		Service Engine Oil	6

## Index of Analytes | M

Analyte	Scheme ID	Matrix	Sample
Monochloroacetic acid	AQUACHECK	Clean water	44
Monocytes	CLS	Virtual slide	BID
		Simulated whole blood	HMX
Monocytes, absolute	CLS	Simulated whole blood	HMX
Monohydric phenols (By distillation)	CONTEST	Standard solution	Group C, 7a
Monolinuron	AQUACHECK	Groundwater	8B
Monounsaturated fatty acids	QFCS	Cod liver oil	806
Monounsaturates	QFCS	Food product	834
		Food product	835
		'Ready to eat' product	772
		Mixed Fat Spread	782
		Grated cheese	800
	QMAS	Meat	733
Monuron	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Moraxella catarrhalis	CLS	Liquid samples	PNE
Morganella morganii	CLS	Liquid samples	BCP
Morphine	QFCS	Ground poppy seeds	831
	QUARTZ	Blood	3
Mould (detection)	CANNABIS	Simulated dried cannabis plant	7
Mould (enumeration)	AFPS	Animal Feed	15
	CANNABIS	Simulated dried cannabis plant	7
	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	1
		Plastic surface, a lyophilised tablet and 5ml diluent	6
		Lyophilised test material	10
	QBS	Fruit juice	500
		Soft drink	501
		Lyophilised test material	505
	QCS	Cocoa powder	713
		Chocolate	717
	QMS	Skimmed milk powder	23
		Oatmeal	23
		Skimmed milk powder	36
		Herbs	36H
		Spices	37SP
	QWAS	Potable water	413
		Process water	414
SUPS	Lyophilised test material	6	
MPV	CLS	Simulated whole blood	BHM
		Simulated whole blood	HMX
MTBE	AQUACHECK	Groundwater	6C

## Index of Analytes | M & N

Analyte	Scheme ID	Matrix	Sample
m-Xylene	AQUACHECK	Synthetic effluent	18C
		Groundwater	6C
	CONTEST	Standard solutions & soil	25
Mycobacteriology culture ID	CLS	Lyophilized loops and/ or liquid samples	MTB
Mycobacterium tuberculosis complex	CLS	Liquid samples	MTM
Mycology culture ID	CLS	Lyophilised swabs	MY
Mycophenolic acid	IPT	human plasma	MPA
Mycoplasma genitalium	CLS	Liquid samples	MPG
Mycoplasma pneumoniae	CLS	Liquid samples	MPM
		Liquid samples	PNE
		Liquid samples	RSP
Myoglobin	CLS	Lyophilized Serum	CAR

Analyte	Scheme ID	Matrix	Sample
N. gonorrhoeae culture	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Naphthalene	AQUACHECK	Synthetic effluent	19C
		Water Framework Directive	34J
		Groundwater	7C
	CONTEST	Standard solutions & soil	25
		Soil	Group C, 3C
Standard solution	Group C, 5		
Napropamide	AQUACHECK	Groundwater	8
Naproxen	AQUACHECK	Clean water	57
Nasal Smear	CLS	Virtual images for microscopy	MP
n-Butanol	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Liqueur	Group E, E2
		Cream liqueur	Group E, E3
n-Butyl acetate	AIR	Charcoal filled glass sorbent tubes (Workplace air)	6
n-Butylbenzene	CONTEST	Standard solutions & soil	25

## Index of Analytes | N

Analyte	Scheme ID	Matrix	Sample
NDM	CLS	Liquid samples	BCP
		Lyophilised swabs	CRO
		Liquid samples	PNE
NDMA	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
NEFA	CLS	Lyophilized Serum	CHM
Neisseria gonorrhoeae	CLS	Liquid samples	CGC
Neisseria meningitidis	CLS	Liquid samples	BCP
		Liquid samples	MEP
Neutral detergent fibre (NDF)	AFPS	Animal feed	1
Neutrophils	CLS	Simulated whole blood	HMX
Neutrophils, absolute	CLS	Simulated whole blood	HMX
Neutrophils, band	CLS	Virtual slide	BID
Neutrophils, segmented	CLS	Virtual slide	BID
Neutrophils, segmented or band	CLS	Virtual slide	BID
New psychoactive substances	QUARTZ	Blood	6
n-Hexane	AIR	Charcoal filled glass sorbent tubes (Workplace air)	6
		Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
Nickel	AIR	25 mm Cellulose acetate (Workplace air)	1
		Quartz fibre filter 47mm diameter (Ambient)	13
		Metals impinger solution (Stack emissions)	33
		Metals and fly ash on quartz filter 47mm diameter (Stack emissions)	38
		37 mm Cellulose acetate (Workplace air)	1A
		bulk welding fume sample	10A
		37 mm Cellulose acetate (Workplace air)	1B
		25 mm Cellulose acetate (Workplace air)	1C

## Index of Analytes | N

Analyte	Scheme ID	Matrix	Sample
Nickel cont.	AQUACHECK	Natural water	5
		Synthetic effluent	12
		Sewage sludge	13
		Agricultural soil	14
		Marine water	62
		Industrial wastewater	17C
		Water Framework Directive	34A
		Clean water	5B
		Groundwater	5G
	CANNABIS	Simulated dried cannabis plant	4
	CONTEST	Solid waste leachate	24
		Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Standard solution	Group A, 29
		Soil	Group A, 3A
		Soil	Group D, 18
		Soil	Group E, 21
	COSMETICS	Lipstick	19
		Lip gloss	20
		Powder	21
	OIL	Crude oil	4
		Service Engine Oil	6
	TOYTEST	EN71 - 3 Standard solution and real material	3
Nickel release	NiMS	Alloy disks, jewellery or other appropriate articles	1A
		Alloy disks, jewellery or other appropriate articles	1B
		Alloy disks, jewellery or other appropriate articles	1C
Nicotine	PHARMASSURE	Solution	12
	TDM	Lyophilised human urine	NC01
Nitrate	AIR	Quartz fibre filter 47mm diameter (Ambient)	14
	AQUACHECK	Spiking solution	10
		Clean water	59
		Waste water	60
		Marine water	61
		Hard water	2H
		Soft water	2S

## Index of Analytes | N

Analyte	Scheme ID	Matrix	Sample
Nitrate cont.	BAPS	Lager	2L
	CONTEST	Soil	Group D, 18
	QFCS	Vegetable Leaves	787
		Infant vegetable food	798
	QMAS	Lyophilised meat	732
Nitrate and Nitrite	QDCS	Milk powder	65
		Milk powder	65
Nitrazepam	TOX	Human serum	BNZ
Nitrite	AQUACHECK	Spiking solution	10
		Waste water	60
		Hard water	2H
		Soft water	2S
	CLS	Urine	UA
	QMAS	Lyophilised meat	732
Nitrobenzene	AQUACHECK	Clean water	65
	CONTEST	Standard solutions & soil	25
Nitrogen	OIL	#2 Diesel fuel	2
		Engine oil lubricants	5
Nitrogen dioxide	AIR	Palmer-type diffusion tubes (Ambient)	11
Nitrosodimethylamine (NDMA)	DAPS	Scotch whisky	Group B, B1
		Simulated spirit	Group B, B4
	MAPS	Brewers and distillers malt	1
		Malt Flour	5
Non filterable COD	AQUACHECK	Wastewater	17A
Non steroidal anti-Inflammatory analgesic drugs	QUARTZ	Blood	1
		Blood and case study	2
Non-ionic surfactants	AQUACHECK	Spiking solution	3
		Spiking solution	11
Non-opiate narcotics	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Nonylphenol	AQUACHECK	Groundwater	06B
		Synthetic effluent	18B
		Water Framework Directive	34D
Norbuprenorphine	TDM	Human serum	SA01
Norchlorpromazine	TDM	New born calf serum	PS31
Norcitalopram	TDM	New born calf serum	PS18
Norclobazam	TDM	Human serum	CN1

## Index of Analytes | N

Analyte	Scheme ID	Matrix	Sample
Norclomipramine	TDM	New born calf serum	PS03
Norclozapine	TDM	Human serum	PS04
Nordazepam	TOX	Human serum	BNZ
Nordihydrocapsaicin	QFCS	Dried chilli powder	826
Nordoxepin	TDM	New born calf serum	PS05
Norfluoxetine	TDM	New born calf serum	PS06
Normaprotiline	TDM	New born calf serum	PS12
Normirtazapine	TDM	New born calf serum	PS11
Norovirus GI	CLS	Samples	NOR
Norovirus GI/GII	CLS	Liquid samples	GIP
Norovirus GII	CLS	Samples	NOR
Norquetiapine	TDM	New born calf serum	PS17
Norsertaline	TDM	New born calf serum	PS08
Northiaden	TDM	New born calf serum	PS19
Nortrimipramine	TDM	New born calf serum	PS09
Nortriptyline	TDM	New born calf serum	PS01
Norvenlafaxine	TDM	New born calf serum	PS20
n-Propanol	BAPS	Lager	2L
	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Liqueur	Group E, E2
Cream liqueur	Group E, E3		
n-Propylbenzene	CONTEST	Standard solutions & soil	25
NRBCs per 100 WBCs	CLS	Virtual slide	BID
NSE	CLS	Lyophilized Serum	TMS
NT pro-BNP	CLS	Lyophilized Serum	CAR
Nuclear Magnetic Resonance (NMR) Spectrometry	PHARMASSURE	Sample format will depend upon test type	6K
Nucleated RBCs	CLS	Simulated whole blood	HMX
Nugent Score	CLS	Virtual Gram stained slides	GSV
Number of microorganisms (calculation)	QWAS	Water	427



## Index of Analytes | O

Analyte	Scheme ID	Matrix	Sample
o,p'-DDD (TDE)	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
o,p'-DDE	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
o,p'-DDT	AQUACHECK	Clean water	58
		Synthetic effluent	19A
		Groundwater	7A
	CONTEST	Standard solutions & soil	26
Ochratoxin A	AFPS	Animal feed	5
	MAPS	Malt flour	3
	QFCS	Rice	845
		Dried fruit	804
CANNABIS	Hemp oil	3	
Octylphenol	AQUACHECK	Water Framework Directive	34D
Oestradiol	CLS	Lyophilized Serum	CHM
Oestriol, free (UE3)	CLS	Lyophilized Serum	CHM
Oestriol, total	CLS	Lyophilized Serum	CHM
Ofloxacin	AQUACHECK	Clean water	57
OH-Itraconazole	TDM	Human serum	AF01
OH-oxcarbazepine	TDM	Human serum	AE1
Olanzapine	TDM	Human serum	PS15
Oleic acid 18:1 (cis & trans)	QFCS	Extra virgin olive oil	790
Oleic acid C18:1 (cis & trans)	QFCS	Olive oil	791
Oleic acid C18:1 (trans)	QFCS	Olive oil	791
Omega 3	QFCS	Mixed Fat Spread	782
Omega 6	QFCS	Mixed Fat Spread	782
Omega-3 : Omega-6 ratio	QFCS	Cod liver oil	806
Opiates screen (Total)	DAH	Hair	DH01
		Hair	DH02
	DAU	Urine	1
		Urine	2
		Urine	3
Opiates	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Opioid analgesic drugs	QUARTZ	Blood	1
		Blood and case study	2
Organic carbon content	AQUACHECK	Agricultural soil	14
Organic chemical compounds	TOYTEST	EN71 - 9 paper exercise	6
Organic tin	TOYTEST	EN71 - 3 Standard solution and real material	3

## Index of Analytes | O

Analyte	Scheme ID	Matrix	Sample
Original extract	BAPS	Ale (Bitter)	1B
		Lager	1L
Original gravity	BAPS	Ale (Bitter)	1B
		Lager	1L
	DAPS	Fermented wort	Group A, A1
		Simulated wort	Group A, A2
Orthophosphate	AQUACHECK	Waste water	60
		Marine water	61
Osmolality	CLS	Lyophilized Serum	CHM
		Urine	UC
Osmophilic mould (enumeration)	QMS	Skimmed milk powder	5
		Oatmeal	5
Osmophilic mould count	SUPS	Lyophilised test material	6
Osmophilic yeast (enumeration)	QMS	Skimmed milk powder	5
		Oatmeal	5
	SUPS	Lyophilised test material	6
Osteocalcin	CLS	Lyophilized Serum	IAS
Other substances of interest	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
OXA	CLS	Liquid samples	BCP
OXA-48	CLS	Lyophilised swabs	CRO
OXA-48-like	CLS	Liquid samples	BCP
		Liquid samples	PNE
Oxazepam	TOX	Human serum	BNZ
Oxyhaemoglobin	CLS	Ampoule	BLX
o-Xylene	AQUACHECK	Synthetic effluent	18C
		Groundwater	6C
	CONTEST	Standard solutions & soil	25
		Standard solution	Group C, 15
Oxytetracycline	AQUACHECK	Clean water	57

## Index of Analytes | P

Analyte	Scheme ID	Matrix	Sample
p,p'-DDD	AQUACHECK	Clean water	58
		Synthetic effluent	19A
		Groundwater	7A
	CONTEST	Standard solutions & soil	26
p,p'-DDE	AQUACHECK	Clean water	58
		Synthetic effluent	19A
		Groundwater	7A
	CONTEST	Standard solutions & soil	26
p,p'-DDT	AQUACHECK	Clean water	58
		Synthetic effluent	19A
		Groundwater	7A
	CONTEST	Standard solutions & soil	26
Palmitic acid C16:0	QFCS	Extra virgin olive oil	790
Palmitoleic acid C16:1 (cis & trans)	QFCS	Olive oil	791
PAP	CLS	Lyophilized Serum	CHM
Paracetamol (Acetaminophen)	CLS	Lyophilized Serum	CHM
	TOX	Human blood	BLD
		Human serum	SM
Parainfluenza 1	CLS	Liquid samples	RSP
Parainfluenza 2	CLS	Liquid samples	RSP
Parainfluenza 3	CLS	Liquid samples	RSP
Parainfluenza 4	CLS	Liquid samples	RSP
Parainfluenza virus	CLS	Liquid samples	PNE
Parathion-ethyl	AQUACHECK	Groundwater	9
		Synthetic effluent	21
	CONTEST	Standard solutions & soil	30
Parathion-methyl	AQUACHECK	Groundwater	9
		Synthetic effluent	21
	CONTEST	Standard solutions & soil	30
Parathyroid Hormone (PTH)	CLS	Lyophilized Serum	IAS
Paroxetine	TDM	New born calf serum	PS21
Particle Count > 14 µm (c)	OIL	Service Engine Oil	6
Particle Count > 38 µm (c)	OIL	Service Engine Oil	6
Particle Count > 4 µm (c)	OIL	Service Engine Oil	6
Particle Count > 6 µm (c)	OIL	Service Engine Oil	6
Particle Count > 70 µm (c)	OIL	Service Engine Oil	6
Particulate Contamination by Filtration	OIL	#2 Diesel fuel	2
Particulate determination	PHARMASSURE	Sample format will depend upon test type	2D
		Sample format will depend upon test type	8B
Partly unmodified grains	MAPS	Brewers and distillers malt	1

## Index of Analytes | P

Analyte	Scheme ID	Matrix	Sample
Patulin	QBS	Apple juice	520
PCB (101)	AQUACHECK	Synthetic effluent	19D
		Groundwater	7D
	CONTEST	Standard solution	Group C, 11
		Soil	Group C, 3C
PCB (118)	AQUACHECK	Synthetic effluent	19D
		Groundwater	7D
	CONTEST	Standard solution	Group C, 11
		Soil	Group C, 3C
PCB (138)	AQUACHECK	Synthetic effluent	19D
		Groundwater	7D
	CONTEST	Standard solution	Group C, 11
		Soil	Group C, 3C
PCB (149)	AQUACHECK	Groundwater	07D
		Synthetic effluent	19D
PCB (153)	AQUACHECK	Synthetic effluent	19D
		Groundwater	7D
	CONTEST	Standard solution	Group C, 11
		Soil	Group C, 3C
PCB (170)	AQUACHECK	Groundwater	07D
		Synthetic effluent	19D
PCB (180)	AQUACHECK	Synthetic effluent	19D
		Groundwater	7D
	CONTEST	Standard solution	Group C, 11
		Soil	Group C, 3C
PCB (28)	AQUACHECK	Synthetic effluent	19D
		Groundwater	7D
	CONTEST	Standard solution	Group C, 11
		Soil	Group C, 3C
PCB (52)	AQUACHECK	Synthetic effluent	19D
		Groundwater	7D
	CONTEST	Standard solution	Group C, 11
		Soil	Group C, 3C
pCO <sub>2</sub>	CLS	Ampoule	BLG
Pendimethalin	AQUACHECK	Clean water	58
		Synthetic effluent	19A
		Groundwater	7A
Pentachlorobenzene	AQUACHECK	Synthetic effluent	19A
		Water Framework Directive	34E
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26

## Index of Analytes | P

Analyte	Scheme ID	Matrix	Sample
Pentachlorophenol	AQUACHECK	Synthetic effluent	18B
		Water Framework Directive	34D
		Groundwater	6B
Pentylphenol	AQUACHECK	Water Framework Directive	34D
Pepsin protein digestibility (PPD)	AFPS	Animal feed	1
Perampanel	TDM	Human serum	AE4
Perchlorates	QFCS	Perchlorates in vegetables	792
Permanganate index (PI)	AQUACHECK	Hard water	2H
		Soft water	2S
Peroxide value	QFCS	Oil or fat	778
		Extra virgin olive oil	790
Perphenazine	TDM	New born calf serum	PS16
Perylene	AQUACHECK	Synthetic effluent	19C
		Groundwater	7C
Pesticides	CANNABIS	Hemp oil	5
	QFCS	Pome fruits	836
		Citrus fruits	837
		Fruiting vegetables	838
		Tuber fruits	839
		Pulses	840
		Cereals	841
		Vegetable	842
		Spices	843
		Fungi (mushrooms)	844
		Fruit/vegetable	773
	Dried tea	777	
PETN (Pentaerythritol tetranitrate)	AQUACHECK	Clean water	65
PFOA	AQUACHECK	Spiking solution	26
		Clean water	52
PFOS	AQUACHECK	Spiking solution	26
		Clean water	52
pH	AQUACHECK	Clean water	59
	BAPS	Ale (Bitter)	1B
		Alcohol free/low alcohol beer	7
		Lager	1L
	CLS	Ampoule	BLG
		Urine	UA
	CONTEST	Standard solution	Group A, 29
		Soil	Group B, 3B
		Soil	Group D, 18
	COSMETICS		Liquid cosmetics

## Index of Analytes | P

Analyte	Scheme ID	Matrix	Sample
pH cont.	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Fermented wort	Group A, A1
		Scotch whisky	Group B, B1
		Simulated spirit	Group B, B4
		Ciders	Group C, C1
		White or Rosé wine	Group D, D1
		Red wine	Group D, D2
		Ready to drink	Group E, E1
		Liqueur	Group E, E2
	Cream liqueur	Group E, E3	
	MAPS	Brewers and distillers malt	1
		Brewers and distillers malt	1
	PHARMASSURE	Buffer solution	1A
	QBS	Fruit juice	510
		Liquid test material	524
		Energy drink	525
		Energy drink	526
		Carbonated drinks	516A
		Dilutable and ready to drink materials	517A
	QDCS	Butter	36
		Hard cheese	37
		Whole protein concentrate	43
		Soft cheese	59
		Cheese powder	63
		Milk	32A
		Buffer solution	32B

## Index of Analytes | P

Analyte	Scheme ID	Matrix	Sample
pH cont.	QFCS	Vinegar	822
		Instant coffee	824
		Mixed Fat Spread	782
		Tomato paste/puree	783
		Honey	801
		Coffee	802
		Ketchup	811
		Mayonnaise	812
		Mustard	813
		Canned fruit	814
		Jam or marmalade	817
	QGS	Gelatine	606
	QMAS	Dried or cured meat	730
		Precooked, raw or processed meat	731
Fish		734	
SUPS	Syrup	11	
	Molasses	5	
pH (1% aqueous solution at 25°C)	COSMETICS	Powder detergent	29
		Liquid detergent	32
pH (20-25°C)	AQUACHECK	Agricultural soil	14
		Sewage sludge	16
		Waste water	60
		Marine water	61
		Waste water	64
		Wastewater	17A
		Higher salinity potable water	1A
		Hard water	2H
		Soft water	2S
pH (20-25°C) - High	AQUACHECK	Poorly buffered waters	2A
pH (20-25°C) - Low	AQUACHECK	Poorly buffered waters	2A
pH (EBC Wort)	MAPS	Wheat	7
pH (IoB Wort)	MAPS	Wheat	7
Phenanthrene	AQUACHECK	Synthetic effluent	19C
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5
Phencyclidine Screen	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3

## Index of Analytes | P

Analyte	Scheme ID	Matrix	Sample
Phenobarbital	CLS	Lyophilized Serum	CHM
Phenobarbitone	TDM	Human serum	TD1
Phenol	DAPS	Scotch whisky	B1
Phenol index	CONTEST	Solid waste leachate	24
		Soil	Group D, 18
		Soil	Group E, 21
Phenols	AIR	Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
	CONTEST	Spiking solutions	Group C, 3C
Standard solution		Group C, 7b	
Phenols (Total)	AQUACHECK	Industrial wastewater	17B
	MAPS	Brewers and distillers malt	1
Phenylalanine	QFCS	Infant formula powder	823
Phenytoin	CLS	Lyophilized Serum	CHM
	TDM	Human serum	TD1
Phorate	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Phosmet	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Phosphatase	QDCS	Freeze dried milk	31 (A&B)
Phosphate	BAPS	Lager	2L
	CLS	Lyophilized Serum	CHM
		Urine	UC
	CONTEST	Soil	Group D, 18
	QFCS	Cereal	770
		'Ready to eat' product	772
	QMAS	Dried or cured meat	730
Precooked, raw or processed meat		731	
Phosphates (as PO <sub>4</sub> <sup>3-</sup> )	COSMETICS	Liquid detergent	32
Phosphoric acid	QBS	Carbonated drinks (degassed)	516A
Phosphorus	OIL	Engine oil lubricants	5
		Service Engine Oil	6
	AFPS	Animal feed	2
		Premix	8
	CANNABIS	Simulated dried cannabis plant	4
	QBS	Fruit juice	510
		Soft drink	519
	QDCS	Whole milk powder	42
	QFCS	Coffee	802



## Index of Analytes | P

Analyte	Scheme ID	Matrix	Sample
Phosphorus cont.	QMAS	Shellfish	741
		Fish	742
		Meat	747
Phthalates	TOYTEST	Section of plastic material plus two test solutions	10
Picloram	AQUACHECK	Groundwater	8
Pinworm Preparation	CLS	Virtual images for microscopy	MP
Piperacillin	TDM	Human serum	AT08
Piperine content	QFCS	Ground pepper	815
Pirimicarb	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Plasminogen Activity	CLS	Lyophilized Plasma	COA
Platelet Estimate	CLS	Virtual slide	BID
Plateletcrit	CLS	Simulated whole blood	BHM
Platelets	CLS	Simulated whole blood	BHM
		Simulated whole blood	HMX
Plesiomonas shigelloides	CLS	Liquid samples	GIP
pO2	CLS	Ampoule	BLG
Polarimetry	PHARMASSURE	Sample format will depend upon test type	6I
Polarisation	SUPS	Cane or beet sugar	3
		Raw sugar	7
		Syrup	11
Polyunsaturated fatty acids	QFCS	Cod liver oil	806
Poly-unsaturates	QFCS	'Ready to eat' product	772
		Mixed Fat Spread	782
		Grated cheese	800
		Food product	834
		Food product	835
	QMAS	Meat	733
Ponceau 4R (E124)	QFCS	Liquid	762
Posaconazole	TDM	Human serum	AF01
Potassium	AFPS	Animal feed	2
		Premix	8
	AQUACHECK	Clean water	59
		Marine water	61
		Hard water	1H
		Soft water	1S
	BAPS	Lager	2L
	CANNABIS	Simulated dried cannabis plant	4

## Index of Analytes | P

Analyte	Scheme ID	Matrix	Sample
Potassium cont.	CLS	Ampoule	BLG
		Lyophilized Serum	CHM
		Simulated CSF	SFC
		Urine	UC
	CONTEST	Standard solution	Group A, 29
		Soil	Group D, 18
	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
	OIL	Engine oil lubricants	5
		Service Engine Oil	6
	QBS	Fruit juice	510
		Liquid test material	524
	QDCS	Whole milk powder	41
QFCS	Cereal	770	
	Coffee	802	
QMAS	Precooked, raw or processed meat	731	
QBS	Soft drink	519	
Pour Point	OIL	#2 Diesel fuel	2
		Crude oil	4
		Engine oil lubricants	5
Prealbumin	CLS	Lyophilized Serum	CHM
Predicted spirit yield, (as is)	MAPS	Brewers and distillers malt	1
Pregablin	TDM	Human serum	AE1
Present gravity	BAPS	Ale (Bitter)	1B
		Lager	1L
Primidone	TDM	Human serum	TD1
Procalcitonin	CLS	Lyophilized Serum	IAS
Progesterone	CLS	Lyophilized Serum	CHM
Prolactin	CLS	Lyophilized Serum	CHM
Proline	QFCS	Infant formula powder	823
Prometryn	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Propachlor	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Propazine	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B

## Index of Analytes | P

Analyte	Scheme ID	Matrix	Sample
Propetamphos	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Propiconazole	AQUACHECK	Spiking solution	40
Propoxyphene and Metabolite Screen	DAU	Urine	1
		Urine	2
		Urine	3
	DOF	Oral fluid	OF1
		Oral fluid	OF2
		Oral fluid	OF3
Propranolol	AQUACHECK	Clean water	57
Propylene glycol	DAPS	Simulated spirit	Group B, B4
	PHARMASSURE	Solution	12
Propylparaben	COSMETICS	Cream sample	27
		Mascara	31
Propyzamide	AQUACHECK	Groundwater	8
		Synthetic effluent	20
Prosulfocarb	AQUACHECK	Groundwater	8B
Protein	AFPS	Fish feed	13
	CLS	Urine	UA
	MAPS	Wheat	7
	QBS	Smoothie	525
	QDCS	Condensed milk	66
		Processed cheese	67
		Milk	28
		Hard cheese	37
		Whole protein concentrate	43
		Skimmed milk powder	51
		Whole milk powder	52
		Yogurt	58
		Soft cheese	59
		Cheese powder	63
Whey powder	38B		

## Index of Analytes | P

Analyte	Scheme ID	Matrix	Sample	
Protein cont.	QFCS	Dehydrated food product	821	
		Instant coffee	824	
		Processed nut product	828	
		Non-wheat flour	832	
		Food pureé	833	
		Cereal	770	
		'Ready to eat' product	772	
		Flour	775	
		Bread	776	
		Cake	793	
		Ketchup	811	
		Mayonnaise	812	
		Mustard	813	
		Ground pasta	816	
		Jam or marmalade	817	
		Food product	834	
		Food product	835	
		QMAS	Fish	728
			Dried or cured meat	730
			Precooked, raw or processed meat	731
	Fish		734	
Protein C Activity	CLS	Lyophilized Plasma	COA	
Protein S Activity	CLS	Lyophilized Plasma	COA	
Protein, confirmatory	CLS	Urine	UA	
Protein, total	CLS	Lyophilized Serum	CHM	
Proteus species	CLS	Liquid samples	BCP	
		Liquid samples	PNE	
Prothioconazole	AQUACHECK	Spiking solution	40	
Prothrombin Time	CLS	Lyophilized Plasma	COA	
PSA, free	CLS	Lyophilized Serum	TMS	
PSA, total	CLS	Lyophilized Serum	CHM	
Pseudomonas aeruginosa	CLS	Liquid samples	BCP	
		Liquid samples	PNE	
Pseudomonas aeruginosa (detection)	COSMETICS	Powder	10B	
		Cream	13B	
		Liquid	16B	
	PHARMASSURE	Lyophilised test material	4B	

## Index of Analytes | P & Q

Analyte	Scheme ID	Matrix	Sample
Pseudomonas aeruginosa (enumeration)	COSMETICS	Powder	10B
		Cream	13B
		Liquid	16B
	QWAS	Potable water	413
		Process water	414
		Mineral water	420
Pseudomonas species (detection)	QMS	Oatmeal	26
		Oatmeal	26
Pseudomonas species (enumeration)	QMAS	Lyophilised meat	746
	QMS	Skimmed milk powder	26
		Oatmeal	26
	QWAS	Process water	414
Psychoactive and Synthetic Cannabinoid	QUARTZ	Urine	9
Purity	QFCS	Table salt	819
p-Xylene	AIR	Tenax TA filled sorbent tubes (Indoor or Chamber air)	21
	AQUACHECK	Synthetic effluent	18C
		Groundwater	6C
	CONTEST	Standard solutions & soil	25
Pyrene	AQUACHECK	Synthetic effluent	19C
		Groundwater	7C
	CONTEST	Soil	Group C, 3C
		Standard solution	Group C, 5

Analyte	Scheme ID	Matrix	Sample
Qualitative determination in clean water	AQUACHECK	Clean water	25
Qualitative organics by GCMS	AQUACHECK	Clean water	22
Qualitative organics by purge and trap GCMS	AQUACHECK	Clean water	22A
Quetiapine	TDM	New born calf serum	PS17
Quinmerac	AQUACHECK	Groundwater	8
Quinoline yellow	QFCS	Liquid	763
Quinoxifen	AQUACHECK	Clean water	53

## Index of Analytes | R

Analyte	Scheme ID	Matrix	Sample
R-(+)-Limonene	CANNABIS	Hemp oil	2
Ractopamine	QMAS	Meat	755
Rancimat Stability 120°C	QFCS	Olive oil	791
RBC	CLS	Simulated whole blood	BHM
		Simulated whole blood	HMX
RDW	CLS	Simulated whole blood	HMX
RDW CV	CLS	Simulated whole blood	BHM
RDW SD	CLS	Simulated whole blood	BHM
Rebaudioside A	QBS	Soft drink	522
Reducing Substance	CLS	Urine	UA
Reducing sugars	DAPS	White or Rosé wine	Group D, D1
		Red wine	Group D, D2
	SUPS	Syrup	11
		Cane or beet sugar	3
		Molasses	5
		Raw sugar	7
Reflectance grade	SUPS	Cane or beet sugar	1
Refractive index	PHARMASSURE	Sugar solution	1E
Refractive Index (20°C)	DAPS	Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Ready to drink	Group E, E1
		Cream liqueur	Group E, E3
Reid Vapor Pressure	OIL	Crude oil	4
Reject fraction (EBC fraction IV plus foreign matter)	MAPS	Brewers and distillers malt	1
		Barley	2
Relative Density	OIL	Crude oil	4
Renin (Direct Concentration)	CLS	Lyophilized Serum	IAS
Renin Activity	CLS	Lyophilized Serum	IAS
Residual fermentable sugars (Total amount of glucose, maltose and maltotriose)	DAPS	Fermented wort	Group A, A1
		Simulated wort	Group A, A2
Residual gravity	DAPS	Fermented wort	Group A, A1
		Simulated wort	Group A, A2
Residual sulfur dioxide	MAPS	Brewers and distillers malt	1
Residue	DAPS	Liqueur	Group E, E2
		Cream liqueur	Group E, E3
Respirable grade quartz	AIR	Quartz PVC filter 25mm diameter (Workplace air)	2F
		Quartz PVC filter 25mm diameter (Workplace air)	2I
		Quartz PVC filter 25mm diameter (Workplace air)	2X

## Index of Analytes | R & S

Analyte	Scheme ID	Matrix	Sample
Respiratory Syncytial Virus	CLS	Liquid samples	PNE
		Liquid samples	RSP
		Liquid samples	VIR
Retinol Binding Protein	CLS	Lyophilized Serum	IPR
Rheumatoid Factor	CLS	Lyophilized Serum	IPR
Rhinovirus	CLS	Liquid samples	RSP
Rhodotorula	CLS	Liquid samples	BCP
Rifampin resistance	CLS	Liquid samples	MTM
Risperidone	TDM	New born calf serum	PS10
Ritalinic acid	TDM	Lyophilised human serum	PST1
Rotavirus	CLS	Liquid samples	ROT
Rotavirus A	CLS	Liquid samples	GIP
RSV A	CLS	Liquid samples	RSP
RSV B	CLS	Liquid samples	RSP
Rubella Antibody, IgG	CLS	Serum	RUB
Rubella Antibody, IgM	CLS	Serum	RUB
Rufinamide	TDM	Human serum	AE2

Analyte	Scheme ID	Matrix	Sample
Saccharin (as free imide)	QBS	Carbonated drinks (degassed)	516B
		Dilutable and ready to drink materials	517B
Saccharin (E954)	QFCS	Liquid	761
Salicylic acid	AQUACHECK	Clean water	57
	CLS	Lyophilized Serum	CHM
	TOX	Human blood	BLD
Human serum		SM	
Salinity	AQUACHECK	Wastewater	17A
Salmonella species	CLS	Liquid samples	BCP
		Liquid samples	GIP
Salmonella species (confirmation)	CONF-IDENT	Lyophilised material	1
Salmonella species (detection)	AFPS	Simulated animal feed	6
	CANNABIS	Simulated dried cannabis plant	6
	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	2
		Lyophilised test material	11
	PHARMASSURE	Lyophilised test material	9
QBS	Fruit juice	507	

## Index of Analytes | S

Analyte	Scheme ID	Matrix	Sample
Salmonella species (detection) cont.	QCS	Grated chocolate	710
		Grated chocolate	711
		Grated chocolate	712
		Cocoa powder	714
	QGS	Gelatine	601
	QMAS	Lyophilised tablet	727
		Meat	757
		Lyophilised meat	736
		Lyophilised fish or shellfish	740
	QMS	Ready-to-eat	44
		Cheese	6
		Skimmed milk powder	6
		Egg powder	6
		Oatmeal	6
		Seeds and Nuts	6
		Salads and Vegetables	6
		Tea	28
		Herb	30
		Spice	31
		Skimmed milk powder	37
Skimmed milk		40	
QWAS	Effluent sludge	416	
	Bathing, surface and wastewater	419	
	Sea water	422	
Salmonella species (enumeration)	QMS	Skimmed milk powder	3
Salmonella species (identification)	CONF-IDENT	lyophilised material	1
	QMS	Freeze-dried material	34
Salt	OIL	Crude oil	4
	QBS	Smoothie	525
		Energy drink	526
	QCS	Chocolate	715
		Cocoa powder	716
	QDCS	Condensed milk	66
		Processed cheese	67
		Butter	36
		Hard cheese	37
		Soft cheese	59
	Cheese powder	63	



## Index of Analytes | S

Analyte	Scheme ID	Matrix	Sample
Salt cont.	QFCS	Dehydrated food product	821
		Processed nut product	828
		Food pureé	833
		Cereal	770
		'Ready to eat' product	772
		Mixed Fat Spread	782
		Tomato paste/puree	783
		Ketchup	811
		Mayonnaise	812
		Mustard	813
		Food product	834
	Food product	835	
	QMAS	Fish	728
		Dried or cured meat	730
Precooked, raw or processed meat		731	
Fish		734	
Saponification Number	OIL	Engine oil lubricants	5
Saponification Number	QFCS	Oil or fat	778
Sapovirus	CLS	Liquid samples	GIP
SARS-CoV-2	CLS	Liquid samples	RSP
	QWAS	Waste water	430
	HYGIENE	Liquid samples	8
SARS-CoV-2 (Molecular)	SAR	Liquid sample containing nonreplicative recombinant virus.	COV
SARS-CoV-2 (Antigen)	SAR	Swab	ATG
SARS-CoV-2 Antibody, IgA	SAR	Liquid sample containing nonreplicative recombinant virus.	SAB
SARS-CoV-2 Antibody, IgG	SAR	Liquid sample containing nonreplicative recombinant virus.	SAB
SARS-CoV-2 Antibody, IgM	SAR	Liquid sample containing nonreplicative recombinant virus.	SAB
SARS-CoV-2 Antibody, total	SAR	Liquid sample containing nonreplicative recombinant virus.	SAB
Saturated fat	QDCS	Hard cheese	37
		Soft cheese	59
	QMAS	Dried or cured meat	730
		Precooked, raw or processed meat	731
Saturated fatty acids	QFCS	Cod liver oil	806

## Index of Analytes | S

Analyte	Scheme ID	Matrix	Sample
Saturates	QBS	Smoothie	525
	QCS	Chocolate	715
		Cocoa powder	716
	QDCS	Butter	36
		Condensed milk	66
		Processed cheese	67
	QFCS	Dehydrated food product	821
		Processed nut product	828
		Food pureé	833
		'Ready to eat' product	772
		Mixed Fat Spread	782
		Grated cheese	800
		Ketchup	811
		Mayonnaise	812
		Mustard	813
		Ground pasta	816
		Food product	834
		Food product	835
		QMAS	Fish
Meat	733		
Scorched particles	QDCS	Skimmed milk powder	38A
		Whey powder	38B
sec-Butylbenzene	CONTEST	Standard solutions & soil	25
Sediment	OIL	#2 Diesel fuel	2
		Crude oil	4
Sediment (Insoluble)	SUPS	Cane or beet sugar	4
Sedimentation Rate	CLS	Simulated whole blood	SR
Selenium	AFPS	Animal feed	2
		Premix	8
	AIR	Metals impinger solution (Stack emissions)	33
		Metals and fly ash on quartz filter 47mm diameter (Stack emissions)	38
	AQUACHECK	Natural water	5
		Synthetic effluent	12
		Sewage sludge	13
		Agricultural soil	14
		Marine water	62
		Industrial wastewater	17C
		Clean water	5A
	Groundwater	5G	

## Index of Analytes | S

Analyte	Scheme ID	Matrix	Sample
Selenium cont.	CONTEST	Solid waste leachate	24
		Standard solution	Group A, 1b
		Soil extract	Group A, 2
		Soil	Group A, 3A
		Soil	Group D, 18
		Soil	Group E, 21
	COSMETICS	Mouthwash sample	24
		Toothpaste sample	25
	QBS	Soft drink	519
	QFCS	Dried tea	780
TOYTEST	EN71 - 3 Standard solution and real material	3	
Sensory Analysis	BAPS	Lager/ale (Bitter)	5
Serine	QFCS	Infant formula powder	823
Serovar (O26; O45; O103; O111; O121; O145; O157:H7) (identification)	STEC	Milk Powder	D
		Powdered beef	M
Serratia marcescens	CLS	Liquid samples	BCP
		Liquid samples	PNE
Sertindole	TDM	New born calf serum	PS35
Sertraline	TDM	New born calf serum	PS08
Settleable solids	AQUACHECK	Settleable solids	15
Settled chemical oxygen demand (COD)	AQUACHECK	Wastewater	17A
SHBG	CLS	Lyophilized Serum	CHM
Shear Stability at 100°C	OIL	Engine oil lubricants	5
Shiga Toxin 1	CLS	Liquid samples	GIP
Shiga Toxin 2	CLS	Liquid samples	GIP
Shiga-like toxin-producing E. coli (STEC) stx1/stx2	CLS	Liquid samples	GIP
Shigella / Enteroinvasive E. coli (EIEC)	CLS	Liquid samples	GIP
Shigella species	CLS	Liquid samples	GIP
Shigella species (detection)	QMS	Oatmeal	12
Sieving Test <2.20mm	MAPS	Brewers and distillers malt	1
		Barley	2
Sieving Test <2.25mm	MAPS	Barley	2
Sieving Test >2.50mm	MAPS	Barley	2
Sieving Test >2.80mm	MAPS	Brewers and distillers malt	1
		Barley	2
Sieving Test 2.20-2.50mm	MAPS	Brewers and distillers malt	1
		Barley	2
Sieving Test 2.50-2.80mm	MAPS	Brewers and distillers malt	1
		Barley	2
Sildenafil (qualitative)	PHARMASSURE	Supplement	15

## Index of Analytes | S

Analyte	Scheme ID	Matrix	Sample
Sildenafil (quantitative)	PHARMASSURE	Supplement	15
Silicate	AQUACHECK	Spiking solution	10
		Marine water	61
		Hard water	2H
		Soft water	2S
Silicon	OIL	Engine oil lubricants	5
		Service Engine Oil	6
Silver	AQUACHECK	Natural water	4
		Industrial wastewater	17C
		Groundwater	4G
	OIL	Service Engine Oil	6
Simazine	AQUACHECK	Synthetic effluent	20B
		Water Framework Directive	34B
		Groundwater	8B
		Clean water	53
Sinapaldehyde	DAPS	Scotch whisky	Group B, B1
Sirolimus	IPT	human blood	SIR
S-Metolachlor	AQUACHECK	Groundwater	8
SNR (Soluble Nitrogen Ratio)	MAPS	Wheat	7
Sodium	AFPS	Animal feed	2
		Premix	8
	AQUACHECK	Clean water	59
		Marine water	62
		Higher salinity potable water	1A
		Hard water	1H
		Soft water	1S
	BAPS	Lager	2L
	CLS	Ampoule	BLG
		Lyophilized Serum	CHM
		Simulated CSF	SFC
		Urine	UC
	CONTEST	Standard solution	Group A, 29
		Soil	Group D, 18

## Index of Analytes | S

Analyte	Scheme ID	Matrix	Sample	
Sodium cont.	DAPS	Bourbon	B2-A	
		Dark Rum	B2-B	
		Brandy	B2-C	
		Irish Whisky	B2-D	
		Gin	B3-A	
		Vodka	B3-B	
		White Rum	B3-C	
		Scotch whisky	Group B, B1	
	OIL	Engine oil lubricants	5	
		Service Engine Oil	6	
	QBS	Fruit juice	510	
		Soft drink	519	
		Liquid test material	524	
		Smoothie	525	
		Energy drink	526	
	QCS	Chocolate	715	
		Cocoa powder	716	
	QDCS	Butter	36	
		Condensed milk	66	
		Processed cheese	67	
		Hard cheese	37	
		Whole milk powder	41	
		Soft cheese	59	
		Cheese powder	63	
	QFCS	Dehydrated food product	821	
		Processed nut product	828	
		Food pureé	833	
		Cereal	770	
		'Ready to eat' product	772	
		Bread	776	
		Cake	793	
		Mayonnaise	812	
		Food product	834	
		Food product	835	
	QMAS	Dried or cured meat	730	
		Precooked, raw or processed meat	731	
	Sodium bicarbonate	PHARMASSURE	Standard solution	1C
	Sodium chloride (Concentration)	PHARMASSURE	Standard solution	1C
	Solids-non-fat (SNF)	QDCS	Butter	36
	Solubility in cold water at 16±2°C	QFCS	Instant coffee	824
Soluble extract 0.2mm	MAPS	Brewers and distillers malt	1	
Soluble extract 0.7mm	MAPS	Brewers and distillers malt	1	

## Index of Analytes | S

Analyte	Scheme ID	Matrix	Sample
Soluble extract 1.0mm	MAPS	Brewers and distillers malt	1
Soluble extract difference (0.2 - 0.7mm)	MAPS	Brewers and distillers malt	1
Soluble extract difference (0.2 - 1.0mm)	MAPS	Brewers and distillers malt	1
Soluble Nitrogen Ratio (SNR)	MAPS	Brewers and distillers malt	1
Soluble reactive phosphorus	AQUACHECK	Spiking solution	10
		Industrial wastewater	17D
		Soft water	2S
		Hard water	2H
Soluble solids	QFCS	Ketchup	811
		Jam or marmalade	817
Sorbic acid	COSMETICS	Cream sample	27
		Mascara	31
	DAPS	White or Rosé wine	Group D, D1
		Red wine	Group D, D2
Sorbic acid (as free acid)	QBS	Carbonated drinks (degassed)	516A
		Dilutable and ready to drink materials	517A
Sorbic acid (E200-E203)	QFCS	Liquid	760
Soy	QFCS	Non-dairy milk	853
		Rice flour	809
Specific Gravity	CLS	Urine	UA
	DAPS	Ciders	Group C, C1
		White or Rosé wine	Group D, D1
		Red wine	Group D, D2
		Ready to drink	Group E, E1
		Liqueur	Group E, E2
Cream liqueur	Group E, E3		
Specific gravity (20°C)	DAPS	Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
Sperm	CLS	Virtual images for microscopy	MP
Sputum culture identification	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Sputum culture susceptibility	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Sputum Specimen Quality	CLS	Virtual Gram stained slides	VGS
Stain Quality	CLS	Virtual Gram stained slides	VGS
Staphylococcal enterotoxins	QDCS	Freeze-dried cheese	68
Staphylococcus aureus	CLS	Liquid samples	BCP
		Lyophilised swabs	MRM
		Liquid samples	PNE

## Index of Analytes | S

Analyte	Scheme ID	Matrix	Sample
Staphylococcus aureus (detection and/or enumeration)	PHARMASSURE	Medicinal herb	10
Staphylococcus aureus (detection)	CANNABIS	Simulated dried cannabis plant	7
	COSMETICS	Powder	10A
		Cream	13A
		Liquid	16A
QGS	Gelatine	604	
Staphylococcus aureus (enumeration)	CANNABIS	Simulated dried cannabis plant	7
	COSMETICS	Powder	10A
		Cream	13A
		Liquid	16A
	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	7
PHARMASSURE	Lyophilised test material	4A	
Staphylococcus epidermidis	CLS	Liquid samples	BCP
Staphylococcus lugdunensis	CLS	Liquid samples	BCP
Staphylococcus species	CLS	Liquid samples	BCP
Staphylococcus species (enumeration)	QMS	Skimmed milk powder	17
		Oatmeal	17
	QWAS	Bathing, recreational and surface water	421
Starch	AFPS	Animal feed	1
		Wet Pet Food	9
		Silage	14
	SUPS	Raw sugar	7
Stearic acid C18:0	QFCS	Extra virgin olive oil	790
STEC (detection)	STEC	Milk Powder	D
		Powdered beef	M
Stenotrophomonas maltophilia	CLS	Liquid samples	BCP
Sterility	PHARMASSURE	Lyophilised test material	5
Stimulant drugs	QUARTZ	Blood	1
		Blood and case study	2
Stool culture identification	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Streptococcus agalactiae	CLS	Liquid samples	BCP
		Liquid samples	MEP
		Liquid samples	PNE
Streptococcus anginosus group	CLS	Liquid samples	BCP
Streptococcus pneumoniae	CLS	Liquid samples	BCP
		Liquid samples	MEP
		Liquid samples	PNE
Streptococcus pneumoniae Antigen	CLS	Liquid samples	SPN
Streptococcus pyogenes	CLS	Liquid samples	BCP
		Liquid samples	PNE

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Analyte	Scheme ID	Matrix	Sample	
Streptococcus species	CLS	Liquid samples	BCP	
Strontium	AQUACHECK	Natural water	4	
		Marine water	62	
		Groundwater	4G	
	TOYTEST	EN71 - 3 Standard solution and real material	3	
Styrene	AQUACHECK	Synthetic effluent	18C	
		Groundwater	6C	
	CONTEST	Standard solutions & soil	25	
Sucralose	QBS	Carbonated drinks (degassed)	516B	
		Carbonated drinks (degassed)	517B	
	QFCS	Liquid	761	
Sucrose	DAPS	Bourbon	B2-A	
		Dark Rum	B2-B	
		Brandy	B2-C	
		Irish Whisky	B2-D	
		Gin	B3-A	
		Vodka	B3-B	
		White Rum	B3-C	
		Scotch whisky	Group B, B1	
		Simulated spirit	Group B, B4	
	QBS	Smoothie	525	
		Energy drink	526	
		Carbonated drinks	516A	
		Dilutable and ready to drink materials	517B	
	QCS	Chocolate	715	
		Cocoa powder	716	
	QFCS	Honey	801	
	SUPS	Syrup	11	
		Molasses	5	
	Sudan IV	QFCS	Palm oil	803
	Sugars	AFPS	Animal feed	1
Wet Pet Food			9	



## Index of Analytes | S

Analyte	Scheme ID	Matrix	Sample
Sulfate	AIR	Quartz fibre filter 47mm diameter (Ambient)	14
	AQUACHECK	Clean water	59
		Marine water	61
		Industrial wastewater	17B
		Higher salinity potable water	1A
		Hard water	1H
		Soft water	1S
	BAPS	Lager	2L
	CONTEST	Solid waste leachate	24
		Soil	Group D, 18
		Soil	Group E, 21
	QBS	Liquid test material	524
QFCS	Table salt	819	
Sulfur	AQUACHECK	Marine water	62
	OIL	Crude oil	4
Sulfur Content	OIL	#2 Diesel fuel	2
		Engine oil lubricants	5
Sulfur dioxide	QMAS	Meat	729
	BAPS	Ale (Bitter)	1B
		Lager	1L
	SUPS	Cane or beet sugar	3
Sulfur dioxide (Determined as sulfate)	AIR	Impinger solution (Stack emissions)	34
Sulfur dioxide (E220-E228)	QFCS	Liquid	760
Sulfur dioxide (Free)	DAPS	White or Rosé wine	Group D, D1
		Red wine	Group D, D2
	QBS	Carbonated drinks (degassed)	516A
		Dilutable and ready to drink materials	517A
Sulfur dioxide (Total)	DAPS	Ciders	Group C, C1
		White or Rosé wine	Group D, D1
		Red wine	Group D, D2
	QBS	Carbonated drinks (degassed)	516A
		Dilutable and ready to drink materials	517A
Sulphite-reducing bacteria (enumeration)	QGS	Gelatine	603
	QMAS	Lyophilised meat	738
Sulphite-reducing Clostridia (detection)	QWAS	Potable water	413
		Mineral water	424
Sulphite-reducing Clostridia (enumeration)	AFPS	Simulated animal feed	10
	QWAS	Potable water	413
		Bathing, recreational and surface water	421
Sulphite-reducing Clostridia spores (detection only)	QWAS	Mineral water	424

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Analyte	Scheme ID	Matrix	Sample
Sulphite-reducing Clostridia spores (enumeration only)	QWAS	Potable water	413
Sulphite-reducing Clostridium spores (enumeration)	QMS	Oatmeal	15
		Skimmed milk powder	15
		Oatmeal	15
Sulphur	CANNABIS	Simulated dried cannabis plant	4
Sulphur Content	OIL	Service Engine Oil	6
Sulphur dioxide	QFCS	Dried fruit	797
Sulpiride	TDM	New born calf serum	PS30
Sum of EU 4 PAHs	QFCS	Vegetable oil	805
Sunset yellow (E110)	QFCS	Liquid	762
Surface Area	NiMS	Alloy disks, jewellery or other appropriate articles	1A
		Alloy disks, jewellery or other appropriate articles	1B
		Alloy disks, jewellery or other appropriate articles	1C
Suspended solids	AQUACHECK	Spiking solution	3
		Spiking solution	11
		Wastewater	17A
SVOCs	AQUACHECK	Clean water	54
Synthetic cannabinoid	QUARTZ	Blood	7
Syphilis	CLS	Serum	SYP
Syringaldehyde	DAPS	Scotch whisky	Group B, B1
Syringic Acid	DAPS	Scotch whisky	Group B, B1

Analyte	Scheme ID	Matrix	Sample
T Uptake (%)	CLS	Lyophilized Serum	CHM
T Uptake (units)	CLS	Lyophilized Serum	CHM
T3, free	CLS	Lyophilized Serum	CHM
T4, free	CLS	Lyophilized Serum	CHM
Tablet testing	PHARMASSURE	Sample format varies for each round	2C
		Tablet testing	7B
Tablet testing: Diameter	PHARMASSURE	Tablet	2C
		Tablet testing	7B
Tablet testing: Disintegration	PHARMASSURE	Tablet	2C
		Tablet testing	7B
Tablet testing: Dissolution	PHARMASSURE	Tablet	2C
		Tablet testing	7B
Tablet testing: Friability	PHARMASSURE	Tablet	2C
		Tablet testing	7B

## Index of Analytes | T

Analyte	Scheme ID	Matrix	Sample
Tablet testing: Hardness	PHARMASSURE	Tablet	2C
		Tablet testing	7B
Tablet testing: Resistance to CRUSHING	PHARMASSURE	Tablet	2C
		Tablet testing	7B
Tablet testing: Thickness	PHARMASSURE	Tablet	2C
		Tablet testing	7B
Tablet testing: Weight	PHARMASSURE	Tablet	2C
		Tablet testing	7B
Tacrolimus	IPT	human blood	CICTAC
Tartrazine (E102)	QFCS	Liquid	763
Taste - Alcoholic/Solvent	BAPS	Lager/ale (Bitter)	5
Taste - Astringent	BAPS	Lager/ale (Bitter)	5
Taste - Bitter	BAPS	Lager/ale (Bitter)	5
Taste - Body	BAPS	Lager/ale (Bitter)	5
Taste - Burnt	BAPS	Lager/ale (Bitter)	5
Taste - Cereal	BAPS	Lager/ale (Bitter)	5
Taste - DMS	BAPS	Lager/ale (Bitter)	5
Taste - Fruity/Citrus	BAPS	Lager/ale (Bitter)	5
Taste - Fruity/Estery	BAPS	Lager/ale (Bitter)	5
Taste - Hop	BAPS	Lager/ale (Bitter)	5
Taste - Linger	BAPS	Lager/ale (Bitter)	5
Taste - Malty	BAPS	Lager/ale (Bitter)	5
Taste - Other	BAPS	Lager/ale (Bitter)	5
Taste - Other sulfur	BAPS	Lager/ale (Bitter)	5
Taste - Oxidised/Aged	BAPS	Lager/ale (Bitter)	5
Taste - Sour	BAPS	Lager/ale (Bitter)	5
Taste - Sweet	BAPS	Lager/ale (Bitter)	5
Tazobactam	TDM	Human serum	AT08
TBC	PHARMASSURE	Sample format will depend upon test type	2A
Tebuconazole	AQUACHECK	Spiking solution	40
Teicoplanin	TDM	Human serum	AT07
Tellurium	AQUACHECK	Synthetic effluent	12
Temazepam	TOX	Human serum	BNZ
Terbufos	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Terbutylazine	AQUACHECK	Groundwater	8B
Terbutryn	AQUACHECK	Clean water	53
		Synthetic effluent	20B
		Groundwater	8B
Terpene compounds	AIR	Tenax TA filled sorbent tubes (Workplace air)	22

## Index of Analytes | T

Analyte	Scheme ID	Matrix	Sample
Terpinene-4-ol (gin only)	DAPS	Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
tert-Butylbenzene	CONTEST	Standard solutions & soil	25
Testosterone, free	CLS	Lyophilized Serum	CHM
Testosterone, total	CLS	Lyophilized Serum	CHM
Tetrachloroethene	AIR	Charcoal filled glass sorbent tubes (Workplace air)	6
	AQUACHECK	Synthetic effluent	18A
		Synthetic effluent	19B
		Groundwater	6A
		Groundwater	7B
Tetrachloroethylene	CONTEST	Standard solutions & soil	25
Tetrachloromethane	CONTEST	Standard solution	Group C, 19
Tetrachlorvinphos	AQUACHECK	Groundwater	9
		Synthetic effluent	21
Tetra-iso-alpha-acids	BAPS	Ale	3
		Lager	2L
Texture	CONTEST	Soil	Group B, 28
TFN	AQUACHECK	Spiking solution	36
Thallium	AIR	Metals impinger solution (Stack emissions)	33
		Metals and fly ash on Quartz filter 47mm diameter (Stack emissions)	38
	CONTEST	Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Soil	Group A, 3A
Theobromine	QCS	Chocolate	715
		Cocoa powder	716
Theophylline	CLS	Lyophilized Serum	CHM
	TDM	Human serum	TD1
Thermophilic acidophilic bacteria (enumeration)	QBS	Lyophilised test material	506
	QMS	Fruit	45
	SUPS	Lyophilised test material	8
Thermophilic aerobic plate count	QMS	Oatmeal	11
Thermophilic aerobic spores (enumeration)	QMS	Skimmed milk powder	11
		Skimmed milk powder	11
		Oatmeal	11
		Oatmeal	11
Thermotolerant coliforms (enumeration)	QMS	Skimmed milk powder	20
		Oatmeal	20
Thifensulfuron methyl	AQUACHECK	Groundwater	8B

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Analyte	Scheme ID	Matrix	Sample
Thiocyanate	CONTEST	Standard solution	Group B, 16
		Soil	Group B, 3B
		Soil	Group D, 18
Thioridazine	TDM	New born calf serum	PS13
Thousand corn weight	MAPS	Barley	2
Threonine	QFCS	Infant formula powder	823
Throat culture identification	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-BASIC
		Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Thrombin Time	CLS	Lyophilized Plasma	COA
Thyroglobulin	CLS	Lyophilized Serum	TMS
Thyroxine (T4)	CLS	Lyophilized Serum	CHM
Thyroxine Binding Globulin (TBG)	CLS	Lyophilized Serum	CHM
Tiagabine	TDM	Human serum	AE1
TIBC (measured or iron-based calc.)	CLS	Lyophilized Serum	CHM
TIBC (transferrin-based calculation)	CLS	Lyophilized Serum	CHM
Tin	AQUACHECK	Natural water	5
		Industrial wastewater	17C
		Clean water	5A
		Groundwater	5G
	BAPS	Lager	2L
	CONTEST	Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Soil	Group A, 3A
		Soil	Group D, 18
	OIL	Service Engine Oil	6
	QBS	Fruit juice	518
		Soft drink	519
	TOYTEST	EN71 - 3 Standard solution and real material	3
Titanium	AQUACHECK	Natural water	5
		Synthetic effluent	12
		Industrial wastewater	17C
		Groundwater	5G
	OIL	Service Engine Oil	6
Titratable acidity	QDCS	HCl solution	29
		Whipping cream	39
		Skimmed milk powder	51
		Whole milk powder	52
		Milk	56
Titre	PHARMASSURE	Standard solution	1C

## Index of Analytes | T

Analyte	Scheme ID	Matrix	Sample	
TLC	PHARMASSURE	Sample format will depend upon test type	6G	
Tobramycin	CLS	Lyophilized Serum	CHM	
	TDM	Human serum	AT02	
		Human serum	TD1	
Toluene	AIR	Charcoal filled glass sorbent tubes (Workplace air)	5	
		Tenax TA filled sorbent tubes (Workplace air)	7	
		Tenax TA filled sorbent tubes (Workplace air)	12	
		Tenax TA filled sorbent tubes (Workplace air)	21	
		Carbopack X filled sorbent tubes	12A	
	AQUACHECK	Synthetic effluent	18C	
		Groundwater	6C	
	CONTEST	Standard solutions & soil	25	
		Standard solution	Group C, 15	
	PHARMASSURE	Residual Solvents	2E	
	TON	AQUACHECK	Spiking solution	36
	Topiramate	TDM	Human serum	AE2
Total acidity	DAPS	Bourbon	B2-A	
		Dark Rum	B2-B	
		Brandy	B2-C	
		Irish Whisky	B2-D	
		Gin	B3-A	
		Vodka	B3-B	
		White Rum	B3-C	
		Scotch whisky	Group B, B1	
		White or Rosé wine	Group D, D1	
		Ready to drink	Group E, E1	
		Liqueur	Group E, E2	
		Ciders	Group C, C1	
	Red wine	Group D, D2		
	QFCS	Vinegar	822	
		Coffee	802	
		Ketchup	811	
		Mustard	813	
		Jam or marmalade	817	
Tomato paste/puree		783		
Total aerobic bacterial count (Spread)	BAPS	Lyophilised test material	4H	
		Lyophilised test material	4L	
Total aerobic count	QWAS	Process water	414	
Total aerobic count at 17-23°C	QWAS	Dialysis water	429	

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Analyte	Scheme ID	Matrix	Sample
Total aerobic count at 22°C	QWAS	Potable water	412
		Mineral water	420
Total aerobic count at 37°C	QWAS	Potable water	412
		Mineral water	420
Total aerobic mesophilic count	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	1
		Lyophilised test material	10
		Plastic surface, a lyophilised tablet and 5ml diluent	3 - Hygiene Tests
	QBS	Fruit juice	500
		Soft drink	501
		Lyophilised test material	505
	QCS	Cocoa powder	713
		Chocolate	717
	QGS	Gelatine	602
	QMAS	Meat	756
		Lyophilised meat	735
		Lyophilised fish or shellfish	739
		Lyophilised fish or shellfish	739
	QMS	Skimmed milk powder	16
		Oatmeal	16
		Tea	29
		Skimmed milk powder	36
		Ready meal	41
		Herbs	36H
		Spices	36SP
SUPS	Lyophilised test material	6	
Total aerobic microbial count	CANNABIS	Simulated dried cannabis plant	7
	PHARMASSURE	Medicinal herb	10
		Lyophilised test material	4A
Total aerobic microbial count (Pour)	BAPS	Lyophilised test material	4H
		Lyophilised test material	4L
Total aflatoxins	CANNABIS	Hemp oil	3
	QFCS	Rice	845
		Chilli powder	794
	Dried fruit	804	
Total alkalinity	AQUACHECK	Waste water	64
Total anaerobic count	AFPS	Simulated animal feed	10
Total anaerobic mesophilic count	QMAS	Lyophilised meat	738
	QMS	Skimmed milk powder	15
		Oatmeal	15
Total anaerobic microbial count	BAPS	Lyophilised test material	4H
		Lyophilised test material	4L

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Analyte	Scheme ID	Matrix	Sample
Total arsenic	AQUACHECK	Waste water	60
	QFCS	Infant fruit/vegetable pureé	827
		Brown rice	789
		lyophilised mushrooms	795
		Table salt	819
Total ash	QFCS	Vinegar	822
		Dried tea	829
		Ground pepper	815
Total bacterial count	PHARMASSURE	Lyophilised test material	4A
Total boron	AQUACHECK	Sewage sludge	13
		Agricultural soil	14
Total cadmium	AQUACHECK	Waste water	60
	TOYTEST	Paint flakes	9
Total carbohydrates	BAPS	Lager	2L
Total carbon	AQUACHECK	Sewage sludge	13
Total chlorogenic acids	QFCS	Instant coffee	824
		Coffee	802
Total chromium	CONTEST	Standard solution	Group A, 29
Total coliforms (enumeration)	QMAS	Meat	756
	QMS	Skimmed milk powder	36
	QWAS	Bathing, surface and wastewater	419
		Sea water	422
Total copper	AQUACHECK	Waste water	60
Total cyanide	AQUACHECK	Spiking solution	10
	CONTEST	Standard solution	Group B, 6
Total diacetyl	BAPS	Ale	3
		Lager	2L
Total dietary fibre	QDCS	Soft cheese	59
	QFCS	Flour	775
		Instant coffee	824
		Non-wheat flour	832
		Food pureé	833
		Cereal	770
		'Ready to eat' product	772
		Bread	776
		Cake	793
		Ketchup	811
		Mustard	813
		Canned fruit	814
		Ground pasta	816
		Food product	834
		Food product	835



## Index of Analytes | T

Analyte	Scheme ID	Matrix	Sample
Total Dimethyl Sulfide (DMS)	MAPS	Brewers and distillers malt	1
Total dissolved solids	AQUACHECK	Marine water	61
		Waste water	64
		Wastewater	17A
		Higher salinity potable water	1A
		Hard water	2H
		Soft water	2S
	CONTEST	Solid waste leachate	24
		Soil	Group E, 21
Total dry extract	QFCS	Vinegar	822
Total EPA+DHA Omega-3 fatty acids	QFCS	Cod liver oil	806
		Cod liver oil	806
Total fat	QFCS	Mixed Fat Spread	782
		Grated cheese	800
	QMAS	Dried or cured meat	730
		Precooked, raw or processed meat	731
		Meat	733
Total fatty matter content	COSMETICS	Liquid or solid soap	28
Total fluoride	CONTEST	Standard solution	Group B, 17
Total gas pressure	BAPS	Ale (Bitter)	1B
		Lager	1L
Total ginsenosides	PHARMASSURE	Supplement	13
Total glucose	QFCS	Instant coffee	824
Total hardness	AQUACHECK	Waste water	64
		Hard water	1H
		Soft water	1S
Total hydrocarbons by GC analysis	AQUACHECK	Mineral oil in wastewater	23
Total hydrocarbons by Gravimetric analysis	AQUACHECK	Mineral oil in wastewater	23
Total hydrocarbons by IR analysis	AQUACHECK	Mineral oil in wastewater	23
Total lead	AQUACHECK	Waste water	60
	TOYTEST	Paint flakes	9
Total mercury	AQUACHECK	Waste water	60
Total microcystin	AQUACHECK	Spiking solution	41
Total monosubstituted Methylphenols	AQUACHECK	Synthetic effluent	18B
		Groundwater	6B
Total nickel	AQUACHECK	Waste water	60
Total nitrogen	AQUACHECK	Spiking solution	10
		Sewage sludge	13
		Agricultural soil	14
		Marine water	61
		Industrial wastewater	17D

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Analyte	Scheme ID	Matrix	Sample
Total nitrogen cont.	CLS	Urine	UC
	MAPS	Brewers and distillers malt	1
		Barley	2
	OIL	Crude oil	4
	QCS	Cocoa powder	716
Chocolate		715	
Total oil and grease	AQUACHECK	Oil and Grease in water	24
Total omega 3	QFCS	Grated cheese	800
Total omega 3:Total omega 6 ratio	QFCS	Grated cheese	800
Total omega 6	QFCS	Grated cheese	800
Total omega-6 fatty acids	QFCS	Cod liver oil	806
Total omega-9 fatty acids	QFCS	Cod liver oil	806
Total Organic Carbon (TOC)	AQUACHECK	Waste water	64
		Higher salinity potable water	1A
	CONTEST	Soil	Group C, 3C
Total Organic Carbon/Dissolved Organic Carbon (TOC/DOC)	CONTEST	Soil	Group D, 18
Total Oxidised Nitrogen (TON)	AQUACHECK	Spiking solution	10
		Marine water	61
		Hard water	2H
		Soft water	2S
Total PAH	CONTEST	Soil	Group C, 3C
Total phenols (Sum of phenol, cresols and xylenols)	CONTEST	Standard solution	Group C, 7b
Total phosphorus	AQUACHECK	Spiking solution	10
		Sewage sludge	13
		Agricultural soil	14
		Marine water	61
		Industrial wastewater	17D
		Hard water	1H
		Soft water	1S
Total polar compounds	QFCS	frying oil	796
Total polyphenols	BAPS	Lager	2L
	QFCS	Extra virgin olive oil	790
Total potassium	AQUACHECK	Sewage sludge	13
		Agricultural soil	14
Total protein	CLS	Simulated CSF	SFC
		Urine	UC
Total solids	AIR	Dust rinsing solution (Stack emissions)	39
	AQUACHECK	Agricultural soil	14
	DAPS	Scotch whisky	Group B, B1
		Cream liqueur	Group E, E3

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Analyte	Scheme ID	Matrix	Sample
Total solids cont.	QDCS	Milk	28
		Yogurt	58
	QFCS	Tomato paste/puree	783
Total solids (105±5°C)	AQUACHECK	Sewage sludge	16
Total Soluble Nitrogen (TSN)	BAPS	Lager	2L
	MAPS	Brewers and distillers malt	1
		Wheat	7
Total sterols	QFCS	Extra virgin olive oil	790
Total steviol glycosides	QBS	Soft drink	522
Total sugars	DAPS	Bourbon	B2-A
		Dark Rum	B2-B
		Brandy	B2-C
		Irish Whisky	B2-D
		Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
		Scotch whisky	Group B, B1
		Simulated spirit	Group B, B4
	Ready to drink	Group E, E1	
	QBS	Smoothie	525
		Energy drink	526
	QCS	Cocoa powder	716
		Chocolate	715
	QDCS	Condensed milk	66
		Processed cheese	67
	QFCS	Dehydrated food product	821
		Processed nut product	828
		Food pureé	833
		Cereal	770
		'Ready to eat' product	772
		Cake	793
		Ketchup	811
		Mayonnaise	812
		Mustard	813
		Canned fruit	814
		Ground pasta	816
		Jam or marmalade	817
		Food product	834
		Food product	835
	QMAS	Dried or cured meat	730
		Precooked, raw or processed meat	731

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Analyte	Scheme ID	Matrix	Sample
Total sulfate	CONTEST	Soil	Group B, 3B
		Standard solution	Group B, 8
	AQUACHECK	Wastewater	32
Total sulfur	CONTEST	Soil	Group B, 3B
Total sulphur	AQUACHECK	Sewage sludge	13
Total TPH (C10-C40 inclusive)	CONTEST	Soil	Group C, 3C
Total trans fatty acids	QFCS	Oil or fat	778
		Dehydrated food product	821
		'Ready to eat' product	772
		Mixed Fat Spread	782
		Grated cheese	800
		Cod liver oil	806
		Mayonnaise	812
		Food product	834
		Food product	835
	QMAS	Meat	733
Total trihalomethanes	AQUACHECK	Waste water	64
Total uranium	AQUACHECK	Clean water	42
Total VDK	BAPS	Ale	3
		Lager	2L
Total viable count	AFPS	Simulated animal feed	7
	HYGIENE	Membrane filter	9
	QWAS	Sterile water	428
Total Volatile Nitrogen (TVN)	QMAS	Fish	748
Total xylenes	CONTEST	Standard solutions & soil	25
Toxicology case studies	TOX	Serum	CAS
		Urine	CAS
Toxicology drugs/metabolites	QUARTZ	Urine	8
Toxicology in blood	TOX	Human blood	QT
TPH (C10-C40 inclusive)	CONTEST	Standard solution	Group C, 14a
TPH Aliphatic >C10-C12	CONTEST	Soil	Group C, 3C
TPH Aliphatic >C12-C16	CONTEST	Soil	Group C, 3C
TPH Aliphatic >C16-C21	CONTEST	Soil	Group C, 3C
TPH Aliphatic >C21-C35	CONTEST	Soil	Group C, 3C
TPH Aliphatic >C35-C40	CONTEST	Soil	Group C, 3C
TPH Aromatic >EC10-EC12	CONTEST	Soil	Group C, 3C
TPH Aromatic >EC12-EC16	CONTEST	Soil	Group C, 3C
TPH Aromatic >EC16-EC21	CONTEST	Soil	Group C, 3C
TPH Aromatic >EC21-EC35	CONTEST	Soil	Group C, 3C
TPH Aromatic >EC35-EC40	CONTEST	Soil	Group C, 3C
TPH, Aliphatic >C6-C8	CONTEST	Standard solution	Group C, 14b
		Standard solutions & soil	23

## Index of Analytes | T

Analyte	Scheme ID	Matrix	Sample
TPH, Aliphatic >C8-C10	CONTEST	Standard solution	Group C, 14b
		Standard solutions & soil	23
TPH, Aliphatic ≤C6	CONTEST	Standard solutions & soil	23
		Standard solution	Group C, 14b
TPH, Aromatic >C6-C8	CONTEST	Standard solution	Group C, 14b
		Standard solutions & soil	23
TPH, Aromatic >C8-C10	CONTEST	Standard solution	Group C, 14b
		Standard solutions & soil	23
TPH, Aromatic C6	CONTEST	Standard solution	Group C, 14b
		Standard solutions & soil	23
Tramadol	QUARTZ	Blood	3
	TDM	Human serum	AM1
Trans-1,2-Dichloroethylene	CONTEST	Standard solutions & soil	25
Trans-1,3-Dichloropropene	AQUACHECK	Clean water	55
Trans-1,3-Dichloropropylene	CONTEST	Standard solutions & soil	25
Trans-Chlordane	AQUACHECK	Synthetic effluent	19A
		Groundwater	7A
Transferrin	CLS	Lyophilized Serum	CHM
Trans-Permethrin	AQUACHECK	Waste water	51
Trazodone	TDM	New born calf serum	PS29
Tribenuron methyl	AQUACHECK	Groundwater	8B
Tribromoacetic acid	AQUACHECK	Clean water	44
Tribromomethane	AQUACHECK	Waste water	64
Tributyltin compounds	AQUACHECK	Water Framework Directive	34G
Trichlopyr	AQUACHECK	Groundwater	8
Trichloroacetic acid	AQUACHECK	Clean water	44
Trichlorobenzenes	AQUACHECK	Water Framework Directive	34H
Trichloroethene	AIR	Charcoal filled glass sorbent tubes (Workplace air)	6
	AQUACHECK	Synthetic effluent	18A
		Synthetic effluent	19B
		Groundwater	6A
		Groundwater	7B
	CONTEST	Standard solution	Group C, 19
Trichloroethylene	CONTEST	Standard solutions & soil	25
Trichlorofluoromethane	CONTEST	Standard solutions & soil	25
Trichloromethane	AQUACHECK	Waste water	64
		Water Framework Directive	34H
	CONTEST	Standard solution	Group C, 19
Trichomonas vaginalis	CLS	Liquid samples	TCH
Triclopyr	AQUACHECK	Synthetic effluent	20
Triclosan	AQUACHECK	Clean water	43

## Index of Analytes | T

Analyte	Scheme ID	Matrix	Sample
Trietazine	AQUACHECK	Synthetic effluent	20B
		Groundwater	8B
Trifluralin	AQUACHECK	Synthetic effluent	19A
		Water Framework Directive	34E
		Groundwater	7A
		Clean water	58
	CONTEST	Standard solutions & soil	26
Triglycerides	CLS	Lyophilized Serum	CHM
Triiodothyronine (T3)	CLS	Lyophilized Serum	CHM
Trimethylamine (TMA)	QMAS	Fish	748
Trimipramine	TDM	New born calf serum	PS09
Troponin I	CLS	Lyophilized Serum	CAR
Troponin T	CLS	Lyophilized Serum	CAR
Tryptophan	QFCS	Infant formula powder	823
TSH	CLS	Lyophilized Serum	CHM
TSN (EBC Wort) (Total Soluble Nitrogen)	MAPS	Wheat	7
TSN (IoB Wort)	MAPS	Wheat	7
TSN (IoB Wort) (Total Soluble Nitrogen)	MAPS	Malt	6
Turbidity	AQUACHECK	Spiking solution	3
		Spiking solution	11
		Waste water	60
	DAPS	Gin	B3-A
		Vodka	B3-B
		White Rum	B3-C
	SUPS	Cane or beet sugar	1
	Turbidity (Haze)	DAPS	Bourbon
Dark Rum			B2-B
Brandy			B2-C
Irish Whisky			B2-D
Scotch whisky			Group B, B1
Tyrosine	QFCS	Infant formula powder	823

## Index of Analytes | U

Analyte	Scheme ID	Matrix	Sample
UIBC	CLS	Lyophilized Serum	CHM
Unclassified Cells	CLS	Virtual slide	BID
Uniformity of dosage units	PHARMASSURE	Tablet testing	7C
Unknown organism (identification)	QMS	Freeze-dried material	33
	QWAS	Water	426
Unknown substance (identification)	FAE	Liquid	ID1/2
Unsaponifiable matter	QFCS	Oil or fat	778
Uranium	AQUACHECK	Synthetic effluent	12
Urate	CLS	Lyophilized Serum	CHM
		Urine	UC
Urea	CLS	Ampoule	BLG
		Lyophilized Serum	CHM
		Urine	UC
Urine colony count	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-BASIC
		Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Urine culture identification	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-BASIC
		Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Urine culture susceptibility	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-BASIC
		Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Urine Sediment	CLS	Virtual images for microscopy	MP
Urobilinogen	CLS	Urine	UA
UV	PHARMASSURE	Sample format will depend upon test type	6B
UV absorption	AQUACHECK	Spiking solution	38

## Index of Analytes | V

Analyte	Scheme ID	Matrix	Sample
Vaginal Wet Prep - KOH	CLS	Virtual images for microscopy	MP
Vaginal Wet Preparation	CLS	Virtual images for microscopy	MP
Valine	QFCS	Infant formula powder	823
Valproate	CLS	Lyophilized Serum	CHM
	TDM	Human serum	TD1
vanA	CLS	Liquid samples	BCP
vanA/B	CLS	Liquid samples	BCP
Vanadium	AIR	Metals impinger solution (Stack emissions)	33
		Metals and fly ash on Quartz filter 47mm diameter (Stack emissions)	38
	AQUACHECK	Natural water	5
		Sewage sludge	13
		Agricultural soil	14
		Industrial wastewater	17C
		Clean water	5B
		Groundwater	5G
	CONTEST	Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Soil	Group A, 3A
	OIL	Crude oil	4
		Service Engine Oil	6
vanB	CLS	Liquid samples	BCP
Vancomycin	CLS	Lyophilized Serum	CHM
	TDM	Human serum	AT01
		Human serum	TD1
Vancomycin-Resistant Enterococcus	CLS	Lyophilised swabs	VRE
		Lyophilised swabs	VRM
Vanillic Acid	DAPS	Scotch whisky	Group B, B1
Vanillin	DAPS	Scotch whisky	Group B, B1
	QFCS	Vanilla extract	850
Varicella zoster virus	CLS	Liquid samples	MEP
Venlafaxine	TDM	New born calf serum	PS20
Vibrio cholerae	CLS	Liquid samples	GIP
Vibrio fischeri 30 minute IC50 (ISO 11348-3)	AQUACHECK	Ecotoxicology	50
Vibrio parahaemolyticus (detection)	QMAS	Lyophilised fish or shellfish	745
	QMS	Oatmeal	13
Vibrio species	CLS	Liquid samples	GIP
Vibrio species (detection)	QMAS	Lyophilised fish or shellfish	745
	QMS	Oatmeal	13
Vigabatrin	TDM	Human serum	AE2



## Index of Analytes | V

Analyte	Scheme ID	Matrix	Sample
VIM	CLS	Liquid samples	BCP
		Lyophilised swabs	CRO
		Liquid samples	PNE
Viscosity	QGS	Gelatine	606
	COSMETICS	Liquid cosmetics	23
	MAPS	Brewers and distillers malt	1
Viscosity (EBC Wort)	MAPS	Wheat	7
Viscosity (IoB Wort)	MAPS	Wheat	7
Viscosity, Kinematic	OIL	Engine oil lubricants	5
	OIL	Service Engine Oil	6
Viscosity, Kinematic at 40°C	OIL	#2 Diesel fuel	2
		Crude oil	4
Vitamin A	QDCS	Milk powder	44
	QFCS	Mixed Fat Spread	782
		Cod liver oil	806
Vitamin A (as Retinol)	QFCS	Cereal	771
Vitamin B1 (Thiamine)	QFCS	Cereal	771
		Bread	776
Vitamin B12	CLS	Lyophilized Serum	CHM
Vitamin B12 (Cobalamins)	QFCS	Cereal	771
Vitamin B12 (Cyanocobalamin)	QBS	Soft drink	521
Vitamin B2	QBS	Soft drink	521
Vitamin B2 (Riboflavin)	QFCS	Cereal	771
		Bread	776
Vitamin B3 (Niacin)	QFCS	Cereal	771
		Bread	776
Vitamin B3 (Nicotinamide)	QBS	Soft drink	521
Vitamin B3 (Pantothenic acid)	QBS	Soft drink	521
Vitamin B5 (Pantothenic acid)	QFCS	Cereal	771
Vitamin B6	QFCS	Cereal	771
Vitamin B6 (Pyridoxine)	QBS	Soft drink	521
Vitamin B9 (Folic acid)	QFCS	Cereal	771
Vitamin C	QFCS	Fruit/vegetable pureé	830
Vitamin C (Ascorbic acid)	QBS	Liquid test material	514
		Soft drink	521
	QDCS	Milk powder	44
	QFCS	Cereal	771
Vitamin D	QDCS	Milk powder	44
	QFCS	Cereal	771
		Mixed Fat Spread	782
		Cod liver oil	806
Vitamin E (DL- $\alpha$ -Tocopherol)	QBS	Soft drink	521

## Index of Analytes | V & W

Analyte	Scheme ID	Matrix	Sample
Volatile acidity	DAPS	Ciders	Group C, C1
		White or Rosé wine	Group D, D1
		Red wine	Group D, D2
		Ready to drink	Group E, E1
		Liqueur	Group E, E2
	QFCS	Vinegar	822
Volatile oil	QFCS	Ground pepper	815
Volume	AIR	Impinger solution (Stack emissions)	31
		Impinger solution (Stack emissions)	32
		Metals impinger solution (Stack emissions)	33
		Impinger solution (Stack emissions)	34
		Impinger solution (Stack emissions)	35
		Impinger solution (Stack emissions)	36
		Impinger solution (Stack emissions)	37
Volume of sample provided	AQUACHECK	Mineral oil in wastewater	23
		Oil and grease in wastewater	24
Voriconazole	TDM	Human serum	AF01

Analyte	Scheme ID	Matrix	Sample
Water	OIL	#2 Diesel fuel	2
		Crude oil	4
	QFCS	Oil or fat	778
		Mixed Fat Spread	782
		Coffee	802
Water (Procedure A)	OIL	Engine oil lubricants	5
Water (Procedure B)	OIL	Engine oil lubricants	5
Water activity	QCS	Chocolate	715
	QFCS	Cereal	774
		Cured meat	774
		Hard cheese	774
Water Content	OIL	Engine oil lubricants	5
		Service Engine Oil	6
Water extract	QFCS	Dried tea	829
Water extractable boron	AQUACHECK	Agricultural soil	14
Water insoluble matter	COSMETICS	Powder detergent	29
		Liquid detergent	32
Water insoluble solids	QFCS	Honey	801
Water soluble Ash	QFCS	Dried tea	829

## Index of Analytes | W & X

Analyte	Scheme ID	Matrix	Sample
Water soluble Boron	CONTEST	Standard solution	Group B, 10
		Soil	Group B, 3B
Water soluble Chloride	CONTEST	Soil	Group B, 3B
Water soluble Fluoride	CONTEST	Soil	Group B, 3B
Water soluble Sulfate	CONTEST	Soil	Group B, 3B
Wax content	QFCS	Extra virgin olive oil	790
		Olive oil	791
WBC	CLS	Simulated whole blood	BHM
		Simulated whole blood	HMX
Wild yeast count	BAPS	Lyophilised test material	4H
		Lyophilised test material	4L
Wound culture identification	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
Wound culture susceptibility	CLS	Lyophilised swabs and/or lyophilised pellet in vials with diluent	BAC-COMP
WPNI	QDCS	Skimmed milk powder	51
		Whole milk powder	52

Analyte	Scheme ID	Matrix	Sample
X-Ray Powder Diffraction (XRPD)	PHARMASSURE	Sample format will depend upon test type	6L
Xylene (all isomers)	AIR	Charcoal filled glass sorbent tubes (Workplace air)	5
		Tenax TA filled sorbent tubes (Workplace air)	7
		Tenax TA filled sorbent tubes (Ambient)	12
		Carbopack X filled sorbent tubes	12A
Xylene (Total)	AQUACHECK	Synthetic effluent	18C
		Groundwater	6C
Xylenols	CONTEST	Soil	Group C, 3C
Xylenols (Total)	CONTEST	Standard solution	Group C, 7b

## Index of Analytes | Y

Analyte	Scheme ID	Matrix	Sample
Yeast (detection)	CANNABIS	Simulated dried cannabis plant	7
Yeast (enumeration)	AFPS	Animal Feed	15
	CANNABIS	Simulated dried cannabis plant	7
	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	1
			6
			10
	QBS	Fruit juice	500
		Soft drink	501
		Lyophilised test material	505
	QCS	Cocoa powder	713
		Chocolate	717
	QMS	Skimmed milk powder	23
		Oatmeal	23
		Skimmed milk powder	36
		Herbs	36H
		Spices	37SP
	QWAS	Potable water	413
Process water		414	
SUPS	Lyophilised test material	6	
Yeast and mould (detection)	CANNABIS	Simulated dried cannabis plant	7
Yeast and mould (enumeration)	CANNABIS	Simulated dried cannabis plant	7
	COSMETICS	Powder	10B
		Cream	13B
		Liquid	16B
	QMS	Skimmed milk powder	23
		Oatmeal	23
		Tea	29
		Skimmed milk powder	36
		Herbs	36H
		Spices	37SP
	QWAS	Potable water	413
		Process water	414
	HYGIENE	Plastic surface, a lyophilised tablet and 5ml diluent	6
PHARMASSURE	Lyophilised test material	4B	
Yeast and/or mould (detection and/or enumeration)	PHARMASSURE	Medicinal herb	10
Yeast and/or mould (enumeration)	QMAS	Meat	756
		Lyophilised meat	746
	QMS	Ready meal	41
Yeast strains (confirmation)	CONF-IDENT	lyophilised material	6
Yeast strains (identification)	CONF-IDENT	lyophilised material	6

## Index of Analytes | Y & Z

Analyte	Scheme ID	Matrix	Sample
Yersinia enterocolitica	CLS	Liquid samples	GIP
Yersinia enterocolitica (detection)	QMS	Skimmed milk powder	14
Yersinia species (detection)	QMS	Skimmed milk powder	14

Analyte	Scheme ID	Matrix	Sample
Zaleplon	TOX	Human serum	ZMIX
Zearalenone	QFCS	Rice	845
Zinc	AFPS	Animal feed	2
		Premix	8
	AIR	25 mm Cellulose acetate (Workplace air)	1
		37 mm Cellulose acetate (Workplace air)	1A
		37 mm Cellulose acetate (Workplace air)	1B
		25 mm Cellulose acetate (Workplace air)	1C
		bulk welding fume sample	10A
	AQUACHECK	Natural water	4
		Synthetic effluent	12
		Sewage sludge	13
		Agricultural soil	14
		Marine water	62
		Industrial wastewater	17C
		Groundwater	4G
		Clean water	5B
	BAPS	Lager	2L
	CANNABIS	Simulated dried cannabis plant	4
	CLS	Lyophilized Serum	CHM
	CONTEST	Solid waste leachate	24
		Standard solution	Group A, 1a
		Soil extract	Group A, 2
		Standard solution	Group A, 29
		Soil	Group A, 3A
		Soil	Group D, 18
	COSMETICS	Mouthwash sample	24
Toothpaste sample		25	

## Index of Analytes | Z

Analyte	Scheme ID	Matrix	Sample
Zinc cont.	OIL	Engine oil lubricants	5
		Service Engine Oil	6
	QBS	Fruit juice	518
		Soft drink	519
	QDCS	Whole milk powder	42
	QFCS	Cereal	770
	QMAS	Shellfish	741
		Fish	742
		Meat	747
TOYTEST	EN71 - 3 Standard solution and real material	3	
Ziprasidone	TDM	New born calf serum	PS26
Zolpidem	TOX	Human serum	ZMIX
Zonisamide	TDM	Human serum	AE2
Zopiclone	TOX	Human serum	ZMIX
Zuclopenthixol	TDM	New born calf serum	PS23

## Index of Analytes

Analyte	Scheme ID	Matrix	Sample
$\alpha$ -Humulene	CANNABIS	Hemp oil	2
$\alpha$ -Pinene	CANNABIS	Hemp oil	2
$\alpha$ -Terpinolene	CANNABIS	Hemp oil	2
$\beta$ -Caryophyllene	CANNABIS	Hemp oil	2
$\beta$ -lactoglobulin	QFCS	Infant formula powder	810
$\beta$ -Myrcene	CANNABIS	Hemp oil	2
$\beta$ -sitosterol	QFCS	Olive oil	791
$\delta$ 13CVPDB	FIRMS	Various products (waxes, oils, plant material, chitin)	1
		Various products (waxes, oils, plant material, chitin)	2
		Honey	3
		Wine	4
$\delta$ 15NAIR	FIRMS	Various products (waxes, oils, plant material, chitin)	1
		Various products (waxes, oils, plant material, chitin)	2
		Honey	3
		Wine	4
$\delta$ 18OVSMOW	FIRMS	Various products (waxes, oils, plant material, chitin)	1
		Various products (waxes, oils, plant material, chitin)	2
		Honey	3
		Wine	4
$\delta$ 2HVSMOW	FIRMS	Various products (waxes, oils, plant material, chitin)	1
	FIRMS	Various products (waxes, oils, plant material, chitin)	2
	FIRMS	Honey	3
	FIRMS	Wine	4
$\Delta$ 9-Tetrahydrocannabinol (THC)	CANNABIS	Hemp oil	1A
$\Delta$ ECN 42	QFCS	Olive oil	791
$\Delta$ K	QFCS	Olive oil	791

## FAQs

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# About Proficiency Testing

## What is proficiency testing?

Proficiency Testing (PT) provides a regular independent assessment of the technical performance of a laboratory to assure the validity of measurements and tests, which should form part of an overall quality strategy. PT is often referred to as external quality assessment (EQA), especially in the medical/clinical arena.

The practice of testing unknown test materials from an outside source provides an additional, independent, means to assure the quality of laboratory test results.

One of the most common designs for a PT scheme is for the provider to designate specific dates throughout the year when it will send test materials to all participants at the same time.

The test materials, whose expected values are unknown to the subscribers, are analysed by the laboratory staff who return their results to the proficiency testing provider.

The results are reviewed (using statistical techniques described in ISO 13528) to determine acceptable performance levels, and an evaluation is issued to each participant.

The evaluation and accompanying statistical data not only capture the laboratory's current performance, but over time allow the quality team to analyse trends and improve the laboratory's long term performance.

Proficiency testing is a key element in the laboratory accreditation process, alongside reference materials, enabling laboratories to monitor the quality of their analytical results as stipulated in ISO/IEC 17025 and ISO 15189.

## Why enrol in a proficiency testing scheme?

- Compare your laboratory's results to those of others performing the same test or measurement.
- Demonstrate and identify performance trends.
- Monitor test performance across all of your organisation's laboratories.
- Complement internal check sample programs.
- Demonstrate competency to customers, accreditation bodies and other regulatory bodies.
- Fulfil accreditation requirements.
- Verify methods and instrumentation.
- Manage risk through early warning of potential problems.
- Educate and train staff.
- Check the reasonableness of the laboratory's estimated measurement uncertainty.

# About AXIO Proficiency Testing

## Which international standards are relevant to LGC AXIO Proficiency Testing schemes?

In terms of stipulating the use of proficiency testing, the main standards are ISO/IEC 17025 - General requirements for the competence of testing and calibration laboratories; and the clinical standard ISO 15189 - Medical laboratories - requirements for quality and competence. All our PT schemes are operated in accordance with the international standard ISO/IEC 17043. The statistical analysis undertaken is in accordance with the international standard ISO 13528. LGC is accredited by the United Kingdom Accreditation Service (UKAS) for the provision of proficiency testing schemes against ISO/IEC 17043; a copy of our current scope of accreditation which lists the accredited schemes is available on our website: [lgcstandards.com](http://lgcstandards.com)

## How are your PT schemes organised?

The day-to-day operation of each PT scheme is the responsibility of LGC. Individual schemes are managed by a team of Scheme Coordinators, to cover reporting, customer service and technical functions. For some schemes, external advisors may also be used to provide the full range of relevant knowledge and expertise needed to operate the scheme effectively. A small number of schemes are run in collaboration with other organisations.

## Do you use Advisors and Advisory Groups?

Yes, depending upon the PT scheme in question. Advisors are selected on the basis of their technical knowledge and experience of the industry to which the scheme is related. Advisors may be used on an ad-hoc basis and contacted when specific issues need to be addressed.

Alternatively, formal Advisory Groups may be used. Advisory Groups consist of members who may or may not be participants on the scheme but who are experienced in the field of testing covered by the PT scheme.

The composition and terms of reference of each Advisory Group will be agreed on a scheme-by-scheme basis.

## Do you run PT schemes that are jointly managed?

Yes, some PT schemes are operated jointly with a partner organisation. Where schemes are operated jointly, a Management Committee may be set up to address operational issues for the scheme.

## What are the fees for participation?

Fees for participation are reviewed annually and the current fees for each PT scheme are available on application. Payment terms are detailed on the application form and invoice. Participants are advised that delays with payments may result in test materials and/or reports being withheld until payments are made.

## Where do you source your PT test materials?

The vast majority of test materials are manufactured by LGC. Where this is not possible, test materials are carefully sourced to meet the needs of participants. Wherever practical, test materials will be as similar as possible to those samples routinely tested by participating laboratories. However, in some cases, in order to achieve the required degree of homogeneity and stability, test materials may be in the form of simulated matrices or concentrated spiking solutions.

The analyte concentration range of test materials will usually be varied from round to round in order to be realistic and challenging. Details of individual test material types are available in the relevant scheme description.

## How is PT test material stability affected by time, distance and temperature?

The test materials are all stable at the stated storage temperatures for at least the period of the PT scheme round. Studies have shown there is no significant difference between results of test materials tested the day after despatch and those tested on the deadline date. There is also no evidence that results are influenced by different climatic conditions of participating countries.

Distance travelled does not affect test material results. We have undertaken studies on a number of our PT test materials comparing the average result according to distance travelled, and no correlations have been found. Stability consideration is an important part of the design and feasibility process for a PT scheme, where transport conditions such as temperature, humidity, pressure, exposure to x-rays etc are taken into account.

# About the AXIO Proficiency Testing process

## How do I join a PT scheme?

Participants are advised to take part in the PT scheme(s) that are most fitting to their own area of testing. Where necessary, appropriate staff at AXIO Proficiency Testing can advise on which scheme is most suitable for participants.

For each scheme, a scheme description and application form will be available, containing information about the test materials included in the scheme, and the intended distribution dates. This information is available on our website:

**[lgcstandards.com/AXIO](https://www.lgcstandards.com/AXIO)**

Participants are invited to place orders via our webshop at [lgcstandards.com/pt](https://www.lgcstandards.com/pt) by selecting which test materials they wish to receive in the PT scheme year. Alternatively, it is possible to complete an application form.

Once a completed webshop order or application form is received, an order confirmation will be sent to the participant, confirming the test materials selected and distribution date.

## How often do I need to participate?

The frequency that a laboratory needs to participate in proficiency testing depends on a wide range of factors specific to each individual laboratory, such as other quality tools used, the volume of work undertaken and the risk associated to the measurements. Therefore every individual laboratory may have a different need, which is why PT schemes provided by AXIO Proficiency Testing offer flexible participation, although some do have a minimum participation level. Third parties, such as regulatory bodies, may recommend minimum levels of participation. To gain the benefit from trend analysis, participation in a minimum of four rounds over a scheme year is normally recommended.

## How are PT test materials packaged and transported?

Test materials are packaged appropriately to protect the contents during transit. The majority of test materials are sent using priority courier. Overseas customers must provide relevant documents to prevent delay in customs such as import permits and may be required to pay import duties locally.

Once packages have been delivered, AXIO Proficiency Testing cannot be held responsible if they subsequently fail to reach the correct personnel or are not stored under the recommended conditions.

Participants are asked to check the contents of packages immediately on receipt and to contact AXIO Proficiency Testing if there are any problems with the condition of the test materials or accompanying documentation.

## How do I treat my PT test material?

It is important for laboratories to understand how to get the optimum benefit from PT participation. To do this, a laboratory must participate in an open and honest fashion, being prepared to, on occasion, be evaluated as unsatisfactory. If PT is to achieve its aims, laboratories need to treat the test materials the same as routine test materials, and staff must be encouraged to treat them appropriately and learn from their results in a constructive manner.

## Do I have to use specific methods to analyse the PT test materials?

Unless otherwise instructed, participants should analyse the test materials using any method that they feel is appropriate.

Participants are asked to treat the test material in the same way as a routine sample. Participants may be asked to state their method when reporting results. It is important that this information is accurate as results are analysed and reported according to the method stated.

## Do I have to report my results within a specific timescale?

Deadlines are specified for the return of results, to ensure the timely issue of assigned values and reports to participants. For each PT scheme a closure date will therefore be specified. For certain tests there may also be a date specified by which examination of the test material is recommended to have been commenced. This is to ensure that sufficient time is available to complete the test and report results in time for the deadline date.

# About AXIO Proficiency Testing schemes

## How should I report my results using PORTAL?

For the majority of PT schemes, results are returned through our bespoke electronic reporting software, PORTAL. Once you are ready to report your results, please go to: [portal.lgcstandards.com](https://portal.lgcstandards.com) You will need to log in using your lab ID, username and password. We advise that prior to using PORTAL you read the user guide which is available at: [portal.lgcstandards.com](https://portal.lgcstandards.com) select 'help' from the menu.

If you require further assistance please contact our support team:

Tel: **+44 (0)161 762 2500**

Email: [ptsupport@lgcgroup.com](mailto:ptsupport@lgcgroup.com)

or your local LGC office.

For some schemes (or parts of a scheme) alternative reporting mechanisms are provided, details of which will be emailed to participants prior to test materials receipt.

It is recommended that results and calculations are checked thoroughly before reporting. Results should be reported clearly, in the format and units detailed in the scheme description. If calculations are used, unless instructed otherwise, the laboratory is to report only the final calculated result.

In general, results of zero should not be reported; results should be reported depending upon the detection limit of the method used, for example,  $<10$ . The exception is a small number of parameters, where it may be appropriate to report a result of zero, depending on the measurement scale being used. Results of zero and truncated results, such as  $<$  or  $>$  cannot often be included in the data analysis and therefore allocated a performance score.

Results will be rounded up or down to the number of reporting decimal places stipulated in the scheme description and may not therefore be identical to your original reported result. The effects of rounding may also mean that occasionally percentage totals do not add up exactly to 100%.

Part of the challenge of proficiency testing is the ability to perform calculations and transcribe results correctly. The proficiency testing team cannot interpret or calculate results on participants' behalf. Once submitted and received, results cannot be amended and no changes can be made after the report has been issued. However, if you notice an error in your result before the reporting deadline, this can be corrected using PORTAL until the round closes.

## How many results may I submit?

Although it is desirable for participants to submit multiple results in order to compare results between different analysts, methods or instruments, a single laboratory reporting a large number of results could potentially bias the dataset. In order to minimise the effects of bias, AXIO Proficiency Testing therefore limits the number of results participants are able to report. Each participant is able to enter up to 13 different results. Of these results a maximum of 3 results can be 'nominated'. Nominated results are included in the statistical analysis of the dataset whilst non-nominated results are not, however all results will receive z performance scores and assessments as appropriate.

Nominated results must be obtained using different methods, again to minimise the effects of bias.

Further information is available in the **PORTAL User Guide** and the **PORTAL Nominated Results FAQ**, both of these documents are available for download from the PORTAL website and further information is available from [ptsupport@lgcgroup.com](mailto:ptsupport@lgcgroup.com)

## Can my results be included in the report if I've missed the deadline for reporting?

Participants are asked to return results by the given deadline in order to ensure that their results are included in the statistical analysis and the scheme report. Results received after the closure date will not be included in the report.

For PT schemes where a generic report is issued, this is available to all participants subscribing to the round regardless of whether their results were submitted or not.

## Are microbiology results obtained from MPN methods comparable to those obtained using plate count methods?

MPN and plate counts are both estimates of the number of microbial cells in the original test material and therefore provided all dilutions and calculations have been performed correctly, results should be comparable.

For QWAS and QMS, comparing MPN results against results obtained from all other methods show no significant differences.

## About reporting and evaluating results

### How is the assigned value established?

ISO 13528: 'Statistical Methods for use in Proficiency Testing by Interlaboratory Comparisons' sets out how the assigned value and performance assessment criteria can be established and describes the options for the various performance scoring systems.

The assigned value is the value selected as being the best estimate of the 'true value' for the parameter under test. The method used to determine the assigned value may vary depending upon the particular PT scheme and test material and is detailed in the relevant scheme description.

For quantitative tests, where it is appropriate, practicable and technically feasible, the assigned value will be derived through formulation (or occasionally through the use of a certified reference material) to provide metrological traceability; the associated uncertainty of the value can therefore be estimated. However, in many cases the use of a consensus value is the only practicable and technically feasible approach to use. When the assigned value is determined from the consensus value of participant results, or from expert laboratories, robust statistical methods are used for calculation of the consensus value, the estimated standard uncertainty and the robust standard deviation.

For qualitative tests, participant results are compared against the intended result (assigned value) based on formulation or expert assessment.

For interpretive schemes where the result is subjective rather than quantifiable, a model answer produced by appropriate experts will be published in the report.

For microbiology test materials, all participant results are transformed by converting them to log<sub>10</sub> before the statistical analysis is undertaken.

### How do I evaluate measurement uncertainty?

The aim when evaluating measurement uncertainty is to combine the effects of all the errors that will influence the measurement result, into a single value. There are many different guides available which provide advice on evaluating measurement uncertainty.

There are two specific guides that are internationally recognised:

- ISO (BIPM, IEC, IFCC, IUPAC, IUPAP and OIML) 'Guide to the Expression of Uncertainty in Measurement'
- EURACHEM/CITAC Guide 'Quantifying Uncertainty in Analytical Measurement' (available at: [www.eurachem.org](http://www.eurachem.org)).

Further information on approaches to evaluating measurement uncertainty may also be available from your national accreditation body.

### Can I use PT data to estimate my measurement uncertainty?

It is possible, but must be regarded as a very rough estimate, and is not an approach addressed in many guides to evaluating measurement uncertainty. However documents that do address the use of PT data are:

- EURACHEM/CITAC Guide 'Quantifying Uncertainty in Analytical Measurement' (available at [www.eurachem.org](http://www.eurachem.org))
- NORDTEST Report TR 537 'Handbook for Calculation of Measurement Uncertainty in Environmental Laboratories'
- ISO 19036 'Microbiology of Food and Animal Feeding Stuffs - Guidelines for the Estimation of Measurement Uncertainty for Quantitative Determinations'.

### What is the Standard Deviation for Proficiency Assessment (SDPA)?

The SDPA expresses the acceptable difference between the laboratory result and the assigned value. An acceptable z performance score represents a result that does not deviate from the assigned value by more than twice the SDPA. The method used to determine the SDPA may vary depending upon the particular PT scheme and test material and is detailed in the relevant scheme description.

A fit for purpose value for SDPA, rather than being derived from participant results, is preferable as this enables z scores to be compared from round to round to demonstrate general trends.

For each scheme, the value of SDPA and the method used to derive it is reported in the scheme description and/or report.

## About reporting and evaluating results

### What standard deviation for proficiency assessment (SDPA) is used in microbiology PT schemes?

There are many sources of variation in microbiological testing and the SDPA used to assess performance therefore needs to be fit-for-purpose and take all possible sources of variation into account. From experience and historical data, AXIO Proficiency Testing uses a fixed SDPA value of 0.35 log<sub>10</sub> for the majority of microbiological tests.

### How do I report a 'presumptive' result in microbiology?

Report your result as usual but record in the comments section that the result is 'Presumptive'.

### What is the purpose of scoring my result?

Once the assigned value for the parameters under test has been established, participant laboratories are assessed on the difference between their result and the assigned value, with this difference being represented by a performance score called a z score. This provides a simple and consistent measure of performance which is the key to monitoring competence and implementing an improvement programme as required.

### How is a z score calculated?

The participant's result, x, is converted into a performance score (z score) using the following formula:

$$z = \frac{(x - X)}{\text{SDPA}}$$

Where: X = the assigned value

SDPA = Standard Deviation for Proficiency Assessment

For small data sets, there will be increased uncertainty around the assigned value if derived from a consensus value from participants' results. In such cases, performance scores may not be provided, or may be given for information only.

The z score expresses performance in relation to the assigned value and the standard deviation for proficiency assessment (SDPA). A z score of 2 represents a result that is a distance of 2 x SDPA from the assigned value.

### How do I interpret my results?

For quantitative examinations, participant performance is assessed using the z score, and the following interpretation is given to results:

$ z  \leq 2.00$	Satisfactory result
$2.00 <  z  < 3.00$	Questionable result
$ z  \geq 3.00$	Unsatisfactory result

For qualitative examinations or semi-qualitative results, laboratories reporting the assigned result or range of results will be considered correct, and therefore have satisfactory performance.

### What are the advantages of using a z score to assess performance?

- Results can be expressed in a form that is easy to interpret and understand.
- Results can be summarised in graphical or tabular form to depict overall performance.
- A z score allows participants to directly compare their own result with others.
- If consistent statistical values are applied, a z score enables participants to monitor and trend their own performance over time.

It is important to interpret any performance score in the full context of the overall results and in the context of a laboratory's own quality control measures.



## About reporting and evaluating results

### What is the estimated uncertainty of the assigned value?

The assigned value has a standard uncertainty ( $u_x$ ) that depends upon the method used to derive the assigned value. When the assigned value is determined by the consensus of participants' results, the estimated standard uncertainty of the assigned value can be calculated by:

$$u_x = 1.25 \times \text{Robust standard deviation} / \sqrt{n}$$

Where  $n$  = number of results

When the assigned value is determined by formulation, the standard uncertainty is estimated by the combination of uncertainties of all sources of error, such as gravimetric and volumetric measurements.

If  $u_x$  is  $\leq 0.3 \times \text{SDPA}$ , then the uncertainty of the assigned value can be considered negligible and need not be considered in the interpretation of results.

If  $u_x$  is  $> 0.3 \times \text{SDPA}$ , then the uncertainty of the assigned value is not negligible in relation to the SDPA and so  $z'$  ( $z$ -prime) performance scores, which take into account the standard uncertainty of the assigned value in their calculation, will be reported in place of  $z$  scores.

### How is a $z'$ ( $z$ -prime) score calculated?

A  $z'$  score incorporates the standard uncertainty of the assigned value and is calculated as follows:

$$z' = \frac{(x - X)}{\sqrt{\text{SDPA}^2 + u_x^2}}$$

Where  $x$  = participant result

$X$  = the assigned value

SDPA = Standard Deviation for Proficiency Assessment

$u_x$  = standard uncertainty of the assigned value  $X$

A  $z'$  score is interpreted in exactly the same way as a  $z$  score,  $\leq 2$  is satisfactory,  $> 2$  but  $< 3$  is questionable and  $\geq 3$  is unsatisfactory.

### Do you include outlying results due to 'errors and blunders' in the statistical analysis of the data?

Although robust estimators are used in order to minimise the influence of outlying results, extreme results or results that are identifiably invalid should not be included in the statistical analysis of the data. For example, these may be results caused by calculation errors or the use of incorrect units. However, such results can be difficult to identify by the PT provider. For this reason, the robust mean and standard deviation will be calculated in the usual way, but those results that are out of the range of the assigned value  $\pm 5 \times \text{SDPA}$  will be excluded and the robust mean and standard deviation will then be recalculated. These recalculated values will be used for the statistical analysis. By removing these 'blunders' from the dataset any influence on the summary statistics is minimised. All results, including excluded results, will be given performance scores.

### How can I graphically plot and analyse trends for qualitative results?

Qualitative results are difficult to depict graphically as they are not normally allocated a performance score. However for qualitative results, a correct result could be allocated a performance score of 0 to represent a satisfactory result. A false positive result can be represented by a performance score of  $+3$ , whilst a false negative result can be represented by a performance score of  $-3$ . If plotted graphically over time, this should give a clear visual indicator of performance in qualitative tests.

### How will I receive my report?

Following statistical evaluation of the results, the reports will generally be available on the website within 4 to 10 working days of round closure (see specific scheme description). We aim to provide 95% of our reports to participants within 5 working days. Participants will be emailed when the report is available. The content of reports vary from scheme to scheme but include details of the composition of test materials, the assigned values, and tabular and / or graphical representations of participants' results.

## About reporting and evaluating results

### **How do I assess the reproducibility standard deviation from the PT report?**

The robust standard deviation provided in the PT report for a specific method can be taken as an estimate of the reproducibility standard deviation for the PT round for that specific method.

### **Can I have a report that only includes my group laboratories?**

Yes, we can produce reports tailored to a customer's specific requirement. There may be an additional charge for administration and computer programming costs.

### **My results have not been included in the report.**

#### **Can I calculate my performance score (z or z' score)?**

To calculate your performance score please visit: [portal.lgcstandards.com](https://portal.lgcstandards.com) Select 'submit results' from the menu.

## About privacy and confidentiality

### **Can you guarantee my laboratory's confidentiality?**

In order to ensure confidentiality, participants in all PT schemes are allocated a unique laboratory reference number. This number enables results to be reported without divulging the identities of participant laboratories. Only staff within the proficiency testing team and the laboratory itself will know this number.

### **How do you prevent collusion and falsification of results?**

It defeats the objective of taking part in proficiency testing if participants are not returning genuine results. Certain measures are built into the PT schemes to try and prevent collusion but, ultimately the responsibility rests with each participating laboratory to behave in a professional manner.





## About Driving Quality Together

### What could be the cause of my poor performance?

A single poor result is not indicative of overall laboratory performance but neither is a single good result. Ideally, PT results should be monitored over time to detect potential bias or repeated unsatisfactory results. There are many possible reasons for a single poor result. It is therefore important to interpret the results from PT schemes within the context of an all-round quality assurance programme, including internal quality control, use of validated methods and reference materials. There are numerous potential causes of poor performance in a PT scheme which may include analytical and non-analytical errors.

#### Analytical errors

- Calibration / instrument problems
- Extraction / clean-up
- Interferences / matrix effects
- Diagnostic kits / reagents
- Analyst / method performance

#### Non-analytical errors

- Calculation / transcription
- Reporting format / units
- Poor / incorrect storage
- Test material defects

Test materials are subjected to rigorous quality control testing before being distributed to participants, and are unlikely to be the cause of a poor performance score. All possible reasons for a poor performance should be investigated fully in order to identify the most likely cause and to enable action to be taken to prevent recurrence. Repeat test materials are available after every distribution, but it is most important to investigate and understand the reason(s) for the failure, document this fully, and carry out corrective actions before repeating a test.

### How can I measure my laboratory's performance over time?

You can do this by trend analysis. A single result simply reflects the performance of the laboratory on the particular day that the test was carried out and therefore gives limited information. Frequent participation in PT schemes over time can give greater insight into long-term performance and can help identify where internal bias may be occurring.

One of the best methods of summarising performance scores over time is graphically as this gives a clear overview and is less prone to misinterpretation than numerical methods. Participants are therefore advised to monitor their PT results over time.

An online trend analysis tool is included in the cost of your PT participation with AXIO Proficiency Testing. The online tool is built into the PORTAL reporting system and allows you to quickly plot your results over a range of rounds and easily download the charts for further circulation.

More information regarding interpretation and trend analysis of proficiency testing results is given in the Eurachem guide on 'Selection, Use and Interpretation of Proficiency Testing (PT) Schemes' (available at [www.eurachem.org](http://www.eurachem.org)) and ISO 13528.

### How can I receive advice and feedback?

Communication with participants will be carried out through PT scheme-related documentation, emails, letters, or through local LGC offices. Open meetings may also be organised and all interested parties invited to attend.

### How can I send feedback?

Comments on any aspect of our products and services are welcome either by phone, letter, email or by contacting your local LGC office.

### Can I suggest a PT scheme or test material?

We welcome suggestions any time. Please complete the 'Wish list' form on our website: [lgcstandards.com/AXIO](http://lgcstandards.com/AXIO)





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