

TM 2204 - M-TERGITOL-7 AGAR W/ MEAT EXTRACT

INTENDED USE

As a selective and differential medium for the recovery of injured coliform organisms from chlorinated water by membrane filter technique.

PRODUCT SUMMARY AND EXPLANATION

McFeters, Cameron and LeChevallier modified Tergitol 7 Agar to improve its selective and differential properties for the recovery of stressed coliforms from chlorinated water. They had reported that selective media such as M-Endo Agars used to isolate gram-negative bacteria recovered only 30% or less as compared to recovery between 71 - 100% of injured coliforms on Tergitol-7 Agar. In their study of surface and drinking water samples, including samples containing laboratory-stressed coliforms, M-Tergitol-7 Agar Base recovered 43% more coliforms than on M-Endo Agar and 36% more coliforms than by using M-Endo Agar with a resuscitation technique. In another study of 102 drinking water samples 8 to 38 fold more yield of coliforms has been reported on M-Tergitol-7 Agars as compared to .M-Endo Agar LES.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	10.000
Yeast extract	6.000
Meat extract	5.000
Lactose	20.000
Bromo thymol blue	0.050
Tergitol 7	0.100
Agar	12.700

PRINCIPLE

Peptone and meat extract provide necessary nitrogenous growth factors. Yeast extract is the source of B-vitamins and organic nitrogen and carbon compounds. Lactose is the fermentable carbohydrate. Microorganism fermenting lactose produces yellow colonies due to reaction with bromothymol blue. Sodium heptadecyl sulphate (Tergitol-7) acts as surface-active agent which inhibit growth of gram-positive bacteria as well as swarming of *Proteus*. The reduction of TTC by lactose-negative bacteria produces dark red colonies. Lactose-positive *E. coli* and coliform bacteria reduce TTC weakly, hence their colonies are yellow- orange.

INSTRUCTION FOR USE

- Dissolve 53.85 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. Aseptically add 2.5 ml of 1% 2,3,5 Triphenyl Tetrazolium chloride (TTC) solution.
- Mix well and pour in sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to pale green coloured 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 an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony on membrane filter	Incubation Temperature	Incubation Period
<i>Enterobacter aerogenes</i>	13048	50-100	luxuriant	$\geq 70\%$	dark red	35-37°C	18-48 Hours
<i>Escherichia coli</i>	25922	50-100	luxuriant	$\geq 70\%$	light orange to yellow	35-37°C	18-48 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	luxuriant	$\geq 70\%$	dark red	35-37°C	18-48 Hours
<i>Shigella flexneri</i>	12022	50-100	luxuriant	$\geq 70\%$	dark red	35-37°C	18-48 Hours
<i>Staphylococcus aureus</i>	25923	$\geq 10^3$	inhibited	0%	-	35-37°C	18-48 Hours
<i>Enterococcus faecalis</i>	29212	$\geq 10^3$	inhibited	0%	-	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. McFeters, LeChevallier and Cameron 1983, Appl. Environ. Microbiol. 45:484.
2. McFeters, Cameron and LeChevallier 1982 Appl. Environ. Microbiol., 43:97.
3. McFeters, Kippin and LeChevallier 1986, Appl. Environ. Microbiol. 51:1.
4. Pollard, 1946 Science, 103:758.



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**
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