# Schedule of Accreditation

**issued by**

# United Kingdom Accreditation Service

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**1282**

**Accredited to ISO/IEC 17025:2017**

## ALS Laboratories (UK) Limited

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**Testing performed by the Organisation at the locations specified below**

**Locations covered by the organisation and their relevant activities**

**Laboratory locations:**

| Location details | | Activity | Location code |
|---|---|---|---|
| **Address**<br>Medcalfe Way<br>Bridge Street<br>Chatteris<br>Cambridgeshire<br>PE16 6QZ | **Local contact**<br>Adam Rush<br>Tel: +44 (0)1354 695858<br>Email: adam.rush@alsglobal.com | Chemical<br>Microbiological<br>Group Co-ordination Activities | A |
| **Address**<br>Lords Way<br>Kingmoor Business Park<br>Kingstown<br>Carlisle<br>Cumbria<br>CA6 4SL | **Local contact**<br>Chris Orr<br>Tel: +44 (0)7770471791<br>Email: chris.orr@alsglobal.com | Microbiological (Food and Water) | B |
| **Address**<br>First Floor Building 550<br>Winch Road<br>Kent Science Park<br>Sittingbourne<br>Kent<br>ME9 8EF | **Local contact**<br>Margaret Oulsnam<br>Tel: +44 (0)1795 858290<br>Email: margaret.oulsnam@alsglobal.com | Microbiological (Food and Water) | C |
| **Address**<br>2 Bartholemews Walk<br>Cambridgeshire Business Park<br>Ely<br>Cambridgeshire<br>CB7 4ZE | **Local contact**<br>Glynn Harvey<br>Tel +44 (0)1353 660040<br>Email: glynn.harvey@alsglobal.com | Chemical (Pharmaceutical)<br>Microbiological (Pharmaceutical) | E |

| Location details | | Activity | Location code |
|---|---|---|---|
| **Address**<br>10 Sandown Centre<br>White Horse Business Park<br>Trowbridge<br>BA14 0XD | **Local contact**<br>Peter Woolley<br>Tel: +44 (0)1225 769050<br>Email: peter.woolley@alsglobal.com | Microbiological (Food and water) | G |
| **Address**<br>Yeomanry Road<br>Battlefield Enterprise Park<br>Shrewsbury<br>Shropshire<br>SY1 3EH | **Local contact:**<br>Adele Field<br>Tel: +44 (0)1743 463322<br>Email: adele.field@alsglobal.com | Microbiological (Food and Water)<br>Physical (Food) | S |
| **Address**<br>7 & 8 Aspen Court<br>Bessemer Way<br>Templeborough<br>Rotherham<br>S60 1FB | **Local contact:**<br>Alexandra Marsden<br>Tel: +44 (0)1709 369699<br>Email: alexandra.marsden@alsglobal.com | Microbiological (Food)<br>Physical (Food)<br>Sample Receipt (Food and Water) | R |

DETAIL OF ACCREDITATION

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| ANIMAL FEEDINGSTUFFS, FOOD AND FOOD PRODUCTS (restricted matrices specified as appropriate) | <u>Chemistry Tests</u> | Documented In-House Methods | |
| | Acidity | AM/C/922 by Titration | A |
| | Aflatoxins B1, B2, G1, G2 and Total Aflatoxins | AM/R/999 using HPLC-immunoaffinity | A |
| | Aflatoxin M1 | AM/R/993 using HPLC -immunoaffinity | A |
| | Amino Acid Profile: Total | AM/V/206 using HPLC | A |
| | Ash | AM/C/803 based on BS 4401:Part 1:1998 and Feeding Stuffs (Sampling and Analysis) Regulations 2010 | A |
| (excluding cheese) | Benzoic acid/sodium benzoate<br>Sorbic acid/potassium sorbate | AM/V/757 | A |
| | Carbohydrate:<br>available, by difference<br>total, by difference<br>Starch, by difference | By calculation: AM/C/901 using the Food Labelling Regulations 1984 (SI No 1305) and Feedingstuffs Regulations 2005 | A |
| | Chloride | AM/C/603 using Potentiometric titration based upon JAOAC 1974 | A |
| | Cholesterol | AM/C/114 using Gas Chromatography JAOAC 1993 | A |
| | Energy | AM/C/901 by calculation using Commission Regulation (EC) 2008/100 and 90/496 | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| ANIMAL FEEDINGSTUFFS, FOOD AND FOOD PRODUCTS (restricted matrices specified as appropriate) (cont'd) | Chemistry Tests (cont'd) | Documented In-House Methods | |
| | Fat (oil) | 1) AM/C/101 using Soxhlet, Method A based on Feeding Stuffs (Sampling and Analysis) Regulations 2010 | A |
| | | 2) AM/C/102 using acid hydrolysis, Method B based on Feeding Stuff Regulations 2010 | A |
| | | 3) AM/C/103 based on Werner-Schmidt Method BS 4401:Part 4:1970 | A |
| | | 4) AM/C/104 using mixed solvents based on Bligh and Dyer Method | A |
| | Fatty Acid Composition/Profile<br>- Saturated fats<br>- Monounsaturated fats<br>- Polyunsaturated fats<br>- cis:trans analysis<br>- non-normalised analysis<br>- % actual fatty acids | AM/C/107 using Gas Chromatography based on BS EN ISO 12966-2:2017 | A |
| | Free Fatty acid | AM/C/108 based on BS EN ISO 660:2009 | A |
| | Fibre: | | |
| (Animal feeding stuffs) | 1) Crude | AM/C/300 using fibrecap method - digestion | A |
| | 2) Dietary | AM/C/302 based on Englyst method | A |
| | 3) Dietary | 1) AM/C/309 based on AOAC Method No 985.29 | A |
| | | 2) AM/C/309 using the ANKOM Dietary Fibre Analyser based on AOAC method 985.29 | A |
| (Food Products and raw materials) | Determination of rapid integrated total dietary fibre (RITDF) | Documented In-House Method AM/C/311 | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| ANIMAL FEEDINGSTUFFS, FOOD AND FOOD PRODUCTS (restricted matrices specified as appropriate) (cont'd) | Chemistry Tests (cont'd) | Documented In-House Methods | |
| | Hydroxyproline and Collagen | AM/C/998 using Colorimetry BS 4401:Part 11:1995 | A |
| (Fishmeal, fish food and food products excluding beer and cheese) | Histamine | AM/V/212 using HPLC with fluorescence detection | A |
| (Food Products and ALS-supplied environmental swab rinse liquid) | Quantitative determination of Almond | AM/R/263 by ELISA using Bio-Check kit | A |
| (Food products and ALS-supplied environmental swab rinse liquid) | Quantitative determination of β-lactoglobulin | AM/R/262 by ELISA using Bio-Check kit | A |
| (Food Products and environmental swab rinse liquid) | Gluten/Gliadin content: quantitative | AM/R/253 by R5 Mendez Extraction and ELISA technique | A |
| (Food products and environmental swabs) | Quantitative determination of Casein and Caseinates | AM/R/254 by ELISA using AgraQuant kit | A |
| (Excluding samples containing more than 20% Chicken) | Quantitative determination of Egg white protein (ovomucoid) | AM/R/255 by ELISA using Bio-Check kit | A |
| | Quantitative determination of Soya (soya trypsin inhibitor) | AM/R/256 by ELISA using Bio-Check kit | A |
| (Food products, processed and unprocessed, and environmental swabs) | Quantitative determination of Peanut | AM/R/257 by ELISA using Bio-Check kit | A |
| | Quantitative determination of Mustard | AM/R/258 by Elisa using Bio-Check kit | A |
| (Foods, liquids and environmental swabs excluding chia seeds, chocolate and chocolate containing products) | Quantitative determination of Sesame | AM/R/264 by ELISA using Bio-Check kit | A |
| (Poultry/Turkey Feed) | Metabolisable Energy (Hartel) | By calculation: AM/C/901 Feedingstuffs Regulations 2005 | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| ANIMAL FEEDINGSTUFFS, FOOD AND FOOD PRODUCTS (restricted matrices specified as appropriate) (cont'd) | Chemistry Tests (cont'd) | Documented In-House Methods | |
| (Fish and Meat Products) | Meat Content:<br>Lean<br>Total | By calculation: AM/C/902 by Stubbs and Moore | A |
| Microwave method excludes food and feed samples containing less than 20% moisture, more than 25% sugar, and herbs, spices and samples containing alcohol | Moisture content | 1) AM/C/1017 by microwave drying | A |
| | | 2) AM/C/801 based on Feeding Stuff Regulations 2000 | A |
| | Ochratoxin A | AM/R/960 HPLC - Fluorescence detection with immunoaffinity columns | A |
| (Beverages) | Ethanol | AM/C/917 using GC | A |
| | Peroxide Value | AM/C/112<br>BS 684 2.14:2001 | A |
| | Nitrogen/Protein | AM/C/224, by DUMAS technique | A |
| | pH | 1) ESGM-C014 using pH meter | A |
| | | 2) ACP 037 based on BS 4401: Part 9:1975 and BS 770: Part 5:1976 | S, R |
| (Animal Feeds and Cereal Based Foods) | Starch | AM/C/401 using Polarimetric technique based on EC Directive 79/1999/EC | A |
| | Sugars - Totals | AM/C/403 based on Luff-Schoorl Method and Feeding (Sampling and Analysis) Regulations 2010 | A |
| (Food products and pure sugars) | Sugars – Total and Individual:<br>Fructose, Galactose, Glucose, Lactose, Maltose, Sucrose | AM/C/1014 by Ion exchange chromatography | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| ANIMAL FEEDINGSTUFFS, FOOD AND FOOD PRODUCTS (restricted matrices specified as appropriate) (cont'd) | Chemistry Tests (cont'd) | Documented In-House Methods | |
| Food, Food Products, Feed, Pet Food and Sweeteners | Polyols: Erythritol, Inositol, Isomalt, Lactitol, Maltitol, Mannitol, Sorbitol, Xylitol | AM/C/409 using ion exchange chromatography with pulsed electrochemical detection | A |
| | Sulphur dioxide | AM/C/925 based on Monier Williams procedure | A |
| | Tryptophan, Total | AM/V/228 using HPLC based on Official Journal of the European communities, directive 2000-45-EC | A |
| (Meat and meat Products) | Water: Added | By calculation: AM/C/902 Meat Products and Spreadable Fish Products Regulations 1984 (SI No 1566) | A |
| (excludes milk powder & condensed milk) | Total Fat and Moisture | AM/C/1015 using NMR Oracle AMR | A |
| | Metals: Calcium, Copper, Iron, Magnesium, Manganese, Phosphorus, Potassium, Sodium (including as salt by calculation), Zinc | AM/C/1002 using ICP-OES | A |
| Meat, meat products, brine, vegetables, animal feeds and baby foods | Determination of the nitrite and nitrate content | AM/V/1004 using high performance anion exchange chromatography based on BS EN 12014-4:2005 | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| FOOD AND FOOD PRODUCTS (restricted matrices specified as appropriate) | Chemistry Tests (cont'd) | Documented In-House Methods | |
| | Pesticide Residues: | | |
| | Dithiocarbamates (as $CS_2$) | AM/R/240 using GCMS | A |
| (Fruits, vegetables, fungi and cereals) | Chlormequat and Mepiquat | AM/R/231 using LC-MS | A |
| (Fruits, vegetables and cereals) | Inorganic Bromide | AM/R/222 using GC-MS | A |
| (Fruits and vegetables) | Maleic Hydrazide | AM/R/1006 using LC-MS/MS | A |
| | Pesticide multi-residue screen and quantitation – See Appendix 1 at end of this schedule for the list of pesticides covered | AM/R/110 using GC-MS; flame photometric detection; HPLC fluorescence | A |
| High water content; High acid and high water content; High sugar and low water content; High oil content and intermediate water content; High starch and/or protein content and low water and fat content | Identification, quantification and confirmation of pesticide residues<br>See Appendix 2 at end of this schedule for the list of pesticides covered | AM/R/1003 QuEChERS extraction with LC-MS/MS and GC-MS/MS Detection | A |
| Food & Food Products (covered by SANTE commodity groups 1, 2, 3, 4a, 4b, 5, 6, 7, 8, 9, 10) | Chlorate and Perchlorate | AM/R/1008 using LC-MS/MS | A |
| | Sudan red, Para Red and Butter Yellow Dyes | AM/R/244 using LC-MS/MS | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| DAIRY PRODUCTS (as specified) | Chemical/Physical Tests | Documented In-House Methods | |
| Butter & Cheese | Chloride | AM/C/603 using Potentiometric titration based upon JAOAC 1974 | A |
| Milk, Cream and Cheese | Fat content | ESGM C011 based on Gerber method BS 696:Parts 1 and 2:1989 (withdrawn) | A |
| Milk, Butter, Cream and Condensed Milk | Fat content | ESGM C018 by Rose Gottlieb | A |
| Cheese | Moisture content | 1) AM/C/1017 by microwave drying | A |
| Butter, Cheese and Concentrate Milk samples | | 2) AM/C/801 based on Feeding Stuff Regulations 2000 | A |
| Milk and Cream | Phosphatase | ESGMC008 by Fluorophos (excluding testing for reactivation and microbial phosphatase) | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| ANIMAL FEEDINGSTUFFS, FOOD AND FOOD PRODUCTS, INCLUDING PREMIXES, SUPPLEMENTS, DRINKS, PHARMACEUTICAL PRODUCTS, e.g. CAPSULES, PASTILLES AND TABLETS, MEDICATIONS (restricted matrices specified as appropriate) | <u>Chemistry Test</u> | | |
| | Vitamin A (Retinol)<br>Vitamin E (Alpha tocopherol) | AM/V/702 using HPLC based on Analyst, August 1985, based on Volume 11, 110 and Pure and Applied Chemistry, 1988, Volume 60, p878-892 | A |
| | Vitamin C (Ascorbic acid) | AM/V/710 using HPLC | A |
| | Vitamin $B_1$ (Thiamine)<br>Vitamin $B_2$ (Riboflavin) | AM/V/703 using HPLC | A |
| (Excluding Silage) | Beta Carotene | AM/V/906 using HPLC | A |
| (Excluding pharmaceutical products) | Vitamin $B_3$ complex (Nicotinic acid and Nicotinamide) | AM/V/751 using HPLC | A |
| (Excluding pharmaceutical products or drinks) | Vitamin $B_6$ (Pyridoxine) | AM/V/752 using HPLC | A |
| (Excluding vegetable products) | Vitamin B complex (Free Folic Acid) | AM/V/1006 by immunoaffinity assay with HPLC detection | A |
| (Excluding pharmaceutical products or drinks) | Vitamin $B_6$ (Pyridoxine) | AM/V/752 using HPLC | A |
| | Vitamin $D_2$ & $D_3$ (Cholecalciferol & Ergocalciferol) | AM/V/723 using HPLC | A |
| (Premixes, Supplements, Tablets and Pastilles) | Vitamin $D_2$ & $D_3$ (Cholecalciferol & Ergocalciferol) | AM/ V/707 using HPLC | A |
| | Vitamin E (Alpha tocopherol acetate) | AM/V/715 using HPLC | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| MEATS, COOKED AND RAW | <u>Molecular Testing</u> | Documented In-House Methods | |
| | Detection of mitochondrial DNA from the following species:<br>Chicken<br>Cow<br>Horse<br>Pig<br>Sheep<br>Turkey | In-house methods AM/R/1001 and AM/R/1002 using Real Time Polymerase Chain reaction (RT-PCR) | A |
| ANIMAL FEEDINGSTUFFS, FOOD AND FOOD PRODUCTS | <u>Physical Tests</u> | | |
| | Water activity | ACP 040 using water activity meter | S, R |
| | | AM/C/445 using Novasina Labmaster AW meter (based on BS ISO 21807:2004) | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| FOOD and FOOD PRODUCTS, ENVIRONMENTAL SWABS (unless specified) | Microbiology Tests | Documented In-House Method | |
| (Raw and cooked meats, dairy products, vegetables, environmental swabs) | Detection of *Escherichia coli* O157:H7 DNA | ACP052 with primary enrichment in mEHEC broth, magnetic immune-concentration and real-time PCR using Assurance Genetic Detection System (GDS) Confirmation using SM065 | R |
| FOOD and FOOD PRODUCTS, ENVIRONMENTAL SWABS (unless specified) | Enumeration: | | |
| | *Bacillus cereus*, presumptive | 1) ESGMM319 using PEMBA at 37°C for 24 hours and ambient additional 24 hours | A, B, C, G, S, R |
| | | 2) ESGMM333 based on ISO 7932:2004+A1:2020 using MYP agar | A, B, C, G, S, R |
| (Raw and cooked poultry at Location F, raw poultry only at Location A, and food, food products, including raw and cooked poultry, environmental swabs at Location S) | *Campylobacter* spp (thermotolerant) | ESGMM325 based on BE EN ISO 10272-2:2017 confirmed by biochemical tests and latex agglutination<br>or identification to genus level by MALDI-TOF (SM 101/102) for Locations R & S only | A, S, R |
| | *Clostridium perfringens*, and *Clostridium* spp | ESGMM310, using TSC agar based on BS EN ISO 7937:2004 with confirmation by biochemical tests at Locations B, S & R only | A, B, C, G, S, R |
| | Coliforms, presumptive | ESGMM302 based on BS EN ISO 4832:2006 at 37ºC for general food and swabs and 30ºC for dairy products | A, B, C, G, S, R |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| FOOD and FOOD PRODUCTS, ENVIRONMENTAL SWABS (unless specified), (cont'd) | Microbiological Tests (cont'd) | Documented In-House Methods | |
| | Enumeration: (cont'd) | | |
| | Enterococci, presumptive | 1) ESGMM314 based on BS 4285-3.11:1985 | A |
| | | 2) MP 12 by spread plate technique at 37°C or 44°C using Slanetz and Bartley Agar | C, S, R |
| (Animal By-Product materials) | Enterobacteriaceae, confirmed | 1) ESGMM303 based on BS ISO 21528-2:2017 for the purpose of the Animal By-Products (Enforcement) (England) Regulation (ABPR) 2013 (amended 2015) implementing Regulation (EU) No 142/11 | A, G |
| (including carcass swabs at locations A, B, G, S & R only) | Enterobacteriaceae, Presumptive and confirmed | 2) Method ESGMM303 based on BS ISO 21528-2:2017 with confirmation by biochemical tests at Locations B, S only | A, B, C, G, S, R |
| (including carcass swabs at locations A, B, G, S & R only) | *Escherichia coli (ß-*glucuronidase positive) | ESGMM304 using TBX pour plate based on BS ISO 16649- 2:2001 | A, B, C, G, S, R |
| | Lactic acid bacteria, presumptive | 1) ESGMM320 based on BS ISO 15214:1998 | A, C, G, S, R |
| | | 2) ESGMM327 using MRS agar spread plates microaerophilic incubation at 30°C, with optional confirmation by Gram stain and catalase | B |
| | *Listeria* spp and *Listeria monocytogenes* | ESGMM321 based on BS EN ISO 11290-2:2017 and confirmation using using oxidase, catalase, Gram stain and biochemical tests (ESGMM531) or by MALDI-TOF (SM 101/102) at Locations G, R & S only | A, B, C, G, S, R |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| FOOD and FOOD PRODUCTS, ENVIRONMENTAL SWABS (unless specified), (cont'd) | Microbiological Tests (cont'd)<br><br>Enumeration: (cont'd) | Documented In-House Methods | |
| (excluding environmental swabs) | Mesophilic aerobic and anaerobic spores | ESGMM316 Client specified method | A |
| | *Pseudomonas* species, presumptive | ESGMM312 based on BS EN ISO 13720:2010 | A, B, C, G, S, R |
| | Coagulase positive *S*taphylococci, confirmed | 1) ESGMM307 based on BS EN ISO 6888-1:2021 confirmed by either RPF or Oxoid Staphytect latex agglutation | A, B, C, F, G, S, R |
| | Sulphite reducing bacteria | ESGMM331 based on BS ISO 15213:2003 | S, R |
| | Sulphite reducing Clostridia | ESGMM331 based on BS ISO 15213:2003, genus level confirmation by obligate anaerobic growth and Gram stain | S |
| (environmental swabs at locations A, S & R only) | Total Aerobic Colony Count: 3 days, 30°C | ESGMM300 using PCA or MPCA based on BS EN ISO 4833-1:2013+A1:2022 | A, B, C, G, S, R |
| (including carcass swabs at locations A, B, G, S & R only) | Total Aerobic Colony Count: 2 days, 30°C | ESGMM300 using PCA or MPCA pour plate technique | A, B, C, G, S, R |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| FOOD and FOOD PRODUCTS, ENVIRONMENTAL SWABS (unless specified), (cont'd) | Microbiological Tests (cont'd)<br><br>Enumeration: (cont'd) | Documented In-House Methods | |
| (environmental swabs only) | Total Aerobic Colony Count: 1 day, 37°C | ESGMM300 using PCA pour plate technique | A |
| | Thermophilic Aerobic Colony Count: | ESGMM300 using pour plate technique and PCA incubated: | |
| | | 1) 55°C for 24h | R |
| | | 2) 55°C for 48h | S |
| | Yeasts and Moulds: | 1) ESGMM308 based on BS ISO 21527-1:2008 | A, B, C, G, S, R |
| (environmental swabs at locations S & R only) | | 2) ESGMM315 using DG18 agar (for products of water activity ≤ 0.95) based on BS ISO 21527-2:2008 | B, C, S, R |
| (excluding environmental swabs) | | 3) ESGMM309 client specified pour or spread plate method using OGYE incubated at 25°C for 5 days | B, S |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| FOOD and FOOD PRODUCTS, ENVIRONMENTAL SWABS (unless specified), (cont'd) | Microbiological Tests (cont'd)<br><br>Detection: | Documented In-House Methods | |
| (excluding environmental swabs) | *Campylobacter* spp, confirmed | 1) ESGMM500 using Preston Enrichment Broth at 37°C for 48 hours onto CCDA agar at 41.5°C for 48 hours | A |
| | | 2) MP 19 with enrichment in Preston broth and selective plating on CCDA confirmed by biochemical tests and latex agglutination or identification to genus level by MALDI-TOF (SM 101/102) for Locations R & S only | S, R |
| (including environmental swabs) | | 3) ESGMM527 based on BS EN ISO 10272-1:2017 confirmed by biochemical tests and latex agglutination or identification to genus level by MALDI-TOF (SM 101/102) for Location R only | A, R |
| GOS Syrup, Peanut Butter, Infant formula and sponge swabs | *Cronobacter sakazakii* (presumptive) | PHARM-M011 based on BS EN ISO 22964:2017 | E |
| | Enterobacteriaceae, presumptive | ESGMM563 based on BS EN ISO 21528-1:2017 | B |
| (including carcass swabs at location A only) | *Escherichia coli* O157 | 1) AMM382 modified in-house method using one selective media at 41.5°C for 18 hours | A |
| | | 2) AMM382 based on BS EN ISO 16654-1:2001+A1:2017 | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| FOOD and FOOD PRODUCTS, ENVIRONMENTAL SWABS (unless specified), (cont'd) | Microbiological Tests (cont'd)<br>Detection: (cont'd) | Documented In-House Methods | |
| | *Escherichia coli (ß-*glucuronidase positive) | 1) ESGMM561 customer specified method based on ISO 16649-3:2015 | A, B, G |
| Finished products and raw material including flavourings, oats, wheat, chocolate dried fruits and nuts | | 2) AMM446 customer specified method using MacConkey broth enrichment and recovery on TBX agar | A |
| | *Listeria monocytogenes* and other named *Listeria* species | 1) ESGMM522 based on BS EN ISO 11290-1:2017 | A, C, G, S, R |
| | | 2) KM61 using BioMerieux VIDAS LIS, and confirmation with ESGMM531 | B |
| | | 3) ESGMM523 using Solus ELISA kit method and DYNEX equipment | A, B, C, G, S, R |
| Environmental swabs only | | 4) ESGMM526 using Solus Listeria One ELISA kit method and DYNEX equipment | A |
| | *Listeria* species confirmation and identification | 1) ESGMM531 using oxidase, catalase, Gram stain and biochemical tests | A, B, C, G, S, R |
| | | 2) SM 101/102 species identification by MALDI-TOF | G, R, S |
| (swabs at location B only) | Coagulase Positive Staphylococci | ESGMM562 based on BS EN ISO 6888-3 2003 | A, B |
| (Animal By-Product materials) | *Salmonella* spp | ESGMM511 based on BS EN ISO 6579-1:2017+A1:2020 for the purpose of the Animal By-Products (Enforcement) (England) Regulation (ABPR) 2013 (amended 2015) implementing Regulation (EU) No 142/11 | A, G |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| FOOD and FOOD PRODUCTS, ENVIRONMENTAL SWABS (unless specified), (cont'd) | Microbiological Tests (cont'd)<br><br>Detection: (cont'd) | Documented In-House Methods | |
| (including carcass swabs at locations A, B, G, S & R only) | *Salmonella* spp | 1) ESGMM511 based on BS EN ISO 6579-1:2017+A1:2020 | A, B, C, G, S, R |
| (including feeds at location S and carcass swabs at locations A, B, G, S & R only) | | 2) ESGMM515 using Solus ELISA Kit method and DYNEX equipment | A, B, C, G, S, R |
| | | 3) KM60 using BioMerieux VIDAS SLM, dual selective enrichment, confirmation by BioMerieux API 20E | B |
| | | 4) MP 20 customer-specified method based on Nordic Committee on Food Analysis, Method No 71, 5th Ed 1999 enrichment in RVS broth and selective plating using XLD and chromogenic agar | S |
| DRIED PRODUCTS, cereals, cereal bars, biscuits, confectionary products | | 5) ESGMM525 using Solus Salmonella One ELISA Kit method and DYNEX equipment | B |
| | *Salmonella* confirmation | 1) ESGMM517 by oxidase, poly O and poly H antisera and biochemical tests (API 20E) | A, B, C, G, S, R |
| | | 2) Identification by MALDI-TOF (SM 101/102) | R, S |
| Fish & shellfish based products (not frozen) and swabs | Pathogenic Vibrio species (*V. cholerae, V. parahaemolyticus & V. vulnificus*) | ESGMM551 based on BS EN ISO 21872-1:2017 with biochemical confirmation using API 20 | A |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| ENVIRONMENTAL SAMPLES<br>Exposed contact plates, settle plates, or plates from air samplers (incubated and enumerated as received) | Enumeration: | ESGMM322 with medium and incubation as specified for the target organisms: | |
| | Aerobic Colony Count | PCA, 30°C for 48 hours | A, G, S, R |
| | Coagulase Positive Staphylococci | BP, 37°C for 48 hours | S, R |
| | *Escherchia.coli* (β-glucuronidase positive) | TBX, 44°C for 18-24 hours | S, R |
| | Enterobacteriaceae (presumptive) | VRBGA, 37°C for 24 hours | S, R |
| | *L. monocytogenes* and other *Listeria* spp including species identification | Using ALOA, 37°C 18-24 hours | S, R |
| | *Pseudomonas* spp. (presumptive) | CFC agar, 25°C for 44 hours | S, R |
| | Yeasts and Moulds | DRBC agar, 25°C for 5 days | A, G, S, R |
| MICROBIOLOGICAL CULTURES (presumptive bacterial isolates from respective food and environmental detection and/or enumeration ESGMM tests) | Confirmation of named *Listeria* species:<br>*L. monocytogenes,*<br>*L. innocua,*<br>*L. welshimeri,*<br>*L. grayi,*<br>*L. seeligeri*,<br>*L. ivanovii*<br><br>Confirmation of *Salmonella* genus | ESGMM532 using the VITEK (V2) MS MALDI TOF instrument with relevant locations (operating accredited tests for the detection and/or enumeration of the named genera) preparing isolate slides for submission to location A followed by local reporting | A |
| | Identification of *Campylobacter* species | ESGMM532 using the VITEK (V2) MS MALDI TOF instrument | A |
| | Molecular serotyping of *Salmonella* | ESGMM519 using Check-Points B.V. Check & Trace Microarray in conjunction with Bioer Life ECO PCR Thermal Cycler | R |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| PHARMACEUTICAL PRODUCTS - FINISHED AND RAW MATERIALS | Detection: | In house methods based on European Pharmacopoeia | |
| | Clostridia spp | ESGMM700 | E |
| | *Pseudomonas* spp | | |
| | *Salmonella* spp | | |
| | *Staphylococcus aureus* | | |
| | Enterobacteriaceae | | |
| | *Escherichia coli* | | |
| PHARMACEUTICAL PRODUCTS - FINISHED AND RAW MATERIALS (cont'd) | Enumeration: | In house methods based on European Pharmacopoeia | |
| | Total viable count (including yeasts and moulds) | ESGMM700 | E |
| | Preservative Efficacy Test | AMM380 | E |
| PURIFIED WATERS (including washer-disinfector endoscope rinse water) and WATER FOR INJECTION | Total Aerobic Colony Count | AMM362 in house method based on based on HTM 2030 (Archived) and HTM 01-01 Part D and HTM 01-06 Part E | E |
| PHARMACEUTICAL PRODUCTS – Raw, Intermediate and Finished Products | Biological Tests | Documented In-House Methods | |
| | Bacterial Endotoxin | 1) PHARM-M018 kinetic turbimetric quantitative assay using Pyros Kinetic Flex system (Associates of Cape Cod International) | E |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| PURIFIED WATERS (including washer-disinfector endoscope rinse water) and WATER FOR INJECTION | <u>Chemical Tests and Physical Tests</u> | | |
| | Acidity<br>Alkalinity<br>Aluminium<br>Ammonium<br>Calcium<br>Calcium and Magnesium (hardness)<br>Character/Appearance/ particulate matter (visual assessment)<br>Carbon dioxide<br>Chloride<br>Nitrate<br>Sulphate | Documented In-House Method CHEM 123 based on current BP, EP, USP qualitative analysis and HTM 2030/2031 NHS guidelines where specified | E |
| | Heavy metals - expressed as Lead | Documented In-House Method CHEM 123 based on current BP, EP and USP qualitative analysis | E |
| | Oxidisable substances | Documented In-House Method CHEM 123 based on current BP, EP and USP qualitative analysis | E |
| | Organic Carbon: Total | CHEM 125 based on current USP/BP/EP | E |
| | Conductivity | CHEM 128 based on current USP/BP/EP and HTM 2030/2031 NHS guidelines | E |
| | pH | CHEM 022 based on current USP/BP/EP and HTM 2030/2031 NHS guidelines | E |
| | Total Solids/Residue on Evaporation | CHEM 037 based on current BP/EP methods and HTM 2030/2031 NHS guidelines | E |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS | Microbiological Tests | | |
| Drinking (regulatory tap water; private and public supplies) | Testing for the purpose of enforcement of the Water Supply (Water Quality) Regulations 2000 [SI 2000/3184]. In accordance with the Drinking Water Testing Specification (DWTS) | Documented In-House Procedures based on/ incorporating procedures in the HMSO publication "The Microbiology of Drinking Water - Methods for the Examination of Water and Associated Materials | |
| | Enumeration: | | |
| | Coliforms & *Escherichia coli*, presumptive and confirmed | ESGMM107 using membrane filtration onto MLGA based on the MDW 2016, Part 4B | G |
| | Aerobic Colony Counts:<br>1 day, 37°C<br>2 days, 30°C<br>2 days, 37°C<br>3 days, 22°C | ESGMM100, pour plate using YEA based on the MDW 2020, Part 7A | G |
| | Enterococci, presumptive and confirmed | ESGMM106 by membrane filtration based on the MDW 2012, Part 5A | G |
| | *Clostridium perfringens*, confirmed | ESGMM105 by membrane filtration using TSC based on the MDW 2021, Part 6B | G |
| | Sulphite-reducing Clostridia | ESGMM104 by membrane filtration using TSC based on the MDW 2021, Part 6A | G |
| | *Pseudomonas aeruginosa*, confirmed | ESGMM102 by membrane filtration using CN agar based on the MDW 2015, Part 8B | G |
| Microbiological cultures (presumptive bacterial isolates from water enumeration ESGMM107) | Confirmation: | | |
| | Coliforms & *Escherichia coli* | SM 101/102 confirmation by MALDI-TOF | G |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| Drinking (non regulatory), Bottled and Process Waters | Enumeration: | Documented in House Methods based on The Microbiology of Drinking Water Blue Books | |
| | Coliforms, presumptive *Escherichia coli*, presumptive | ESGMM107 using MLGA Based on the MDW 2016 Part 4B | A, B, C, G, S, R |
| | Coliforms, *Escherichia coli*, confirmed | ESGMM107 using MLGA Based on the MDW 2016 Part 4B | A, C, G, S, R |
| | Aerobic Colony Counts:<br>2 days, 37°C<br>3 days, 22°C | ESGMM100, pour plate using YEA based on MDW 2020, Part 7A | A, B, C, G, S, R |
| | 1 day, 37°C | | A, B, C, G, R |
| | Aerobic Colony Counts:<br>2 days, 30°C | ESGMM100, pour plate using YEA based on MDW 2020, Part 7A | A, B, C, G, S, R |
| | Enterococci presumptive | ESGMM106 by membrane filtration based on MDW 2012, Part 5A | A, C, G, S, R |
| | Enterococci confirmed | ESGMM106 by membrane filtration based on MDW 2012, Part 5A | B, C, G, S, R |
| | *Clostridium perfringens*, (presumptive) | ESGMM105 by membrane filtration based on MDW 2021, Part 6B | A, B, C, G, R |
| | *Clostridium perfringens*, confirmed | ESGMM105 by membrane filtration based on MDW 2021, Part 6B | B, C, G, R |
| | Sulphite-reducing Clostridia | ESGMM104 by membrane filtration using TSC based on MDW 2021, Part 6A | A, B, C, G, S, R |
| | *Pseudomonas aeruginosa*, presumptive | ESGMM102 by membrane filtration using CN agar based on the MDW 2015, Part 8B | A, B, C, G, S, R |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Microbiological Tests (cont'd) | Documented in House Methods based on The Microbiology of Drinking Water Blue Books | |
| Drinking (non regulatory), Bottled and Process Waters (cont'd) | Enumeration: | | |
| | *Pseudomonas aeruginosa*, confirmed | ESGMM102 by membrane filtration using CN agar based on the MDW 2015, Part 8B | B, C, G, S, R |
| | *Pseudomonas* spp, presumptive | ESGMM110 by membrane filtration using CFC agar incubated at 30°C for 48 hours | C, R |
| Ground Waters | Coliforms, presumptive *Escherichia coli*, presumptive | ESGMM107 using MLGA Based on the MDW 2016 Part 4B | A, B, C, G, S |
| | Coliforms, *Escherichia coli*, confirmed | ESGMM107 using MLGA Based on the MDW 2016 Part 4B | A, C, G, S |
| | Aerobic Colony Counts: | ESGMM100, pour plate using YEA based on MDW 2020, Part 7A | |
| | 2 days, 37°C<br>3 days, 22°C | | A, B, C, G, S |
| | 1 day, 37°C | | A, B, C, G |
| | 2 days, 30°C | | A, B, C, G, S |
| | Enterococci, presumptive | ESGMM106 by membrane filtration based on MDW 2012, Part 5A | A, C, G, S |
| | Enterococci, confirmed | ESGMM106 by membrane filtration based on MDW 2012, Part 5A | B, C, G, S |
| | *Clostridium perfringens*, (presumptive) | ESGMM105 by membrane filtration based on MDW 2021, Part 6B | A, B, C, G |
| | *Clostridium perfringens*, confirmed | ESGMM105 by membrane filtration based on MDW 2021, Part 6B | B, C, G |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Microbiological Tests (cont'd) | Documented in House Methods based on The Microbiology of Drinking Water Blue Books | |
| Ground Waters (cont'd) | Enumeration: | | |
| | Sulphite-reducing Clostridia | ESGMM104 by membrane filtration using TSC based on MDW 2021, Part 6A | A, B, C, G, S |
| | *Pseudomonas aeruginosa*, presumptive | ESGMM102 by membrane filtration using CN agar based on the MDW 2015, Part 8B | A, B, C, G, S |
| | *Pseudomonas aeruginosa*, confirmed | ESGMM102 by membrane filtration using CN agar based on the MDW 2015, Part 8B | B, C, G, S |
| Recreational (man-made) and Surface Waters | Coliforms, presumptive *Escherichia coli*, presumptive | ESGMM107 using MLGA Based on the MDW 2016 Part 4B | A, B, C, G |
| | Coliforms, *Escherichia coli*, confirmed | ESGMM107 using MLGA Based on the MDW 2016 Part 4B | A, C, G |
| | Aerobic Colony Counts:<br>2 days, 37°C<br>3 days, 22°C<br>1 day, 37°C<br>2 days, 30°C | ESGMM100, pour plate using YEA based on MDW 2020, Part 7A | A, B, C, G |
| | Enterococci, presumptive | ESGMM106 by membrane filtration based on MDW 2012, Part 5A | A, C, G |
| | Enterococci, confirmed | ESGMM106 by membrane filtration based on MDW 2012, Part 5A | B, C, G |
| | *Clostridium perfringens*, (presumptive) | ESGMM105 by membrane filtration based on MDW 2021, Part 6B | A, B, C, G |
| | Sulphite-reducing Clostridia | ESGMM104 by membrane filtration using TSC based on MDW 2021, Part 6A | A, B, C, G |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Microbiological Tests (cont'd) | Documented in House Methods based on The Microbiology of Drinking Water Blue Books | |
| Recreational (man-made) and Surface Waters (cont'd) | Enumeration: | | |
| | *Pseudomonas aeruginosa*, presumptive | ESGMM102 by membrane filtration using CN agar based on the MDW 2015, Part 8B | A, B, C, G |
| | *Pseudomonas aeruginosa*, confirmed | ESGMM102 by membrane filtration using CN agar based on the MDW 2015, Part 8B<br><br>Documented In-House Methods | B, C, G |
| Process Waters, Waste Waters, Recreational (both manmade and natural) | *Legionella* spp, presumptive and identification of *Legionella* spp: *Legionella pneumophila* sg 1, 2-15 and species | BIO 114 based on BS EN ISO 11731:2017 using filtration or centrifugation with washing, plating on GVPC. Identification by latex agglutination (Matrix A, B & C: Procedure 8, 9 & 10, Media C) | C |
| Process Waters, Recreational (manmade) | *Legionella* spp, presumptive and identification of *Legionella* spp: *Legionella pneumophila* sg 1, 2-15 and species | BIO 114 based on BS EN ISO 11731:2017 using filtration with washing, plating on GVPC. Identification by latex agglutination (Matrix A & B: Procedure 8, 9 & 10, Media C) | G |
| Process Waters | Detection: | | |
| | *L. monocytogenes* and other *Listeria* spp | ESGMM523 using Solus ELISA | S, R |
| | *Listeria* species confirmation and identification | 1) ESGMM531 using oxidase, catalase, Gram stain and biochemical tests | S, R |
| | | 2) SM 101/102 identification by MALDI-TOF | S, R |
| | *Salmonella* spp. | ESGMM515 using Solus ELISA | S, R |
| | *Salmonella* confirmation | ESGMM517 by oxidase, Poly O and poly H antisera and biochemical tests (API 20E) | S, R |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| MICROBIOLOGICAL CULTURES | Microbiological Tests (cont'd) | Documented In-House Methods | |
| (presumptive bacterial isolates from water enumeration ESGMM107) | Confirmation:<br>Coliforms & *Escherichia coli* | SM 101/102 confirmation by MALDI-TOF | G |
| | Detection: | | |
| ENVIROMENTAL SWABS | *Legionella* spp, presumptive and identification of *Legionella* spp: *Legionella pneumophila* sg 1, 2-15 and species | BIO 114 based on BS EN ISO 11731:2017 using filtration with washing, plating on GVPC. Identification latex agglutination (Procedure 8, 9 & 10, Media C) | C |
| END | | | |

**Appendix** 1:

**Pesticides in Fruits, Vegetables, Fungi and Cereals determined by AM/R/110 using GC-MS**; **flame photometric detection; HPLC fluorescence**

| | | | |
|---|---|---|---|
| Acephate | Dichlorvos | Imazalil | Pirimiphos-methyl |
| Aldrin | Dicloran | Iodofenfos | Prochloraz |
| Atrazine | Dicofol | Iprodione | Procymidone |
| Azinphos-ethyl | Dicrotophos | Isazophos | Profenophos |
| Azinphos-methyl | Dieldrin | Isoprocarb | Prometryn |
| Azoxystrobin | Difenoconazole | Kresoxim-methyl | Propachlor |
| Benalaxyl | Dimethoate | lambda cyhalothrin | Propargite |
| Bifenthrin | Dimethomorph | Malathion | Propham |
| Bitertanol | Diphenylamine | Mepanipyrim | Propiconazole |
| Boscalid | Endosulfan | Metalaxyl | Propyzamide |
| Bromophos | Endrin | Metalaxyl-M | Prothiofos |
| Bromophos-ethyl | Ethion | Metazachlor | Pyrazophos |
| Bromopropylate | Ethofumesate | Methacrifos | Pyridaphenthion |
| Bromuconazole | Ethoprophos | Methamidophos | Pyrimethanil |
| Bupirimate | Etridiazole | Methidathion | Quinalphos |
| Buprofezin | Etrimfos | Methoxychlor | Quintozene |
| Cadusafos | Fenarimol | Mecarbam | Simazine |
| Carbofuran (parent molecule) | Fenchlorphos | Metribuzin | Sulfotep |
| Carbophenothion | Fenitrothion | Mevinphos | Tebuconazole |
| Carbosulfan | Fenpropathrin | Monocrotophos | Tecnazene |
| Chlordane | Fenpropimorph | Myclobutanil | Tefluthrin |
| Chlorfenvinphos | Fensulfothion | Napropamide | Terbuthylazine |
| Chlorothalonil | Fenthion | Nuarimol | Terbutryn |
| Chlorpropham | Fenvalerate | Ofurace | Tetradifon |
| Chlorpyrifos | Fipronil | Omethoate | Tetrachlorvinphos |
| Chlorpyrifos-methyl | Fluazifop-P-butyl | Oxadixyl | Tetramethrin |
| Chlorthal-dimethyl | Flucythrinate | Paclobutrazol | Thiabendazole |

**Appendix 1 (cont'd):**

| **AM/R/110 using GC-MS**; **flame photometric detection; HPLC fluorescence** | | | |
|---|---|---|---|
| Chlorthion | Flusilizole | Parathion | Tolclofos-methyl |
| Chlozolinate | Fonofos | Parathion-methyl | Tolyfluanid |
| Cyanazine | Furalaxyl | Penconazole | Triadimefon |
| Cyfluthrin | Furathiocarb | Pendimethalin | Triadimenol |
| Cypermethrin | Heptachlor | Permethrin | Trifloxystrobin |
| Cyproconazole | Heptenophos | Phenthoate | Triazophos |
| DDT | Hexachlorobenzene (HCB) | Phosalone | Trifluralin |
| Deltamethrin | Hexachlorocyclohexane-alpha | Phosmet | Vinclozolin (parent molecule) |
| Desmetryn | Hexachlorocyclohexane-beta | Phosphamidon | Zoxamide |
| Diazinon | Hexachlorocyclohexane-gamma | Pirimicarb | |
| Dichlofluanid | Hexaconazole | Pirimiphos-ethyl | |

**Appendix 2:**

**Pesticides in foods and food products containing: high water content; high acid and high water content; high sugar and low water content; high oil content and intermediate water content; high starch and/or protein content and low water and fat content as determined by AM/R/1003 QuEChERS extraction with LC-MS/MS or GC-MS/MS Detection**

| **LC-MS/MS** | **GC-MS/MS** |
|---|---|
| Acephate | 1,4-Dimethylnaphthalene |
| Acetamiprid | Acetochlor |
| Aldicarb-sulfone | Acibenzolar-S-methyl |
| Aldicarb-sulfoxide | Acrinathrin |
| Amidosulfuron | Alachlor |
| Aminocarb | Aldrin |
| Atrazine | Ametryn |
| Azaconazole | Anthraquinone |
| Azamethiophos | Atraton |
| Azoxystrobin | Atrazine |
| Beflubutamid | Azaconazole |
| Benalaxyl | Azinphos-methyl |
| Bendiocarb | Azoxystrobin |
| Benzoximate | Benalaxyl |
| Bifenazate | Benfluralin |
| Bifenthrin | Bifenox |
| Bixafen | Bifenthrin |
| Boscalid | Biphenyl |
| Bromacil | Bitertanol |

**Appendix 2 (cont'd)**

| AM/R/1003 QuEChERS extraction with LC-MS/MS or GC-MS/MS Detection: | |
|---|---|
| **LC-MS/MS** | **GC-MS/MS** |
| Bupirimate | Bromocyclen |
| Buprofezin | Bromophos |
| Butralin | Bromophos-ethyl |
| Carbaryl | Bromopropylate |
| Carbendazim | Bromuconazole |
| Carbetamide | Bupirimate |
| Carboxin | Buprofezin |
| Carfentrazone-ethyl | Butralin |
| Chlorantraniliprole | Cadusafos |
| Chlorfenvinphos | Carbofuran |
| Chloridazon | Carbophenothion |
| Chlorothiophos | Chinomethionat |
| Chlorotoluron | Chlordane, cis- |
| Chloroxuron | Chlordane, trans- |
| Chlorpyrifos | Chlorfenson |
| Chlorpyrifos-methyl | Chlorfenvinphos |
| Chlorsulfuron | Chlormefos |
| Cinidon-ethyl | Chlorobenzilate |
| Clomazone | Chloroneb |
| Coumaphos | Chloropropylate |
| Crufomate | Chlorpropham |
| Cyanazine | Chlorpyrifos |
| Cycluron | Chlorpyrifos Methyl |
| Cyflufenamid | Chlorthal-dimethyl |
| Cymiazol HCl | Chlorthion |
| Cymoxanil | Chlozolinate |
| Cyproconazole | Climbazole |
| Cyprodinil | Cloquintocet-mexyl |
| DEET | Crimidine |
| Demeton-S-methyl-sulfone | Cyanofenphos |
| Desmedipham | Cyanophos |
| Desmethyl-pirimicarb | Cyfluthrin Sum |
| Desmetryn | Cyhalothrin (lambda) |
| Diazinon | Cypermethrin |
| Dichlorvos | Cyproconazole |
| Diclofop-methyl | Cyprodinil |
| Dicrotophos | DDD, o,p'- |
| Diethofencarb | DDD, p,p'- |

**Appendix 2 (cont'd)**

| AM/R/1003 QuEChERS extraction with LC-MS/MS or GC-MS/MS Detection: | |
|---|---|
| **LC-MS/MS** | **GC-MS/MS** |
| Difenoconazole | DDE, o,p'- |
| Diflubenzuron | DDE, p,p'- |
| Dimethachlor | DDT, o,p'- |
| Dimethenamide | DDT, p,p'- |
| Dimethoate | Deltamethrin |
| Dimethomorph | Desmetryn |
| Dimethylvinphos | Di-allate |
| Dimoxystrobin | Diazinon |
| Diniconazole | Dichlobenil |
| Dinotefuran | Dichlofenthion |
| Dioxacarb | Dichlorvos |
| Diphenamid | Diclobutrazol |
| Disulfoton-sulfone | Diclofop methyl |
| Disulfoton-sulfoxide | Dicloran |
| Emamectin | Dicofol |
| Epoxiconazole | Dicrotophos |
| Ethidimuron(Sulfadiazole) | Dieldrin |
| Ethiofencarb | Dimethomorph |
| Ethiofencarb-Sulfone | Dioxabenzofos |
| Ethiofencarb-sulfoxide | Dipropetryn |
| Ethion | Edifenphos |
| Ethirimol | Endosulfan (alpha isomer) |
| Ethofumesate | Endosulfan (beta isomer) |
| Ethoprophos | Endosulfan sulfate |
| Etofenprox | Endrin |
| Fenamidone | EPN |
| Fenamiphos | EPTC |
| Fenamiphos-sulfone | Etaconazole |
| Fenamiphos-sulfoxide | Ethofumesate |
| Fenbuconazole | Ethoprophos |
| Fenchlorphos-oxon | Etoxazole |
| Fenhexamid | Etridiazole |
| Fenobucarb | Etrimfos |
| Fenoxaprop-P-ethyl | Famphur |
| Fenoxycarb | Fenarimol |
| Fenpropathrin | Fenchlorphos |
| Fenpropidin | Fenchlorvos-oxon |
| Fenpropimorph | Fenitrothion |

**Appendix 2 (cont'd)**

| **AM/R/1003 QuEChERS extraction with LC-MS/MS or GC-MS/MS Detection:** | |
|---|---|
| **LC-MS/MS** | **GC-MS/MS** |
| Fenpyroximate | Fenpiclonil |
| Fenthion | Fenpropathrin |
| Fenthion-sulfone | Fenpropimorph |
| Fenthion-sulfoxide | Fenson |
| Fenuron | Fenvalerate |
| Flamprop-isopropyl | Flamprop-isopropyl |
| Fluazinam | Fluazifop-p-butyl |
| Flufenacet | Flucythrinate |
| Flufenoxuron | Fludioxonil |
| Flumetsulam | Flurpirimidol |
| Flumorph | Flusilazole |
| Fluometuron | Flutolanil |
| Fluoxastrobin | Flutriafol |
| Flupyrsulfuron-methyl | Fluvalinate-tau |
| Flurtamone | Fonofos |
| Flusilazole | Furalaxyl |
| Flutolanil | Furathiocarb |
| Formothion | HCB |
| Fosthiazate | HCH-alpha isomer |
| Fuberidazole | HCH-beta isomer |
| Furalaxyl | HCH-delta isomer |
| Furathiocarb | Heptachlor |
| Guthion | Heptachlor endo-epoxide (trans) |
| Haloxyfop-methyl | Heptachlor exo-epoxide (cis) |
| Hexaconazole | Heptenophos |
| Hexazinone | Hexaconazole |
| Hexythiazox | Imazalil |
| Imazalil | Iodofenphos |
| Imidacloprid | Iprodione |
| Iodosulfuron-methyl | Isazophos |
| Ipconazole | Isobenzan |
| Iprobenfos | Isodrin |
| Iprovalicarb | Isofenphos |
| Isoprothiolane | Isoprocarb |
| Isoproturon | Isoxadifen-ethyl |
| Isopyrazam | Isoxathion |
| Isoxaben | Kresoxim-methyl |
| Kresoxim-methyl | Leptophos |

**Appendix 2 (cont'd)**

| **AM/R/1003 QuEChERS extraction with LC-MS/MS or GC-MS/MS Detection:** | |
|---|---|
| **LC-MS/MS** | **GC-MS/MS** |
| Lenacil | Lindane (HCH-gamma) |
| Linuron | Malaoxon |
| Malaoxon | Malathion |
| Malathion | MCPA thioethyl |
| Mandipropamid | Mefenapyr-diethyl |
| Mecarbam | Mepanipyrim |
| Mephosfolan | Metalaxyl |
| Mepronil | Metazachlor |
| Metaflumizone | Metconazole |
| Metalaxyl | Methacrifos |
| Metamitron | Methamidophos |
| Metazachlor | Methidathion |
| Metconazole | Metribuzin |
| Methabenzthiazuron | Mevinphos |
| Methacrifos | Mirex |
| Methamidophos | Monocrotophos |
| Methidathion | Myclobutanil |
| Methiocarb | Napropamide |
| Methiocarb-sulfone | Nitrofen |
| Methiocarb-sulfoxide | Nitrothal-isopropyl |
| Methomyl | Nuarimol |
| Methoprotryne | Ofurace |
| Methoxyfenozide | Omethoate |
| Metobromuron | Oxadixyl |
| Metolachlor | Oxyfluorfen |
| Metolcarb | Paclobutrazol |
| Metoxuron | Parathion ethyl |
| Metrafenone | Parathion methyl |
| Metsulfuron-methyl | Pebulate |
| Mevinphos | Penconazole |
| Mexacarbate | Pendimethalin |
| Monocrotophos | Pentachloroaniline |
| Monolinuron | Pentachloroanisole |
| Monuron | Pentachlorobenzene |
| Myclobutanil | Pentachlorophenol |
| Napropamide | Permethrin |
| Nitenpyram | Perthan |
| Norflurazon | Phenothrin |

**Appendix 2 (cont'd)**

| AM/R/1003 QuEChERS extraction with LC-MS/MS or GC-MS/MS Detection: | |
|---|---|
| **LC-MS/MS** | **GC-MS/MS** |
| Omethoate | Phenthoate |
| Oxadiazon | Phosfolan |
| Oxadixyl | Phosmet |
| Oxamyl | Phosphamidon I |
| Oxydemeton-methyl | Phosphamidon II |
| Paclobutrazol | Piperonyl butoxide |
| Paraoxon | Pirimicarb |
| Paraoxon-methyl | Pirimiphos-ethyl |
| Penconazole | Pirimiphos-methyl |
| Pencycuron | Procymidone |
| Pendimethalin | Profenofos |
| Penthiopyrad | Prometryn |
| Permethrin | Propachlor |
| Pethoxamid | Propargite |
| Phenmedipham | Propazine |
| Phenthoate | Propetamphos |
| Phorate-sulfone | Propham |
| Phorate-sulfoxide | Propiconazole |
| Phosalone | Propyzamide |
| Phosfolan | Prothiofos |
| Phosmet | Pyrazophos |
| Phosphamidon | Pyrimethanil |
| Phoxim | Quintozene |
| Picolinafen | Resmethrin |
| Picoxystrobin | Silafluofen |
| Pinoxaden | Simazine |
| Piperonyl-butoxide | Sulfotep |
| Pirimicarb | Sulprofos |
| Pirimiphos-ethyl | Tebuconazole |
| Pirimiphos-methyl | Tecnazene |
| Prochloraz | Tefluthrin, cis- |
| Procymidone | Terbacil |
| Profenofos | Terbufos |
| Promecarb | Terbumeton |
| Prometon | Terbuthylazine |
| Prometryne | Terbutryne |
| Propamocarb | Tetrachlorvinphos |
| Propanil | Tetradifon |

**Appendix 2 (cont'd)**

| AM/R/1003 QuEChERS extraction with LC-MS/MS or GC-MS/MS Detection: | |
|---|---|
| **LC-MS/MS** | **GC-MS/MS** |
| Propaquizafop | Tetramethrin |
| Propargite | Tetrasul |
| Propazine | Thiabendazole |
| Propham | Tolclofos-methyl |
| Propiconazole | Transfluthrin |
| Propoxur | Triadimefon |
| Propyzamide | Triadimenol |
| Proquinazid | Tri-allate |
| Prosulfocarb | Triazamate |
| Prothioconazole-desthio | Trichloronate |
| Pyracarbolid | Trietazine |
| Pyraclostrobin | Trifloxystrobin |
| Pyraflufen-ethyl | Trifluralin |
| Pyridaben | Zoxamide |
| Pyrifenox | |
| Pyrimethanil | |
| Pyriproxyfen | |
| Quassin | |
| Quinoxyfen | |
| Quizalofop-ethyl | |
| Rimsulfuron | |
| Rotenone | |
| Silthiofam | |
| Spinetoram-major | |
| Spinetoram-minor | |
| Spinosyn-A | |
| Spinosyn-D | |
| Spirodiclofen | |
| Spirotetramat | |
| Spiroxamine | |
| Tebuconazole | |
| Tebufenozide | |
| Tebufenpyrad | |
| Tebupirimfos | |
| Tebuthiuron | |
| Temephos | |
| Terbufos-sulfone | |
| Terbufos-sulfoxide | |

**Appendix 2 (cont'd)**

| **AM/R/1003 QuEChERS extraction with LC-MS/MS or GC-MS/MS Detection:** | |
|---|---|
| **LC-MS/MS** | |
| Terbuthylazine | |
| Terbutryn | |
| Tetraconazole | |
| Tetramethrin | |
| Thiabendazole | |
| Thiacloprid | |
| Thiamethoxam | |
| Thidiazuron | |
| Thifensulfuron-methyl | |
| Thiobencarb | |
| Thiodicarb | |
| Tralkoxydim | |
| Triadimefon | |
| Triadimenol | |
| Triazophos | |
| Trichlorfon | |
| Tricylazole | |
| Tridemorph | |
| Trietazine | |
| Trifloxystrobin | |
| Triflumizole | |
| Triflusulfuron-methyl | |
| Trimethacarb | |
| Uniconazole-P | |
| Vamidothion | |
| XMC | |
| Zoxamide | |
| | |

END