

METHOD STATEMENT



Determinand:

Bioaerosols

Microorganism enumeration is required for each 'environmental' bio aerosol sample as follows:

- Total Mesophilic Bacteria (cfu.m-3)
- Aspergillus fumigatus (cfu.m-3)
- Total Fungi (cfu.m-3)
- Gram Negative Bacteria (cfu.m-3) (including E. Coli and Salmonella)

Microorganism enumeration is required for each 'occupational' bio aerosol sample as follows:

- Total Mesophilic Bacteria (cfu.m-3)
- Aspergillus fumigatus (cfu.m-3)
- Total Fungi (cfu.m-3)

Matrix:

Filters and agar plates

Principle of Method:

Agar plates, used for taking samples with an Andersen sampler, are received in the laboratory and incubated as necessary for any required determinands. Filters, used for taking samples with IOM/SKC sampler heads, are either rinsed or suspended in solution depending on the nature of the filter. Serial dilutions of the rinse or suspension are prepared and plated out, with agar plates incubated as necessary for any required determinands. All agar plates are examined for presence of particular microorganisms as required for each determinand. Endotoxin analysis is carried out via turbidimetric kinetic assay, rather than using agar plates.

Sampling and Sample Preparation:

Environmental Bioaerosols monitoring utilising Andersen samplers and/or pumped IOM/SKC gelatin filters is conducted by a third party monitoring contractor. Sampling media will be forwarded to the contractor or customer as required. Samples are typically taken in duplicate at each 'environmental' sample location.

Occupational bio aerosol monitoring is undertaken by the customer using IOM/SKC Button Aerosol Samplers with sterile 25mm polycarbonate filters.

Interferences:

None identified

Performance of method:

Results are reported as colony forming units (cfu) per cubic metre of air sampled, or as endotoxin units (eu) per cubic metre of air sampled. Prior to reporting, results are calculated to account for any serial dilution prepared in the laboratory, and to also account for the volume of air sampled. The Limit of Detection has not been determined for this method.

References:

Environment Agency - Technical Guidance Note (Monitoring) M9. Environmental monitoring of bioaerosols at regulated facilities. July 2018. Version 2.