

## TM 2194 - M-LAURYL SULPHATE BROTH

### INTENDED USE

For enumeration of *Escherichia coli* in water using membrane filtration technique.

### PRODUCT SUMMARY AND EXPLANATION

The membrane filter technique is used to test relatively large volumes of samples. It is extremely useful in monitoring drinking water and a variety of natural waters. The earlier medium used to detect coliforms in water employed bile salts as the selective agent. This was replaced with Teepol by Burman. The effectiveness of teepol was demonstrated earlier. M-Lauryl Sulphate Broth is similar to this medium, the only difference being the use of sodium lauryl sulphate as the inhibitory agent instead of teepol. M-Lauryl Sulphate Broth is recommended for enumeration of *Escherichia coli* and coliforms using membrane filtration technique.

An absorbent pad is saturated with M-Lauryl Sulphate Broth. The filter, through which the water sample is passed, is aseptically placed on this saturated absorbent pad, with face upwards. Burman recommended the following incubation temperatures and durations. Unchlorinated waters:

Coliform organisms: 4 hours at 30°C followed by 14 hours at 35°C

*Escherichia coli*: 4 hours at 30°C followed by 14 hours at 44°C

Non-chlorinated organisms benefit from 4 hours' incubation at 30°C but chlorinated organisms require 6 hours' incubation at 25°C. After incubation, yellow colonies are formed which should be confirmed further.

### COMPOSITION

Ingredients	Gms / Ltr
Peptone	39.000
Yeast extract	6.000
Lactose	30.000
Phenol red	0.200
Sodium lauryl sulphate	1.000

### PRINCIPLE

Peptone and yeast extract act as a source of nitrogen, carbon and amino acids. Lactose is the source of fermentable carbohydrate. Phenol red serves as an indicator. Sodium lauryl sulphate inhibits gram-positive bacteria.

### INSTRUCTION FOR USE

- Dissolve 76.2 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense as desired and sterilize by steaming for 30 minutes on three consecutive days or by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C.

### QUALITY CONTROL SPECIFICATIONS

**Appearance of Powder** : Light yellow to pink homogeneous free flowing powder

**Appearance of prepared medium** : Red coloured clear solution without any precipitate

**pH (at 25°C)** : 7.4±0.2

### INTERPRETATION

Cultural characteristics observed after an incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth at 35-37°C	Recovery at 35-37°C	Growth at 44°C	Recovery at 44°C	Colour of Colony on Membrane	Incubation Period
<i>Klebsiella aerogenes</i>	13048	50-100	luxuriant	0%	inhibited	0%	Yellow	24 Hours
<i>Staphylococcus subsp. aureus</i>	25923	$\geq 10^4$	inhibited	0%	inhibited	0%	-	24 Hours
<i>Bacillus subtilis</i>	6633	$\geq 10^4$	inhibited	0%	inhibited	0%	-	24 Hours
<i>Escherichia coli</i>	25922	50-100	luxuriant	$\geq 70\%$	luxuriant	$\geq 70\%$	Yellow	24 Hours
<i>Enterococcus faecalis</i>	29212	$\geq 10^4$	inhibited	0%	inhibited	0%	-	24 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 10 - 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 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

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- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2<sup>nd</sup> Edition.
- Jameson J. E. and Emberley N.W., 1956, J. Gen. Microbiol. 15:198-204
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11. 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.

 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**  
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