



Method Summary

Enumeration of Enterococci in Waste Waters by Membrane Filtration.

Scope and Range

This method is ISO 17025 accredited for the presumptive enumeration of Enterococci in surface water, treated sewage and recreational water (sea water) by using membrane filtration, this method also can be used for other waste waters to enumerate presumptive Enterococci. This method is currently not accredited for the confirmatory stage.

The Enterococci can be found in the human and animal intestine therefore they are regarded as secondary indicators of faecal pollution. In the context of the method, organisms which produce red, maroon, pink, or colourless colonies on Membrane Enterococcus Agar (S&B) containing the dye TTC, and sodium azide at concentrations inhibitory to coliform bacteria and most other Gram negative bacteria, at 44°C are regarded as presumptive Enterococci.

The detection limit is > 1 CFU per 100ml.

Principle

A measured volume of sample is filtered through a cellulose ester membrane of 0.45µm pore size which is sufficient to retain the bacteria. The membrane is then transferred to selective medium (S&B) and the petri dish is inverted so that the membrane is facing down.

The S&B plates are initially incubated at 37°C±1°C for 4±0.5 hours, and then are transferred for the incubation at 44°C±0.5°C for 14±1 hours.

Reading the Results

Samples are removed from the incubator and the membrane is examined for any red, pink, maroon or colourless colonies that are considered to be presumptive Enterococci.

Expression of the Results

The results for presumptive Enterococci are reported as colony forming unit per volume of the sample, which is 100ml. In case of dilutions being made the additional dilution factor must be added to the final result.

If no Enterococci were detected, the result is given:

<1 CFU per 100ml

Interferences

Highly turbid samples may cause difficulty when filtering, and when reading the samples. In such cases, the appropriate dilutions must be made.