CM 21478 – R-3A AGAR

INTENDED USE

For subculturing of microorganisms recovered on less nutritive R-2A Agar from potable water.

PRODUCTSUMMARY AND EXPLANATION

R-3A Agar is slightlymorenutritiousthan R-2AAgar and is used for sub culturing the isolates obtained on the less nutritive R-2A Agar.

R-2A Agar is recommended by APHA for estimating the heterotrophic plate count by the pour plate, spread plate or membrane filter procedure. R-2A Agar is formulated as per Reasoner and Geldreich. Stressed or injured organisms during water treatment are unable to grow on high nutrient media, since the faster growing organisms outgrow the former. Therefore, the use of a low nutrient medium like R-2A Agar incubated for longer incubation periods allows these stressed organisms to grow well.

COMPOSITION

Ingredients	Gms / Ltr
Casein Acid Hydrolysate	1.000
Yeast extract	1.000
Biopeptone	1.000
Dextrose	1.000
Starch soluble	1.000
Dipotassium phosphate	0.600
Magnesium sulphate	0.048
Sodium pyruvate	0.600
Agar	15.000

PRINCIPLE

Thismedium consists of Biopeptone, casein acid hydrolysate and yeast extract which provide nitrogen, vitamins, amino acids, carbon and minerals. Dextrose serves as an energy source. Soluble starch aids in the recovery of injured organisms by absorbing toxic metabolic byproducts while sodium pyruvate increases the recovery of stressed cells. Magnesium sulphate is a source of divalent cations and sulphate. Dipotassium phosphate is used to balance the pH of the medium.

INSTRUCTION FOR USE

Dissolve 21.25 gramsin 1000 ml distilledwater.
Heat to boiling to dissolve the medium completely.
Sterilize by autoclaving at 15 psi pressure(121°C)for15min.DONOTOVERHEAT.
Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light yellow coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C)	: 7.2 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation. (In case of water samples from fields it is suggested to incubate further for upto 7 days to ascertain the absence of organisms).

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Candida albicans	10231	10-100	Good-luxuriant	>=50%	35-37°C	24-72 Hours
Escherichia coli	25922	50-100	Good-luxuriant	>=50%	35-37°C	24-72 Hours
Salmonella Enteritidis	13076	50-100	Good-luxuriant	>=50%	35-37°C	24-72 Hours
Enterococcus faecalis	29212	50-100	Good-luxuriant	>=50%	35-37°C	24-72 Hours
Salmonella Typhi	6539	50-100	Good-luxuriant	>=50%	35-37°C	24-72 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.

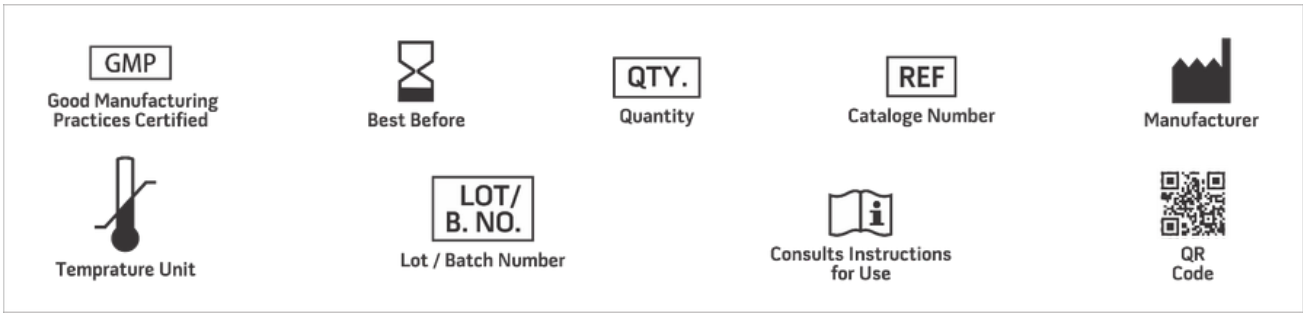
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Clesceri L. S., Greenberg A. E. and Eaton A. D., (Ed.), 1998, Standard Methods for the Examination of Water and Wastewater, 20th Ed., American Public Health Association, Washington, D.C.
2. Downes F. P. and Ito K., (Eds.), Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.
3. Reasoner D. J. and Geldreich E. E., 1985, Appl. Environ. Microbiol., 49:1.
4. Collins V. J. and Willoughby J. G., 1962, Arch. Microbiol., 43:294.
5. Atlas R. M., 2004, Handbook of Microbiological Media, Lawrence C. Parks, (Ed.), 3rd Edition, CRC Press.



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

*For LabUse Only