# Scheme Description

## Hygiene Surface Monitoring (HYGIENE) Proficiency Testing Scheme

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UKAS PROFICIENCY TESTING
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## RECORD OF ISSUE STATUS AND MODIFICATIONS

| Issue | Issue Date | Details | Authorised by |
|---|---|---|---|
| 15 | Nov 2018 | Sample 6 is now included in our UKAS scope of accreditation | A McCarthy |
| 16 | Aug 2019 | New analyte organism ID added to sample HY03; updated format of contact plate samples. | R.Smith |
| 17 | May 2020 | Updated UKAS logo<br>Sample 7 now accredited | A McCarthy |
| 18 | June 2020 | Included new sample 08 for SARS-COV-2 testing from surfaces | T.Noblett |
| 19 | Sept 2020 | Included new Air filter sample HY09 and new swab rinsate samples HY10 and HY11 | R. Smith |
| 20 | July 2021 | Updated email address and UKAS logo<br>HY09 add Yeast and Mould parameters to sample, Sample 08 changed to 2X dry swabs. | A Collins<br>K.Osbiston |
| 21 | Aug 2021 | Removed all diluents from the relative samples. | K.Osbiston |
| 22 | Sept 2022 | Addition of sample 12, 13 and 14. Split sample 08 into the two different formats | A.S.Eden |
| 23 | Sept 2023 | Sample 08 removed<br>HY01 and HY02 updated to include direct and swab analytes as on PORTAL.<br>Units added to 'Range'<br>'Units' changed to 'Reporting Units' | T.Ashcroft |
| 24 | July 2024 | Changed HY05 reporting units and range<br>Increased ranges of PT-HY-13 and PT-HY-14 sponge samples<br>Added PT-HY-15 Cronobacter detection in sponge.<br>General format of document updated. Removed references to Appendix A. | T.Ashcroft<br><br><br>N. Mason |
| 25 | July 2025 | New style SD created Added HY-16 for pathogens in sink drain | T.Noblett |
| 26 | Nov 2025 | Chaged format of HY-15 to swab | T.Ashcroft |
| 27 | May 2026 | New UKAS logo added | A Collins |
| 27.1 | July 2026 | Format of HY-14 changed to swab from sponge | T.Ashcroft |
| 28 | July 2026 | Identification of Yeast and Mould added to HY-01<br>Sample HY-09 split into A & B samples<br>Removed sample 16<br>HY15 format and range corrected to swab | T.Ashcroft |

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

## SCHEME INFORMATION

### Scheme Aims and Organisation

The primary aim of the Hygiene Surface 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 the 'Samples Available' section. 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 the 'Samples Available' section.

### Methods

Methods are listed 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.

The time and temperature of incubation does not need to be reported.

### Results and Reports

HYGIENE results are returned through our electronic reporting software, PORTAL, full instructions for which are provided by email.

HYGIENE 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.

## 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.

## SAMPLES AVAILABLE

**Sample PT-HY-01** **Surface testing using swabbing techniques – Hygiene indicators**
Supplied as: Plastic surface with a lyophilised tablet.

| Analyte | Method | AV | Range cfu/200µl | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Total aerobic mesophilic count (Direct count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/200µl | 0 |
| Total aerobic mesophilic count (Swab count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/plate or cfu/cm$^2$ | 0 |
| Enumeration of yeast (Direct count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/200µl | 0 |
| Enumeration of yeast (Swab count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/plate or cfu/cm$^2$ | 0 |
| Enumeration of mould (Direct count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/200µl | 0 |
| Enumeration of mould (Swab count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/plate or cfu/cm$^2$ | 0 |
| Enumeration of yeast and mould (Direct count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/200µl | 0 |
| Identification of yeast and mould to genus and/or species level‡ | All | Qual Form | NA | NA | NA | NA |
| Enumeration of yeast and mould (Swab count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/plate or cfu/cm$^2$ | 0 |
| Enumeration of Enterobacteriaceae (Direct count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/200µl | 0 |
| Enumeration of Enterobacteriaceae (Swab count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/plate or cfu/cm$^2$ | 0 |
| Enumeration of coliforms (Direct count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/200µl | 0 |
| Enumeration of coliforms (Swab count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/plate or cfu/cm$^2$ | 0 |
| Enumeration of *Escherichia coli* (Direct count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/200µl | 0 |
| Enumeration of *Escherichia coli* (Swab count) | All | RMean | 0 to 10,000 | Greater of robust SD or $\log_{10}$ 0.35 | cfu/plate or cfu/cm$^2$ | 0 |

‡Accredited within the boundaries of LGC's flexible scope of UKAS accreditation

**Sample PT-HY-02** **Surface testing using swabbing techniques - Pathogens**
Supplied as: Plastic surface with a lyophilised tablet.

| Analyte | Method | AV | Range cfu/200µl | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Detection of *Listeria* species (Direct Detection) | All | Qual Form | 0 to 100 | NA | Detected/Not Detected 200µl | NA |

| Analyte | Method | AV | Range cfu/200µl | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Detection of *Listeria* species (Swab Detection) | All | Qual Form | 0 to 100 | NA | Detected/Not Detected plate | NA |
| Detection of *Listeria monocytogenes* (Direct Detection) | All | Qual Form | 0 to 100 | NA | Detected/Not Detected 200µl | NA |
| Detection of *Listeria monocytogenes* (Swab Detection) | All | Qual Form | 0 to 100 | NA | Detected/Not Detected plate | NA |
| Detection of *Salmonella* species (Direct Detection) | All | Qual Form | 0 to 100 | NA | Detected/Not Detected 200µl | NA |
| Detection of *Salmonella* species (Swab Detection) | All | Qual Form | 0 to 100 | NA | Detected/Not Detected plate | NA |

**Sample PT-HY-03** **Surface testing using contact plates - TAMC**
Supplied as: Plastic surface with a lyophilised tablet.

| Analyte | Method | AV | Range cfu/plate | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Total aerobic mesophilic count | All | RMean | 0 to 300 | 0.35 $\log_{10}$ | cfu/plate | 0 |
| Identification of organism | All | Qual Form | 0 to 300 | NA | NA | NA |

**Sample PT-HY-05*** **ATP**
Supplied as: 2 x lyophilised tablet/s to be added to sterile water

| Analyte | Method | AV | Range cfu/tablet | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| ATP | ATP Meter (various) | RMean | TBC | TBC | RLU | 0 |

**Sample PT-HY-06** **Surface testing using contact plates – yeast and mould**
Supplied as: Plastic surface with a lyophilised tablet.

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

*Please note that these samples are not currently within the scope of LGC's UKAS accreditation.

**Sample PT-HY-07** **Surface testing using contact plates - *Staphylococcus aureus***
Supplied as: Plastic surface with a lyophilised tablet.

| Analyte | Method | AV | Range cfu/plate | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Enumeration of *Staphylococcus aureus* | Contact plate | RMean | 0 to 300 | 0.35 $\log_{10}$ | cfu/plate or cfu/cm$^2$ | 0 |

**Sample PT-HY-09** **Air filter testing**

**Sample 09A:** Air filter for Total Viable Count
Supplied as: 1 x Dry 0.45µm membrane filter

| Analyte | Method | AV | Range cfu/filter | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Total viable count | All | RMean | 0 to 300 | 0.35 $\log_{10}$ | cfu/filter | 0 |

**Sample 09B:** Air filter for Yeast and Mould
Supplied as: 1 x Dry 0.45µm membrane filter

| Analyte | Method | AV | Range cfu/filter | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Enumeration of yeast | All | RMean | 0 to 300 | 0.35 $\log_{10}$ | cfu/filter | 0 |
| Enumeration of mould | All | RMean | 0 to 300 | 0.35 $\log_{10}$ | cfu/filter | 0 |
| Enumeration of yeast and mould | All | RMean | 0 to 300 | 0.35 $\log_{10}$ | cfu/filter | 0 |

**Sample PT-HY-10** **Swab rinsate sample**
Supplied as: Lyophilised tablet and 10ml diluent

| Analyte | Method | AV | Range cfu/ml | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Total aerobic mesophilic count | All | RMean | 0 to 10,000 | Greater of robust SD or 0.35 $\log_{10}$ | cfu/ml | 0 |
| Enumeration of yeast | All | RMean | 0 to 10,000 | Greater of robust SD or 0.35 $\log_{10}$ | cfu/ml | 0 |
| Enumeration of mould | All | RMean | 0 to 10,000 | Greater of robust SD or 0.35 $\log_{10}$ | cfu/ml | 0 |
| Enumeration of yeast and mould | All | RMean | 0 to 10,000 | Greater of robust SD or 0.35 $\log_{10}$ | cfu/ml | 0 |
| Enumeration of Enterobacteriaceae | All | RMean | 0 to 10,000 | Greater of robust SD or 0.35 $\log_{10}$ | cfu/ml | 0 |
| Enumeration of Coliforms | All | RMean | 0 to 10,000 | Greater of robust SD or 0.35 $\log_{10}$ | cfu/ml | 0 |
| Enumeration of *Escherichia coli* | All | RMean | 0 to 10,000 | Greater of robust SD or 0.35 $\log_{10}$ | cfu/ml | 0 |

**Sample PT-HY-11** **Swab rinsate sample**
Supplied as: Lyophilised tablet and 10ml diluent

| Analyte | Method | AV | Range cfu/ml | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Detection of *Listeria* species | All | Qual Form | 0 to 100 | NA | Detected/Not Detected 10ml | NA |
| Detection of *Listeria monocytogenes* | All | Qual Form | 0 to 100 | NA | Detected/Not Detected 10ml | NA |
| Detection of *Salmonella* species | All | Qual Form | 0 to 100 | NA | Detected/Not Detected 10ml | NA |
| Detection of *Escherichia coli* O157 | All | Qual Form | 0 to 100 | NA | Detected/Not Detected 10ml | NA |

**Sample PT-HY-12** **Surface testing using contact plates**
Supplied as: Plastic surface with a lyophilised tablet.

| Analyte | Method | AV | Range cfu/plate | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Enumeration of Enterobacteriaceae | Contact plate | RMean | 0 to 300 | 0.35 $\log_{10}$ | cfu/plate or cfu/$cm^2$ | 0 |

**Sample PT-HY-13*** **Sponge for detection of Salmonella**
Supplied as: 1 x ready to test sponge

| Analyte | Method | AV | Range cfu/ sponge | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Detection of *Salmonella* species | All | Qual Form | 0 to 1,000 | NA | Detected/Not Detected sponge | NA |

**Sample PT-HY-14*** **Swab for detection of Listeria**
Supplied as: 1 x ready to test swab

| Analyte | Method | AV | Range cfu/ sponge | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Detection of *Listeria* species | All | Qual Form | 0 to 1,000 | NA | Detected/Not Detected swab | NA |
| Detection of *Listeria monocytogenes* | All | Qual Form | 0 to 1,000 | NA | Detected/Not Detected swab | NA |

**Sample PT-HY-15*** **Swab for detection of Cronobacter**
Supplied as: 1 x ready to test swab

| Analyte | Method | AV | Range cfu/ swab | SDPA | Reporting units | DP |
|---|---|---|---|---|---|---|
| Detection of *Cronobacter* species | All | Qual Form | 0 to 1,000 | NA | Detected/Not Detected swab | NA |

*Please note that these samples are not currently within the scope of LGC's UKAS accreditation.