

Instructions for Handling Test Materials and Recording Results

Choice of method or procedure

Participants are expected to use the test method, calibration or measurement procedure of their choice. This method should be consistent with the participant's normal procedures, for example, duplicate analysis should only be performed if that is part of the routine analytical process. Some samples may require specific preparation or analysis, if so this is indicated below.

Receipt and Storage

- On receipt of the test material, record the date and store as appropriate

Storage temperature	Sample(s)
Refrigerated (2 to 8°C)	726,727,730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 756, 757, 758, 759,
Frozen (<-20°C)	748, 749, 752, 754, 755, 728, 729

- The test material should be analysed in accordance with the deadlines shown on the website: <https://portal.lgcstandards.com>

Sample Details (Microbiological Test Materials)

- The test materials represent 'real' meat or shellfish samples, which may or may not contain the target organism(s), at a range of inoculum levels. Test materials may also contain background flora.
- Please consider all dilution factors when calculating the level of the target organisms in the original sample, where relevant guidance is given in the instructions.
- The test materials should be treated in the same way as routine samples and should therefore be tested using your routine laboratory equipment, reagents and methods.
- Where the instruction mentions a **resuscitate** step, the lyophilised test material should be left at room temperature for between 60 to 90 minutes before proceeding with the test.
- Do not sub-divide samples prior to dilution unless stated in the instructions.
- Please treat the sample as contaminated material and use aseptic techniques throughout the test procedure.
- Please ensure samples are mixed well at all stages before proceeding with testing. Reconstitute the test material according to the appropriate instructions for each sample type as described below;

Format: 10g matrix only (enumeration)

Samples: 735, 738, 746, 758, 759

- Prepare 90ml of suitable microbiological diluent and add to the 10g sample.
- Mix the diluted test material thoroughly and allow to **resuscitate** before testing.
- The 10g sample should be treated as neat for dilution calculations.

Format: 25g matrix only (detection)

Samples : 736, 737

- Prepare 225ml of your chosen enrichment broth and add to your 25g sample.
- Mix the diluted test material thoroughly and allow to **resuscitate** before testing.

Instructions for Handling Test Materials and Recording Results

Format: Vial + 10g matrix (enumeration)

Samples: 726, 739

1. Prepare 90ml of suitable microbiological diluent.
2. From this volume take 10ml and add it to the vial.
3. Replace the vial stopper and shake to dissolve, then leave the test material to **resuscitate**.
4. Reconstitute the 10g matrix with the remaining amount of diluent prepared in step 1.
5. After the resuscitation period add the vial contents prepared in step 3 to the matrix preparation from step 4 back-washing two or three times to ensure all the freeze-dried test material is recovered from the vial.
6. The 10g sample should be treated as neat for dilution calculations.

Format: Vial + 25g matrix (detection)

Samples: 740, 743, 744, 745

1. Prepare 225ml of your chosen enrichment broth.
2. From this volume take 10ml and add it to the vial.
3. Replace the vial stopper and shake to dissolve, then leave the test material to **resuscitate**.
4. Reconstitute the 25g matrix with the remaining amount of diluent prepared in step 1.
5. After the resuscitation period add the vial contents prepared in step 3 to the matrix preparation from step 4 back-washing two or three times to ensure all the freeze-dried test material is recovered from the vial.

Format: 2x Vial + minimum 20g matrix (enumeration)

Samples: 756

1. Vials are labelled A and B. For each vial, weigh out 10g of matrix and prepare 90ml of suitable microbiological diluent.
2. For each vial, take 10ml of the 90ml diluent and add it to the vial after aseptically removing cap and rubber stopper.
3. Replace the stopper and shake to dissolve, and leave the test material to **resuscitate**.
4. Reconstitute the 10g matrix with the remaining amount of diluent prepared in step 1.
5. After the resuscitation period add the vial contents prepared in step 2 to the matrix preparation from step 4 back-washing two or three times to ensure all the freeze-dried test material is recovered from the vial. The test material is now ready to test.
6. Remember to take the initial dilution factor into account when calculating results.

Note: The two vials will have different contents, please handle separately at all times and use clear labelling at all stages of processing to avoid mixing up vial A and vial B.

Format: 2x Vial + minimum 200g matrix (detection)

Samples: 757

1. Vials are labelled A and B. For each vial, prepare 10ml of a suitable sterile microbiological diluent e.g. maximum recovery diluent (MRD).
2. For each vial, add the 10ml of diluent prepared in step 1. Shake to dissolve and leave to **resuscitate**.
3. For each vial, and each analyte under test, aseptically weigh out 25g of matrix.
4. Prepare 225ml of your chosen enrichment broth for each analyte under test, noting that different enrichment broths may be required for the different analytes.
5. Add 225ml enrichment broth to the 25g portion prepared in step 3.

Instructions for Handling Test Materials and Recording Results

- After the resuscitation period add 1ml of the vial contents prepared in step 2 to the matrix preparation from step 5.

Note: The two vials will have different contents, please handle separately at all times and use clear labelling at all stages of processing to avoid mixing up vial A and vial B.

Format: Vial

Samples: 727

- Prepare 10ml of sterile water
- Add the 10ml of water prepared in step 1 to the vial. Shake to dissolve.
- For each analyte under test prepare 400ml of your chosen enrichment broth, noting that different enrichment broths may be required for the different analytes.
- Add 1 ml of the vial contents prepared in step 2 to the 400ml of prepared diluents from step 3.
- Mix the diluted test material thoroughly and allow to **resuscitate**.
- The sample now represents your carcass rinsate and is now ready for testing.

Sample Details (Chemistry Test Materials)

- The chemistry test materials provided represent commercially available meat or fish based products which may or may not contain all the target analytes at quantifiable levels. All analytes will be provided at a quantifiable level during a 12 month period.
- Participants may submit results for some or all of the parameters requested.
- All chemistry test materials are supplied in a ready-to-use format.
- Test materials may have settled during transit. Please ensure test materials are thoroughly mixed prior to any sub-sampling or any analysis is performed.
- The following test materials require specific handling and details of this are shown below.

Sample	Handling details
732	This test material is provided in a lyophilised format; therefore any weights taken must be adjusted to account for the freeze-dried format. An approximate guide is to weigh a third of a 'normal' test weight.
749	<p>Participants will be provided with two 'packs' of samples with each 'pack' containing 6 individual meat products.</p> <p>Each sample will contain a base meat material (e.g. beef) which may or may not contain <u>alternate</u> meats for speciation analysis.</p> <p>Each sample pot contains 2 grams of test material for analysis. Participants are required to analyse the <u>entire sample provided</u> to ensure that a valid result is obtained.</p> <p>Note: Sub-sampling is <u>not</u> permitted as this will affect any analysis being performed.</p>

Reporting Results

Full details regarding reporting units and sample format are available in the current QMAS Scheme Description.

- Unless otherwise specified all results should be reported on the test materials as it has been provided (i.e. results are not to be expressed on a dry basis).

Instructions for Handling Test Materials and Recording Results

- To ensure results are returned in a comparable format the following Test Materials must be provided as specified:

Sample (s)	Chemical test	Additional information
728, 730, 731, 734	Protein	Nitrogen x 6.25
	Salt	as %NaCl
	Sodium	as %Na
	Dietary fibre	Total Dietary Fibre values are to be reported
	Phosphate	as %PO ₄
	Energy	as either kcal/100g or kJ/100g using one of the following calculations kJ <ul style="list-style-type: none"> (17 x protein) + (37 x fat) + (17 x total carbohydrate) (17 x protein) + (37 x fat) + (17 x available carbohydrate*) + (8 x total dietary fibre) kcal <ul style="list-style-type: none"> (4 x protein) + (9 x fat) + (4 x total carbohydrate) (4 x protein) + (9 x fat) + (4 x available carbohydrate*) + (2 x total dietary fibre) *Total carbohydrate – total dietary fibre
Carbohydrate	as % using one of the following calculations: <ul style="list-style-type: none"> Total Carbohydrate (Type 1) = 100 - (fat + protein + moisture + ash) Available Carbohydrate (Type 2) = 100 - (fat + protein + moisture + ash + dietary fibre) 	
732	Nitrite	as mg/kg (as NaNO ₂)
	Nitrate	as mg/kg (as NaNO ₃)
730, 731, 733	Saturates, monounsaturates, polyunsaturates & trans fatty acids, cholesterol	as % (g/100g) of the test material as provided. <ul style="list-style-type: none"> Saturates: defined as all fatty acids without double bonds. Mono-unsaturates: defined as all fatty acids which have one cis double bond. Poly-unsaturates: defined as all fatty acids which have multiple cis, cis methylene double bonds. Total trans fatty acids: defined as the sum of all mono and poly unsaturates where trans double bonds are present. Note: Results must <u>not</u> to be expressed as a % of the fat content
749	Meat speciation	Each sample may be contaminated with one of the following species: Beef (bovine), Sheep/Lamb (ovine), Pork (porcine), Horse (equine), Chicken and Goat(caprine)
752	Fish identification	Participants will be provided with multiple samples for identification. Each 'pack' will contain 4 individual fish products (approximately 20g per pack) with each sample either containing a single <u>fish</u> species or fish taken from a commercially available product. Possible species include: Atlantic bluefin tuna (<i>Thunnus thynnus</i>) Atlantic cod (<i>Gadus morhua</i>) Atlantic halibut (<i>Hippoglossus hippoglossus</i>) Atlantic mackerel (<i>Scomber scombrus</i>) Atlantic salmon (<i>Salmo salar</i>) Blackfin seabass (<i>Lateolabrax latus</i>) Blue tilapia (<i>Oreochromis aureus</i>)

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		<p>Coley (<i>Pollachius virens</i>) Common sole (<i>Solea solea</i>) (also known as Dover sole or Black sole) European seabass (<i>Dicentrarchus labrax</i>) Haddock (<i>Melanogrammus aeglefinus</i>) Japanese seabass (<i>Lateolabrax japonicus</i>) Nile Tilapia (<i>Oreochromis niloticus</i>) Pacific bluefin tuna (<i>Thunnus orientalis</i>) Pacific cod (<i>Gadus macrocephalus</i>) Pacific halibut (<i>Hippoglossus stenolepis</i>) Pangasius (<i>Pangasianodon hypophthalmus</i>) Pangasius (<i>Pangasius bocourti</i>) Pink salmon (<i>Oncorhynchus gorbuscha</i>) Plaice (<i>Pleuronectes platessa</i>) Pollock (<i>Pollachius pollachius</i>) Pollock (<i>Pollachius virens</i>) Rainbow trout (<i>Oncorhynchus mykiss</i>) Skipjack tuna (<i>Katsuwonus pelamis</i>) Swordfish (<i>Xiphias gladius</i>) Whiting (<i>Merlangius merlangus</i>) Yellowfin tuna (<i>Thunnus albacares</i>)</p>
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Recording Results

- All results should be submitted using PORTAL
- Please go to <https://portal.lgcstandards.com>
- Login using your Lab ID, username and password
- A PORTAL user guide can be downloaded from the help section

If you need any help at all please do not hesitate to contact our support team using the details below or your local LGC representative.

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Precautions

Test materials contain viable micro-organisms or chemical contaminants and are supplied on the understanding that the purchaser has suitably competent and qualified personnel to handle them safely. Test materials must only be opened in a laboratory by qualified personnel. Refer to the Safety Data Sheet for information on the safe handling of the test material. The safety data sheets are available for each sample on our website at www.lgcstandards.com.