

## TM 2363 – TERGITOL-7 AGAR BASE, MODIFIED

### INTENDED USE

For selective isolation and identification of coliform bacteria from water.

### PRODUCT SUMMARY AND EXPLANATION

Tergitol-7 Agar is a selective and differential medium for the detection and enumeration of coliforms in water. Chapman modified his original formula of Tergitol-7 Agar by addition of Triphenyl Tetrazolium Chloride (TTC). It is now recommended by ISO Committee. Tergitol-7 is a selective agent which inhibits gram positive organisms and minimises swarming of *Proteus* species enabling better coliform recovery. Lactose fermentation is observed by change in colour of bromo thymol blue, the pH indicator. Triphenyl Tetrazolium Chloride (TTC) allows earlier recognition and identification of *Escherichia coli* and *Enterobacter aerogenes* in water and food.

Filter the specimen to be analyzed through two membranes. Place the membrane upon two TTC Tergitol Agar plates. Incubate one plate at 37°C for 24 hours (total coliforms) and the other at 44°C for 18-24 hours (faecal coliforms). The yellow colonies with deep yellow halo after incubation at 44°C should be identified as faecal coliform bacteria.

### COMPOSITION

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

### PRINCIPLE

Peptic digest of animal tissue, meat extract and yeast extract serve as sources of carbon, nitrogen and other essential nutrients including vitamin B complex. Bromothymol blue is the pH indicator. TTC is rapidly reduced by coliforms except *Escherichia coli* and *Enterobacter aerogenes* to insoluble formazan which gives red colour to the colonies. The lactose fermenters show greenish yellow colonies with yellow zones while lactose non-fermenters show red colonies surrounded by blue zones.

### INSTRUCTION FOR USE

- Suspend 57.15 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
- If desired, cool Tergitol-7 Agar to 45°C-50°C. Aseptically add 3 mL of 1% solution of (TTC) Triphenyl Tetrazolium Chloride solution.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to light green homogeneous free flowing powder.
Appearance of prepared medium	: Green coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C)	: 7.2±0.2

### INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony (on plain medium)	Colour of colony (with addition of TTC)	Incubation Temperature	Incubation Period
<i>Enterobacter aerogenes</i>	13048	50-100	Luxuriant	>=70%	Yellow	Reddish brown	35-37°C	18-48 Hours
<i>Escherichia coli</i>	25922	50-100	Luxuriant	>=70%	Yellow	Yellow with red centre	35-37°C	18-48 Hours
<i>Klebsiella pneumoniae</i>	13883	50-100	Luxuriant	>=70%	Yellow	Yellow with red centre	35-37°C	18-48 Hours
<i>Proteus vulgaris</i>	13315	50-100	Good	40-50%	Colourless with bluish zone	Red with bluish zone	35-37°C	18-48 Hours
<i>Pseudomonas aeruginosa</i>	27853	50-100	Good	40-50%	Colourless with bluish zone	Red with bluish zone	35-37°C	18-48 Hours
<i>Salmonella</i> Typhimurium	14028	50-100	Luxuriant	>=70%	Colourless with bluish zone	Red with bluish zone	35-37°C	18-48 Hours
<i>Staphylococcus aureus</i>	25923	>=10 <sup>3</sup>	Inhibited	0%	-	-	35-37°C	18-48 Hours

#### PACKAGING:

In pack size of 100 gm and 500 gm bottles.

#### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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 if they show evidence of microbial contamination, discoloration, drying or any 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., 1947, J. Bact., 53:504.
2. Chapman G.H., 1951, Am. J. Public Health, 41:1381.
3. International Organization For Standardization (ISO), 1990, Draft ISO/DIS 9308-1.
4. Pollard A.L., 1946, Science., 103:758. 5. Mossel D.A.A., 1962, J. Appl. Bact., 25:20.



 GMP Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

**\*For Lab Use Only**  
**Revision: 08 Nov., 2019**