

TM 175 - M-ENDO BROTH

INTENDED USE

For estimation of coliforms in water samples using membrane filter technique.

PRODUCT SUMMARY AND EXPLANATION

It is possible to remove bacteria from fluids by passing them through filters with such small pore size that bacteria are arrested. This filtration technique enables fairly large volumes of water to pass rapidly under pressure, but prevents the passage of any bacteria present. These nutrients are retained on the surface of the membrane which is then brought into contact with suitable liquid nutrients. These diffuse upwards through the pores thereby inducing the organisms to grow as surface colonies which can be counted.

M-Endo Broth is used for milk lines of milk handling equipment and for examination of swimming pool waters which use membrane filter technique. Higher counts are given in this medium and is most satisfactory of the many media used, since coliform colonies develop rapidly it doesn't require the preliminary enrichment and saturated relative humidity and results of Standard Methods MPN Test are in good agreement.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	20.000
Yeast extract	6.000
Lactose	25.000
Basic fuchsin	1.000
Dipotassium hydrogen phosphate	7.000
Sodium sulphite	2.500

PRINCIPLE

Essential nutrients especially nitrogenous and carbonaceous compounds, long chain amino acids and other essential nutrients provided by peptone and yeast extract provide for the coliforms. Lactose is the fermentable carbohydrate. The growth of gram-positive organisms inhibited by sodium sulphite and basic fuchsin. Phosphates buffer the medium. Coliforms are lactose fermenters and the resulting acetaldehyde reacts with sodium sulphite and basic fuchsin to form red colonies which is similar coloration of the medium. Lactose non-fermenters form colorless colonies.

INSTRUCTION FOR USE

- Dissolve 61.5 grams in 1000 ml purified / distilled water.
- Heat the medium completely to dissolve, if necessary.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 5 minutes.
- Cool to 45 - 50°C and use as required in membrane filtration technique. The medium should be used on the same day of its rehydration.

Caution: Basic fuchsin is a potential carcinogen and care should be taken to avoid inhalation of the powdered dye and contamination of the skin.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light pink to purple homogeneous free flowing powder
Appearance of prepared medium	: Pinkish orange colored opalescent solution in tubes
pH (at 25°C)	: 7.5 ± 0.2

INTERPRETATION



Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony (on membrane filter)	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	50-100	Good-luxuriant	≥50%	Pink with metallic sheen	35-37°C	18-48 Hours
<i>Klebsiella aerogenes</i>	13048	50-100	Good-luxuriant	≥50%	Pink to red (may have sheen)	35-37°C	18-48 Hours
<i>Salmonella Typhi</i>	6539	50-100	Luxuriant	≥70%	Colorless to very light pink	35-37°C	18-48 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	50-100	Inhibited	0%	-	35-37°C	18-48 Hours
<i>Klebsiella pneumoniae</i>	13883	50-100	Good-luxuriant	≥50%	Pink to red	35-37°C	18-48 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	Luxuriant	≥70%	Colorless to very light pink	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. Cruickshank R., Duguid J. P., Marmion B. P., Swain R. H. A., (Eds.), Medical Microbiology, 1975, 12th Ed. Vol. II, Churchill Livingstone
2. Olson, Brown and Mickle, 1960, J., Milk and Food Tech., 23:86.
3. Shipe E. L. and Fields A., 1955, Public Health Lab., 13:44.
4. Slanetz L. W. and Bartley C. H., 1955, Applied Microbiol., 3:4



 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. 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