

Tergitol-7 TTC Medium (without Membrane Filter)

MF016

For detection and enumeration of *E. coli* and coliforms.

Composition** - Proprietary

Directions

The test sample should be filtered through a sterile membrane filter having pore size of 0.22 μ / 0.45 μ . Rehydrate the nutrient pad with 2.0 -2.5 ml sterile distilled / purified water. After filtration, remove the membrane filter aseptically using sterile forceps. Place the membrane filter on rehydrated nutrient pad. Incubate the inoculated nutrient. Interpret the results qualitatively by observing the presence or absence of growth and quantitatively by counting the number of colonies on the surface of the membrane filter and calculating CFU/ml.

Principle And Interpretation

Field of Application: Water (ISO 9308-1, 2001). DriFilter Membrane Nutrient Pad Medium is ready to use sterile culture media in the form of a 50 mm biological inert absorbent pads impregnated with Tergitol-7 medium, then dried and sterilized in 55 mm petri plate. They eliminate the need of laborious media preparation and autoclaving procedures. The nutrient pads are to be just rewetted with sterile distilled water and are ready to use. Use of nutrient pads allows larger sample volumes to be tested at a time. Interpretation of results is directly by counting the CFUs and also quantifies the microbial load present in the sample. Tergitol-7 Broth was originally designed by Chapman (1) and later on modified by incorporating 2,3,5-Triphenyl Tetrazolium Chloride (TTC) into the medium. This medium is selective and differential which is used for the detection and enumeration of coliform organisms. Pollard (2) has reported the selective bactericidal property of sodium heptadecyl sulphate (Tergitol-7). Kulp et al (3) corroborated the use of Tergitol-7 medium with TTC in routine analysis of water and Mossel (4) used this medium for the examination of food materials. Sodium heptadecyl sulphate (Tergitol-7) inhibits gram-positive bacteria and *Proteus* swarming and yields better recovery of coliforms. Bromo thymol blue is the pH indicator. Lactose fermenting organisms form yellow coloured medium while *Klebsiella* and *Enterobacter* form greenish yellow coloured medium. Lactose non-fermenters produce blue coloured medium. TTC is reduced in the bacterial cell to form formazan, a red coloured insoluble complex thereby producing red coloured medium.

Quality Control

Appearance

Dry filter membrane pad of 50mm diameter

Colour

Light yellow to slightly greenish coloured nutrient pad

Sterility test

Passes release criteria

Cultural response

Cultural characteristics observed after incubation at 35-37°C for 18-24 hours

Organism	Growth	Colour of colony
<i>Escherichia coli</i> ATCC 25922	Luxuriant	Yellowish orange
<i>Enterobacter aerogenes</i> ATCC 13048	Luxuriant	Yellowish orange
<i>S.serotype Typhimurium</i> ATCC 14028	Luxuriant	Yellowish green (colour of filter pad turns blue)

Storage and Shelf Life

Store between 10-30°C. Use before expiry date on the label.

Reference

1. Chapman G.H., 1947, J. Bact., 53:504. 2. Pollard A.L., 1946, Science, 103:758. 3. Kulp W., Mascoli C. and Tavshanjian O., 1953, Am. J. Public Health, 43:1111. 4. Mossel D.A.A., 1962, J. Appl. Bact., 25:20.

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