OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Tergitol 7 Agar Base

Principle

Tergitol 7 agar base is composed of proteose peptone, yeast extract, lactose, tergitol 7, bromothymol blue and agar. Proteose peptone provides nitrogen and amino acids. Yeast extracts serve nitrogen, carbon, and vitamin. Lactose is fermentable carbohydrate. Tergitol 7 is selective agents ease in the recovery of injured coliforms. Brom thymol bule is pH indicators. Lactose fermenting microorganism like *Escherichia coli* form yellow color colonies with yellow zone, while *Enterobacter* and *Klebsiella* colonies are greenish-yellow and lactose non-fermenting organisms, such as *Salmonella* and *Shigella*, produce colonies surrounded by blue zones. For more differentiation triphenyl tetrazolium chloride is added to the medium, it serves as an indicator of lactose fermenting and non-fermenting bacterial growth. Triphenyl tetrazolium chloride is rapidly reduced to insoluble red formazan by most lactose-fermenting organisms except *Escherichia coli*, *Enterobacter* and *Klebsiella* species. While other lactose fermenters, like coliforms, produce greenishyellow colonies with yellow zones. The lactose non-fermenters produce red colonies surrounded by blue zones. Agar is a solidifying agent. The media can be fortified with Penicillin G (1.0 µg/ml), aseptically added to the medium after autoclaving, prevents growth of gram-positive cocci. The fecal coliform bacteria are identified as yellow colonies with deep yellow halo after incubation at 44°C.

Use: For selective isolation and identification of coliform bacteria from water.

Contents*

Ingredients	Gram/Litre
Proteose Peptone	5.000
Yeast Extract	3.000
Lactose	10.000
Tergitol 7	0.100
Bromothymol Blue	0.025
Agar	15.000
pH at 25˚C	6.9 ±0.2

*** Formula adjusted for optimum performance and parameters**

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Directions: Dissolve 33.00 grams in 1000 ml distilled water, boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 min, cool it to 42-45 °C and distribute aseptically in petri plates. Ensure complete solidification and inoculate test sample aseptically.
Note: For more differentiation, add 3.0 ml of filter-sterilized 1% Triphenyl tetrazolium chloride solution.

Specimens types analyzed

Water samples etc.

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Quality Control	
Appearance	Green beige colored free flowing, homogeneous powder
Reaction of 3.3% solution	6.9 ±0.2 at 25 ˚C
pH	6.70- 7.10
Gelling	Firm comparable with 1.5% agar gel
Color and clarity of ready medium	Green colored slightly opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 ºC for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h
Negative control	Performed using sterile distilled water

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Different Microbial Response: Cultural characteristics observed after incubation at 35±2°C for 18-48 hours. Inoculum 50-100 CFU.				
Organism	**ATCC**	**Growth**	**Recovery**	**Color of colony**
Escherichia coli	**8739**	**Luxuriant**	**≥ 60%**	**Yellow colony with red center**
Salmonella typhimurium	**14028**	**Luxuriant**	**≥ 60%**	**Red with bluish zone**
Klebsiella aerogenes	**13048**	**Luxuriant**	**≥ 60%**	**Reddish brown**
Pseudomonas aeruginosa	**27853**	**Good**	**≥ 40%**	**Red with bluish zone**
Shigella flexneri	**9199**	**Good**	**≥ 40%**	**Red with bluish zone**
Staphylococcus aureus	**25923**	**Inhibited**	**--**	**--**

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. **Atlas, R. M. (2005). Handbook of media for environmental microbiology. CRC press.**
2. **Difco Manual (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.**
3. **Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.**
4. **Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.**

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