Tergitol-7 Agar Base

Intended Use
Tergitol-7 Agar Base is used as a selective medium for the detection of coliform bacteria and for early detection of *E. coli* in water analysis.

Summary
Tergitol-7 (Sodium heptadecyl sulphate) Agar or T-7 Agar is formulated as described by Chapman. Tergitol-7 (sodium heptadecyl sulfate) inhibits the growth of Gram-positive bacteria, gram negative spore formers and swarming of *Proteus* while allowing the growth of coliform bacteria. Chapman modified his original T-7 agar by adding 40 mg of triphenyl tetrazolium chloride (TTC). On modified media he found that surface colonies of *Escherichia coli* produce greenish yellow colonies surrounded by yellow halo while other coliforms produce dark red colonies. Tergitol-7 Agar with TTC is used for routine analysis of water and food.

Principle
Proteose Peptone and Yeast extract serve as a source of nitrogen and vitamins. Tergitol-7 (sodium heptadecyl sulphate) as a selective agent inhibits the growth of Gram-positive bacteria, Gram-negative spore formers and swarming of *Proteus* spp. Lactose is the fermentable sugar. Lactose fermentation is indicated by a colour change of the pH indicator, Bromothymol blue. Lactose fermenting organisms form yellow colored colonies surrounded with yellow zones while *Klebsiella* and *Enterobacter* form greenish yellow colonies. Non-Lactose fermenting organisms form blue colonies. Agar is the solidifying agent. When TTC is added to the medium, it is rapidly reduced to insoluble red formazan by most organisms. Non-lactose fermenters appear red due to uptake and reduction of TTC while lactose fermenting organisms continue to form yellow to greenish-yellow colonies.

Formula*

Ingredients	**g/L**
Proteose Peptone	5.0
Yeast Extract	3.0
Lactose	10.0
Tergitol-7 (Sodium heptadecyl Sulphate)	0.1
Bromothymol Blue	0.025
Agar	15.0
Final pH (at 25°C)	6.9 ± 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
Food sample; Water sample

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 33.13 g of the powder in 1000 mL purified / distilled water & mix well.
2. Heat with frequent agitation and boil for 1 minute to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
4. If desired, cool Tergitol-7 Agar to 45°C-50°C. Aseptically add 3 mL of 1% solution of (TTC) Triphenyl Tetrazolium Chloride solution (204200740010).
5. Mix well & pour into sterile petridishes.

Quality Control

Dehydrated Appearance: Cream to light green coloured, with green tinge, homogenous, free flowing powder.
Prepared Appearance: Green coloured, clear to slightly opalescent gel forms in petridishes.
Cultural Response: Cultural characteristics observed after an incubation at 35°C-37°C for 18-48 hours with added TTC Solution 1%.

Organism (ATCC)	**Growth**	**Color of Colony**
Escherichia coli (25922)	Good	Yellow with red center
Klebsiella aerogenes (13048)	Good	Reddish brown
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Good	Red with bluish zone
Shigella flexneri serotype 2b (12022)	Good	Red with bluish zone
Staphylococcus aureus subsp. *aureus* (25923)	Complete Inhibition	-

Interpretation of Results

E. coli produces yellow colonies; other coliforms produce yellow-green colonies while Non-lactose fermenters produce red colonies.

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

1. It is preferable that biochemical and / or serological tests be performed on colonies from pure culture for complete identification.
2. Pour plates do not give satisfactory results.

Warranty

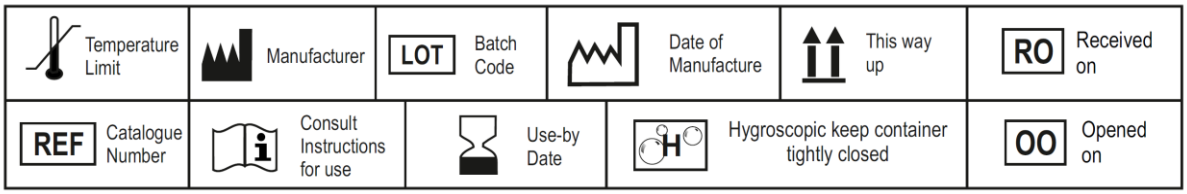
This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

References

1. Chapman, G. H. 1947. J. Bacteriol. 53:504.
2. Chapman, G. H. 1951. Am. J. Public Health.41:1381.
3. Kulp, W., C. Mascoli, and O. Tavshanjian. 1953. Am. J. Public Health. 43:1111.
4. F.P.D. Keith Ito, fourth edition. 2001. Compendium of Methods for the Microbiological Examination of Foods. Washington, D.C.: American Public Health Association.
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201200050500	Dehydrated Culture Media	500 g



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Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.