M7HrFC Agar

Intended Use
M7HrFC Agar is recommended for examination of water and wastewater.

Summary
M7HrFC Agar is a modified method of Van Donsel *et al.*, and Reasoner *et al.,* which is recommended by APHA for the examination of water and wastewater for the presence of faecal coliforms by the membrane filter technique. This medium has an advantage over other media to yield results in 7 hours that are generally comparable to those obtained by the standard coliform method. Thus, this medium is accepted for assessment of the sanitary quality of water during emergencies involving water treatment plant failure or line breaks in a distribution network. It is reliable and has sensitivity levels equal to those of the standard tests routinely used.

Principle
Biopeptone and yeast extract provide nutritional requirement to a wide variety of organisms. Lactose and mannitol are energy sources while sodium chloride maintains osmotic equilibrium of the medium. Sodium lauryl sulphate and sodium deoxycholate help to restrict the Gram-positive and Gram-negative bacterial flora present in water. Bromocresol purple and phenol red help as indicators in the detection of organisms. This is a solid culture medium for the rapid detection of faecal coliforms by membrane filtration method.

Formula*

Ingredients	**g/L**
Biopeptone	5.0
Yeast Extract	3.0
Sodium Chloride	7.5
Lactose	10.0
D-Mannitol	5.0
Sodium Lauryl Sulphate	0.2
Sodium Deoxycholate	0.1
Bromocresol Purple	0.35
Phenol Red	0.3
Agar	15.0
Final pH (at 25°C)	7.3 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen
Water and Waste Water samples

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 46.45 g of the powder in 1000 mL of purified / distilled water.
2. Mix thoroughly.
3. Heat with frequent agitation to dissolve the powder completely. DO NOT AUTOCLAVE.
4. Mix well and pour into sterile petridishes.

Quality Control

Dehydrated Appearance: Purple coloured, homogeneous, free flowing powder
Prepared Appearance: Dark pinkish purple coloured, slightly opalescent gel forms in petridishes.
Cultural Response: Cultural characteristics observed after an incubation of 7-18 hours at 41.5°C

Organism (ATCC)	Growth	Colour of Colony
Escherichia coli (25922)	Good	Yellow
Staphylococcus aureus subsp. *aureus* (25923)	Inhibited	-
Enterococcus faecalis (29212)	Inhibited	-

Interpretation of Results

After filtering a suitable or desired volume of water, the membrane is placed on the surface of plate and then incubated at 41.5°C for 7 hours. Faecal coliform form yellow colonies, indicating lactose fermentation.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Precautions / Limitations

Membrane Filtration technique has certain limitations, particularly when testing waters with high turbidity or noncoliform (background) bacteria. For such waters or when the membrane filter technique has not been used previously, it is desirable to carry out parallel tests with the multiple tube fermentation technique to determine applicability and comparability.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Van Donsel D. J., Twedt R. M. and Geldrich E. E., 1969, Bacteriol.Proc. Abs. No. G46; p. 25.
2. Reasoner, D.J., Blannon J. C. and Geldrich E. B., 1979, Appl. Environ. Microbiol., 38:229.
3. Eaton A. D., Clesceri L. S., Rice E. W. and Greenberg A. W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201130420500	Dehydrated Culture Media	500 g