

## Technical Information

### M-Lauryl Sulphate Agar

**Product Code: DM 2656**

**Application:** - M-Lauryl Sulphate Agar is recommended for enumeration of *Escherichia coli* and coliforms in water, using membrane filter technique.

### Composition\*\*

Ingredients	Gms / Litre
Peptic digest of animal tissue	39.000
Yeast extract	6.000
Lactose	30.000
Sodium lauryl sulphate	1.000
Phenol red	0.200
Agar	15.000
Final pH ( at 25°C)	7.4±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Principle & Interpretation

Burman (1) substituted bile salts with teepol in Membrane Enriched Teepol Broth, the membrane filtration test medium used to detect coliform organisms in water. M-Lauryl Sulphate Agar is prepared by substituting teepol with sodium lauryl sulphate.

The water samples are filtered through sterile membrane filter and then placed face upward on agar plates contains M-Lauryl Sulphate Agar. Burman (2) 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.

Peptic digest of animal tissue and yeast extract act as a source of nitrogen, carbon and amino acids. Lactose as a source of fermentable carbohydrate. Phenol red serves as an indicator. Sodium lauryl sulphate inhibits gram positive bacteria.

### Methodology

Suspend 91.2 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat to boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

### Quality Control

#### Appearance

Light yellow to pink homogeneous free flowing powder

#### Gelling

Firm, comparable with 1.5% Agar gel

#### Colour and Clarity

Red coloured clear to slightly opalescent gel forms in Petri plates

#### Reaction

Reaction of 9.12% w/v aqueous solution at 25°C. pH : 7.4±0.2

#### pH Range

7.20-7.60

#### Organism

Organism	Inoculum (CFU)	Growth at 35-37°C	Growth at 44°C	Colour of Colony on Membrane
<i>Enterobacter aerogenes</i> ATCC 13048	50-100	luxuriant	inhibited	yellow
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	luxuriant	yellow
<i>Bacillus subtilis</i> ATCC 6633	>=10 <sup>3</sup>	inhibited	inhibited	-
<i>Staphylococcus aureus</i> ATCC 25923	>=10 <sup>3</sup>	inhibited	inhibited	-
<i>Enterococcus faecalis</i> ATCC 29212	>=10 <sup>3</sup>	inhibited	inhibited	-

## Storage and Shelf Life

**Dried Media:** Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

**Prepared Media:** 2-8° in sealable plastic bags for 2-5 days.

## Further Reading

1. Burman N.P., 1967, Proc. Soc. Wat. Treat. Exam., 16:40.
2. Burman N.P., 1967, Rec. Adv. in Bacteriological Examination of waters; C.H. Collins (Ed.), Butterworth, London.

## Disclaimer :

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