

Surface Sampling for Microbiology

Introduction

In order for any swabbing to be uniform this is a guideline on swabbing procedures as identified in ISO 18593.

Sampling Area

A specified area of the surface to be examined shall be identified. It is important that the laboratory receives a sample that is representative of the surface sampled. The reproducibility of the sampling areas with repeated swabbing will help with troubleshooting if any issues are identified.

If the area is defined by a numerical size, the total sampled area should be as large as possible to increase the probability of detecting microorganisms, it is recommended to sample approximately 100 cm x 100cm. For the enumeration of microorganisms, the area does not need to be so large, e.g. $\leq 10 \text{ cm} \times 10 \text{ cm}$.

If the area is not defined by a numerical size, the area sampled shall be clearly described.

Any sampling using a swab can only have 1 set of results per swab ascribed to it.

IE If you require both Salmonella and Enterococcus analysis testing from the same area, a separate swab for each test must be provided.

Time of Sampling and Frequency

Sampling can be performed either during or after production, or after cleaning and disinfection. The sampling time shall be specified in the sampling procedure of each producer and is dependent on the objective of sampling.

For the sampling of hard-to-reach, small areas ($\leq 10 \text{ cm} \times 10 \text{ cm}$), sterile stick swabs should be used. (e.g. inside hollow rollers or motor housing).

Place the tip of the swab on the surface to be examined and streak while rotating the stick swab between thumb and forefinger. For flat surfaces, the sampling should be performed horizontally and vertically, e.g. 10 times in each direction. For hard-to-reach small surfaces, make sure to sample the entire described location including crevices, gaps, surface connections, etc. Return the stick swab in the tube with the transport media. Make sure the tube is closed so that the swab stays moist until the analysis. This sampling technique is suitable for both presence absence or enumeration techniques.

For the sampling of medium surfaces ($> 10 \text{ cm} \times 10 \text{ cm}$ but $< 30 \text{ cm} \times 30 \text{ cm}$), sponge swabs should be used. Open the plastic bag or container containing the sponge. Grab the sponge through the bag and pull the reversed bag over the hand. Sample the chosen surface horizontally and vertically using even and firm pressure, changing the face of the sponge and ensuring the whole area is sampled. Pull the bag back over your hand ensuring no contact with the inside of the bag. Close the plastic bag or container in a manner that will ensure neither leakage nor cross-contamination. This sampling technique is more suited to enumeration due to the swab consistently taking up the same amount of dust each time, if there is any present. It can be used for presence absence, but the limited sample volume uptake does not ensure that any contamination is picked up.

If a stick sponge is used hold the outside of the bag and present the stick to the other hand making sure that no contact is made with the inside of the bag. Sample the chosen surface horizontally and vertically using even and firm pressure ensuring the whole area is sampled. Place the sponge part of the swab back

into the bag and snap off the handle. Close the plastic bag or container in a manner that will ensure neither leakage nor cross-contamination.

For the sampling of large surfaces using a swab (>30cm x 30 cm), cloth swabs should be used. Open the plastic bag or container containing the cloth, making sure that sterile gloves are worn and have been put on with no contact with the outsides. Sample the chosen surface horizontally and vertically making sure that the dust is swept up with the cloth. When the area has been swept, gather all of the dust possible within the cloth and transfer to the plastic bag or container, sealing in a manner that will ensure neither leakage nor cross contamination. This sampling technique is more suited to presence absence of undesirables as the unknown quantity of dust in the sample makes enumeration very variable.

An alternative technique for sampling larger surface areas, or particularly dusty areas would be to take an environmental dust sample, where both enumeration and presence absence will be reported by sample supplied weight. A sterile pot should be used to collect and supply the sample to the lab.

Information supplied for Audit Trail Purposes

Information which should be written for recording at the laboratory should contain date, hour, and identification of the sampling location. The sampling location and area should be specified within the sites records along with the swab type used.

Any swabs taken for enumeration analysis must arrive at the laboratory within 24 hours of being taken, to ensure the validity of the results.

Any swabs taken for presence / absence analysis must arrive at the laboratory within 72 hours of being taken, to ensure the validity of the results.

Should the swab samples arrive at the laboratory outside of the specified timescale of the swabbing procedure noted above then they will be classed as 'deviating samples' according to ISO 17025:2017 Clause 7.4.3. You will be contacted to confirm if you want us to continue with the analysis.

If you confirm that you wish us to continue to test your swab then the testing will still be UKAS accredited, however a comment will be added to the Certificate of Analysis stating that the validity of the results cannot be ensured due to it being tested outside the validated stability time.

For more information on Sciantec's services, or to request a quotation, please visit our website or contact us on the details provide below:



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