

CM 21,210 - MN AGAR

INTENDED USE

For detection of *Leptothrix* by its ability to oxidize manganese ions.

PRODUCT SUMMARY AND EXPLANATION

Leptothrix is a sheathed filamentous bacterium that can generally be found in different types of aquatic environments with sufficient organic matter. *Leptothrix* bacteria are known to be capable of oxidizing both iron (II) and manganese (II), unlike other sheathed bacteria. These belong to the group of nuisance organisms which have the ability to transform or deposit significant amount of iron, usually in the form of objectionable slimes. Iron bacteria (*Leptothrix*) may cause, or be associated with, fouling and plugging of wells. They also cause odour, taste, frothing, colour and increase turbidity in waters. Mn Agar is formulated in accordance with APHA and is used as a differential medium based on the ability of *Leptothrix* species to oxidize manganous ion.

COMPOSITION

Ingredients	Gms / Ltr
Beef extract	1.000
Yeast extract	0.075
Manganous carbonate	2.000
Ferrous ammonium sulphate	0.150
Sodium citrate	0.150
Agar	12.000

PRINCIPLE

Beef extract and yeast extract supply the essential growth nutrients. *Leptothrix-Sphaerotilus* derive energy by oxidation of ferrous sulphate. Alternatively, *Leptothrix* may be grown by direct plating on Mn Agar No. 2.

INSTRUCTION FOR USE

Dissolve 15.37 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 50-55°C and aseptically add filter-sterilized solution of cyanocobalamin to a final concentration of 0.005 mg/liter.

Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : White to cream homogeneous free flowing powder.

Appearance of prepared medium : Yellow coloured clear to slightly opalescent gel with a slight precipitate forms in Petri plates.

INTERPRETATION

Cultural characteristics observed after an incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Leptothrix discophora	43182	50-100	Luxuriant	>=70 %	35-37°C	24-48 Hours
Sphaerotilus natans	13338	50-100	Good	40-50%	35-37°C	24-48 Hours

PACKAGING:

Inpacksizeof500 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.

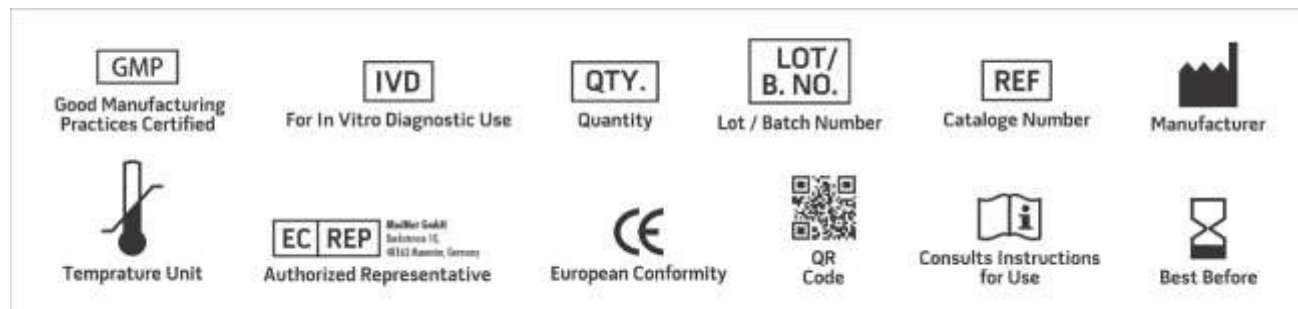
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

Afteruse,prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Eaton A. D., Clesceri L. S., Rice E. W. and Greenberg A W., (Eds.),2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
2. Mulder E. G. and VanVeen W. L., 1963, Antonie Van Leeuwenhock (Holland), 29:121.
3. Ghiorse W. C., 1984, Ann. Rev. Microbiol., 38:515.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

*For LabUse Only

