

TM 440 - TERGITOL - 7 AGAR BASE (IS: 5887 (Part I) 1976, reaffirmed 2005)

INTENDED USE

For selective isolation and identification of coliform bacteria from water.

PRODUCT SUMMARY AND EXPLANATION

Tergitol-7 Agar base is a selective and differential medium used for the detection and enumeration of coliforms in food and water samples. It was originally designed by Chapman and later modified by incorporating 2,3,5-Triphenyl Tetrazolium Chloride (TTC) into the medium. The use of Tergitol-7 allows for selective isolation of coliform organisms.

COMPOSITION

Ingredients	Gms / Ltr
Agar	15.000
Lactose	10.000
Proteose peptone	5.000
Yeast extract	3.000
Tergitol 7 (Sodium heptadecyl sulphate)	0.100
Bromo thymol blue	0.025

PRINCIPLE

The medium contains Proteose peptone and yeast extract serve as sources of carbon, nitrogen and other essential nutrients including vitamin B complex. 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 colonies with yellow zones while *Klebsiella* and *Enterobacter* spp. form greenish yellow colonies. Lactose non-fermenters produce blue colonies. TTC is reduced by the bacterial cell except *Escherichia coli* and *Klebsiella aerogenes* to form formazan, a red coloured insoluble complex, thereby producing red coloured colonies.

INSTRUCTION FOR USE

1. Dissolve 33.12 grams in 1000 ml distilled water.
2. Gently heat to boiling with swirling to dissolve the medium completely.
3. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
4. Cool to 45-50°C.
5. Aseptically add 3 ml of Triphenyl Tetrazolium Chloride (TTC) Solution (TS 042), if desired.
6. Mix well and pour into sterile petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Dehydrated powder	: Cream to light green, homogeneous free flowing powder
Appearance of Prepared medium	: Green colored, clear to slightly opalescent gel
pH (at 25°C)	: 6.9± 0.2

INTERPRETATION

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours with added TTC solution 1% (TS 042).



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony/medium	Incubation Temp.	Incubation Period
<i>Enterobacter aerogenes</i>	13048	50-100	Luxuriant	>=50%	Reddish brown	35-37°C	18-48 Hours
<i>Proteus mirabilis</i>	25933	50-100	Good	40-50%	Red with bluish zone	35-37°C	18-48 Hours
<i>Escherichia coli</i>	25922	50-100	Good-Luxuriant	>=50%	Yellow with red centre	35-37°C	18-48 Hours
<i>Pseudomonas aeruginosa</i>	27853	50-100	Good	40-50%	Red with bluish zone	35-37°C	18-48 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	Luxuriant	>=50%	Red with bluish zone	35-37°C	18-48 Hours
<i>Shigella flexneri</i>	12022	50-100	Good-Luxuriant	>=50%	Red with bluish zone	35-37°C	18-48 Hours
<i>Staphylococcus aureus</i>	25923	≥1000	Inhibited	0%	-	-	-

PACKAGING

In 100 & 500 gm packaging size.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use powder if they show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Chapman, G. H. A superior culture medium for the enumeration and differentiation of coliforms. J. Bacteriol. 53:504. (1947).
2. Speck, Marvin L. (ed.). Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association, Washington, D.C. (1992).
3. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 QR Code	 Consults Instructions for Use	 Best Before

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

*For Lab Use Only

Revision: 05th Oct. 2019

