QGS

Quality in Gelatine Scheme

Scheme Description

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Record of issue status and modifications

ISSUE	ISSUE DATE	DETAILS	AUTHORISED BY
2	15/08/08	General review and update of scheme description	M. Whetton
3	Sept 2009	Operational issues common to all schemes moved into General Protocol. List of abbreviations added. New PORTAL system added. SDPA amended. Lower inoculum ranges.	T.Noblett
4	Aug 2010	Reformatted columns of tables in Appendix A	T.Noblett
5	23/03/11	Change of Address on Page 1	N.Stephenson
6	Aug 2011	Changed details of derivation of assigned value (first paragraph)	T.Noblett
7	Sept 2012	Updated details about ranges and units	T.Noblett
8	Sept 2013	Updated with microbiology method codes	T.Noblett
9	Sept 2014	Minor standardisation amendments, e.g. logo and email addresses. Inclusion of traceability information in Appendix A. Inclusion of subcontracting information in 'Test Materials' section.	N. Mason
10	Sept 2015	Added mesophilic anaerobic spore count sample (605). Updated Microbiology methods for all samples. Inclusion of sample for physicochemical testing of gelatine (606). Removed Hard Copy Report information.	A.Cheetham K. Baryla A.McCarthy
11	Sept 2016	Added Enterobacteriaceae detection analyte to sample 602. Unit and DP updated for viscosity in sample 606. Change of sample weight for 606.	A.Cheetham K. Baryla

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

Scheme Aims and Organisation
The primary aim of the Quality in Gelatine Scheme (QGS) is to enable laboratories performing the microbiological analysis of gelatine to monitor their performance and compare it with that of their peers. QGS also aims to provide information to participants on technical issues and methodologies relating to the microbiological examination of gelatine.

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

Test Materials
Details of test materials available in QGS are given in Appendix A. The test parameters are continually reviewed to ensure they meet the needs of current laboratory testing and regulatory requirements.

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

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

Statistical Analysis
Information on the statistics used in QGS can be found in the General Protocol and in the Scheme Report. Methods for determining assigned values and the values for SDPA used for individual samples are given in Appendix A.

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

Abbreviations for microbiological method codes can be found in Appendix A. The time and temperature of incubation does not need to be reported.

Results and Reports
QGS results are returned through our electronic reporting software, PORTAL, full instructions for which are provided by email. However, participants may request result submission forms on which to report and return results if they are unable to report through electronic means. This will incur an additional charge.

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

APPENDIX A - Description of abbreviations used

Assigned Value (AV)

The assigned value may be derived in the following ways:

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

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

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

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

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

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

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

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

Range

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

SDPA

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

Units -This indicates the units used for the assessment of data and in which participants should report their results. For some analytes in some schemes participants may have a choice of which units to report their results, however, the units stipulated in this scheme description are the default units to which any results reported using allowable alternative results will be converted to.

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

ABBREVIATIONS FOR MICROBIOLOGICAL METHOD CODES

PCR = Polymerase chain reaction
TSC = Tryptone sulphite cycloserine agar
MPN = Most probable number
RC= Reinforced Clostridia
IS = Iron sulphite agar
OPSP= oleandomycin polymixin sulphadiazine perfringens

All analytes will also have 'OTHER' as a method choice in case your method is not listed

Sample 601 **Presence/absence of Salmonella**
Supplied as: 25g gelatine hydrolysate

Analyte	Method	AV	Range	SDPA	Units	DP
Detection of *Salmonella* species	Enrichment/culture VIDAS PCR ELISA TECRA RAPID test (various) Chromogenic agar	Qual Form	0 to 500	NA	cfu $25g^{-1}$	NA

Sample 602 **Indicator organisms**
Supplied as: 10g gelatine hydrolysate

Analyte	Method	AV	Range	SDPA	Units	DP
Total aerobic mesophilic count	Plate count agar Tryptone Soy agar Petrifilm MPN	RMean	0 to 1,000	$\log_{10}$ 0.35	cfu g^{-1}	0
Detection of coliforms Detection of *E.coli* Detection of Enterobacteriaceae	Enrichment/culture Direct plating Petrifilm MPN RAPID test (various)	Qual Form	0 to 500	NA	cfu $10g^{-1}$	NA

Sample 603 **Clostridium**
Supplied as: 10g gelatine hydrolysate

Analyte	Method	AV	Range	SDPA	Units	DP
Detection of *Clostridium perfringens*	Enrichment/culture Direct plating MPN	Qual Form	0 to 500	NA	cfu $10g^{-1}$	NA
Enumeration of sulphite-reducing bacteria	TSC agar IS agar OPSP agar MEA agar	RMean	0 to 1,000	$\log_{10}$ 0.35	cfu g^{-1}	0

Sample 604 **Staphylococcus aureus**
Supplied as: 10g gelatine hydrolysate

Analyte	Method	AV	Range	SDPA	Units	DP
Detection of *S.aureus*	Enrichment/culture MPN Direct plating Baird Parker agar Petrifilm	Qual Form	0 to 500	NA	cfu $10g^{-1}$	NA

Sample 605 **Anaerobic Mesophilic Spore Count**
Supplied as: 10g gelatine hydrolysate

Analyte	Method	AV	Range	SDPA	Units	DP
Enumeration of mesophilic anaerobic spores	Plate count agar RC agar	RMean	0 to 1,000	$\log_{10}0.50$	cfu g^{-1}	NA

Sample 606* **Physicochemical testing of gelatine**
Supplied as: 60g gelatine

Analyte	Method	AV	Range	SDPA	Units	DP
Ash	Various	RMean	0.1 to 5	RSD	g/100g	2
Gel strength (Bloom)	Texture analyzer Gelometer	RMean	50 to 300	RSD	g Bloom	0
Isoelectric point	Various	RMean	4 to 10	RSD	-	2
Moisture	Various	RMean	9 to 15	RSD	%	2
pH	pH meter	RMean	2 to 10	RSD	-	2
Viscosity	Various	RMean	15 to 80	RSD	mPas	2

*Test material currently not included in LGC's UKAS Scope of Accreditation.