

# A 1 Medium

Selective culture medium for the detection of faecal coliforms in water.

The medium conforms with the recommendations of standard methods ( US-EPA ) for the examination of water.

## Mode of Action

Peptone from casein, lactose and salicin are nutrients and guarantee good growth of microorganisms. Sodium chloride provides the osmotic balance. Triton® X 100 is contained as a detergent.

## Typical Composition (g/litre)

Peptone from casein 20.0; lactose 5.0; sodium chloride 5.0; salicin 0.5; Triton® X 100 1.0 ml

## Preparation

Completely dissolve 31.5 g in 1 litre demin. water and fill into tubes containing inverted fermentation vials (Durham-tubes). Autoclave for 10 min. at 121°C

pH : 6.9 ± 0.2 at 25°C

The prepared medium is clear to slightly opalescent and yellowish in colour. The prepared medium can be stored for up to 1 week at room temperature (store in the dark).

For the examination of 10 ml water samples a double-strength concentrated broth is used.

## Experimental Procedure

1. Inoculate tubes according to the Standard Methods MPN-Method.
2. Incubate for 3 hours at 35 ± 0.5°C and then continue incubation in a water bath at 44.5 ± 0.2 °C for 21 ± 2 hours

The water level in the bath must be above the level of the liquid in the test tubes!!!

## Evaluation

Gas formation in the Durham tubes indicates the presence of faecal coliforms.

The number of faecal coliforms is determined using the MPN-table.

## Quality control

Test strains	Inoculum approx. CFU	Growth	Gas formation
Escherichia coli ATCC 25922	100	good/very good	+
Escherichia coli ATCC 8739	100	good/very good	+
Enterococcus faecalis ATCC 19433	100	none / medium	none
Enterobacter aerogenes ATCC 13048	100	none / medium	+/-
Bacillus subtilis ATCC 6633	100	none	none
Aeromonas hydrophila ATCC 7966	100	none	none

## Literature

Andrews, W. H., Pressnell, M. W. 1972. Rapid Recovery of Escherichia coli from estuarine water. *Appl. Microbiol.* **23**:521-523.

Andrews, W. H., Diggs, C. D., and Wilson, C. R. 1975. Evaluation of a medium for the rapid recovery of Escherichia coli from shellfish. *Appl. Mikrobiol.* **29**: 130-131.

Standridge and Delfino. 1981. *Appl. Environ. Microbiol.* **42**: 918

Eaton, A. D., Clesceri, L. S. and Greenberg, A. E. (ed.). 1995. Standard methods for the examination of water and wastewater, 19<sup>th</sup>. Ed. APHA, Washington D.C.

Vanderzant, C., and Splittstoesser, D. F. (ed.). 1992. Compendium of methods for the microbiological examination of food, 3<sup>rd</sup> ed. APHA Washington D.C.

Association of Official Analytical Chemists. 1995. Bacteriological analytical manual, 8<sup>th</sup> ed. AOAC International, Gaithersburg, MD

## Ordering Information

Product	Merck Cat. No	Pack size
A 1 Medium	1.00415.0500	500 g



Escherichia coli



Uninoculated tube