

## TM 698 – COLIFORM BROTH

### INTENDED USE

For isolation and cultivation of coliform organisms from milk and milk products.

### PRODUCT SUMMARY AND EXPLANATION

Bacteriological Examination of water samples to determine its suitability for drinking and other domestic purpose has traditionally been done by the most probable number (MPN) procedures or the membrane filter (MF) technique. The presence of total coliforms, faecal coliforms or *Escherichia coli* is well recognized as an indication of unsafe or poor water quality for which corrective measures should be taken. Coliform Broth is recommended for isolation and cultivation of coliforms organisms from cream yogurt and raw milk. Coliforms that ferment lactose produce acid and gas. The acidity formed is indicated by a colour change of the medium from purple to yellow, indicated by the pH indicator dye bromo cresol purple.

### COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	10.000
Yeast extract	6.000
Bile salts	20.000
Sodium deoxycholate	0.100
Lactose	20.000
Sodium lauryl sulphate (SLS)	1.000
Bromocresol purple	0.035

### PRINCIPLE

Sodium deoxycholate and bile salts inhibit gram positive bacteria. Sodium lauryl sulphate is inhibitory to many organisms but not to coliforms. A distinct yellow colour results from the fermentation of lactose and gas production can be detected as bubbles with gentle shaking. Proteose peptone and yeast extract provides nitrogenous and carbonaceous compounds, vitamin B complex and other nutrients. Lactose is the fermentable carbohydrate. Bromo cresol purple is the pH indicator.

### INSTRUCTION FOR USE

- Dissolve 57.14 grams in 1000 ml purified / distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense in tubes or flasks as desired and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50° C. Mix well and pour into sterile Petri plates.

### QUALITY CONTROL SPECIFICATIONS

<b>Appearance of Powder</b>	: Cream to yellow homogeneous free flowing powder.
<b>Appearance of prepared medium</b>	: Purple coloured, clear solution without any precipitate.
<b>pH (at 25°C)</b>	: 7.0±0.2

### INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Acid	Gas	Incubation Temperature	Incubation Period
<i>Klebsiella aerogenes</i>	13048	50-100	Good-luxuriant	Positive reaction, yellow colour	Positive reaction	35-37°C	18-48 Hours
<i>Escherichia coli</i>	25922	50-100	Good-luxuriant	Positive reaction, yellow colour	Positive reaction	35-37°C	18-48 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	$\geq 10^3$	Inhibited	-	-	35-37°C	18-48 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	Good-luxuriant	Negative reaction, no colour change	Negative reaction	35-37°C	18-48 Hours

#### PACKAGING:

In pack size of 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. Atlas R. M., 2004, Handbook of Microbiological Media, Lawrence C. Parks (Ed.), 3rd Edition, CRC Press.
2. Eaton A. D., Clesceri L. S., Rice E. W. and Greenberg A. E., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.

 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