HYGIENE

Environmental Hygiene Monitoring PT Scheme

Scheme Description

LGC Standards
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Record of issue status and modifications

ISSUE	ISSUE DATE	DETAILS	AUTHORISED BY
1	Mar 2014	First issue	T. Noblett
2	Apr 2014	Amend count to cfu/plate rather than cm^2	T. Noblett
3	Sept 2014	Included additional samples 2 and 3	T. Noblett
4	Nov 2014	Added methods and units for Sample 2. Added choice of method for either cfu /plate or cfu/cm^2	T.Noblett
5	Jan 2015	Amended the presentation of each sample to 'plastic surface'.	T.Noblett
6	Sept 2015	Added trial samples 4 and 5. Removed Hard copy Report information.	A.S.Eden A.McCarthy
7	June 2016	Added accreditation information	A.McCarthy
8	June 2016	Removed Enterobacteriaceae from sample HY01	A.S. Eden
9	Sept 2016	Added sample 6 Contact plate – yeast and mould Amended SDPA for sample HY01 to Robust SD Disclaimers added for yeast and mould in sample 1 and Listeria in sample 2 as non-accredited analytes.	A.S. Eden

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

Scheme Aims and Organisation

The primary aim of the Environmental Hygiene Monitoring Proficiency Testing Scheme (HYGIENE) is to enable laboratories performing workplace environmental monitoring of surfaces to monitor their performance and compare it with that of their peers. HYGIENE also aims to provide information to participants on technical issues and methodologies relating to microbiological workplace testing.

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

Test Materials

Details of test materials available in HYGIENE 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 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 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

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.

Scheme 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 (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 as illustrated 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 (Formulation). 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

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. These are the units 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.

APPENDIX A

Sample 1 **Surface testing using swabbing techniques**
Supplied as: Plastic surface

Analyte	Method	AV	Range	SDPA	Units	DP
Total aerobic mesophilic count	Plate count agar Petrifilm	RMean	0 to 10000	Greater of robust SD or 0.35 log_{10}	cfu/plate or cfu/cm^2	0
Enumeration of yeast** and/or Enumeration of mould**	OGYE agar Dichloran 18 agar Malt extract agar Rose Bengal agar DRBC agar YGC agar Petrifilm	RMean	0 to 10000	Greater of robust SD or 0.35 log_{10}	cfu/plate or cfu/cm^2	0

Sample 2 **Surface testing using swabbing techniques**
Supplied as: Plastic surface

Analyte	Method	AV	Range	SDPA	Units	DP
Detection of *Listeria* species**	Enrichment/culture PCR RAPID L.MONO	RMean	0 to 100	NA	cfu/plate	0
Detection of *Salmonella* species	Enrichment/culture PCR VIDAS ELISA TECRA	RMean	0 to 100	NA	cfu/plate	0

**analytes marked with an asterisk are not included in LGC's UKAS scope of accreditation

Sample 3 **Surface testing using contact plates**
Supplied as: Plastic surface

Analyte	Method	AV	Range	SDPA	Units	DP
Total aerobic mesophilic count	Contact plate	RMean	0 to 300	log_{10} 0.35	cfu/plate or cfu/cm^2	0

Sample 4* **Hygiene testing using dip slides**
Supplied as: Lyophilised tablet to be added to sterile water

Analyte	Method	AV	Range	SDPA	Units	DP
Total viable count	Dip slide	RMean	0 to 100,000	TBC	cfu/dipslide or cfu/ cm^2	0
Enumeration of coliforms	Dip slide	RMean	0 to 100,000	TBC	cfu/dipslide or cfu/ cm^2	0

Sample 5* **ATP**
Supplied as: Lyophilised tablet to be added to sterile water

Analyte	Method	AV	Range	SDPA	Units	DP
ATP	ATP meter (various)	RMean	TBC	TBC	Rlu/plate	0

Sample 6* **Surface testing using contact plates**
Supplied as: Plastic surface

Analyte	Method	AV	Range	SDPA	Units	DP
Enumeration of yeast	Contact plate	RMean	0 to 300	log_{10} 0.35	cfu/plate or cfu/cm^2	0
Enumeration of mould	Contact plate	RMean	0 to 300	log_{10} 0.35	cfu/plate or cfu/cm^2	0
Enumeration of yeast and mould	Contact plate	RMean	0 to 300	log_{10} 0.35	cfu/plate or cfu/cm^2	0

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

ABBREVIATIONS FOR MICROBIOLOGICAL METHOD CODES

VRBGA = Violet red bile glucose agar
OGYE = Oxytetracycline-Glucose Yeast Extract agar
DRBC = dichloran rose bengal
YGC = Yeast glucose chloramphenicol agar
PCR = Polymerase chain reaction
Cfu = colony forming units
Rlu = relative light units

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