CM 22346 – R-2A AGAR PLATE (γ- IRRADIATED)

INTENDED USE

For heterotrophic plate count of treated potablewater, using longer incubation period.

PRODUCT SUMMARY AND EXPLANATION

The heterotrophicplatecount(HPC), formerlyknown as the standard plate count is a procedure for estimating the number of live heterotrophic bacteria in waterand measuring changes during water treatment, in distribution systems or in swimming pools. 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.

Many bacteria from natural waters which contain limited nutrients at ambient temperature, grow best on the media with less nutrient levels. They grow better at the temperatures below the routine laboratory incubation temperatures of 35 to 37°C.

The media are gamma irradiated in the packaging material to assure a reduction of the microbial load potentially present in the medium, on the dishes, and on the packaging materials.

COMPOSITION

Ingredients	Gms / Ltr
Agar	15.000
Sodium pyruvate	0.300
Yeast extract	0.500
Proteose peptone	0.500
Dextrose	0.500
Starch Soluble	0.500
Dipotassium hydrogen phosphate	0.300
Magnesium sulphate	0.024
Casein Acid Hydrolysate	0.500

PRINCIPLE

Caseinacidhydrolysate,proteosepeptone and yeast extract provide nitrogen, carbon compounds, vitamins, amino acids and minerals. Dextrose/glucoseserves as an energy source. Magnesium sulphate is a source of divalent cations and sulphate. Soluble starchaids in therecovery of injured organisms by absorbing toxic metabolic byproducts while sodium pyruvate increases therecoveryofstressed cells. Dipotassium hydrogen phosphate is used to balance the pH of the medium. The number ofcoloniesona plate are reported as CFU (Colony Forming Units) per volume of sample.

INSTRUCTION FOR USE

Eitherstreak,inoculateorsurface spread the test inoculum aseptically on the plate.

QUALITY CONTROL SPECIFICATIONS

Appearance	:	Light yellow colored medium.
Quantity of Medium	:	25ml of medium in 90mm plates.
pH (at 25°C)	:	7.2± 0.2
Dose of irradiation	:	15.0-25.0 kGy
Sterility Check	:	Passes release criteria

INTERPRETATION

Culturalresponse was observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Good-Luxuriant	>=50%	35-37°C	24-72 hours
Escherichia coli	8739	50-100	Good-Luxuriant	>=50%	35-37°C	24-72 hours
Bacillus subtilis subsp. spizizenni	6633	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
Staphylococcus aureus subsp. aureus	25923	50-100	Good-Luxuriant	>=50%	35-37°C	24-72 hours
Aspergillus brasilienses	16404	10-100	Good-Luxuriant	>=50%	35-37°	24-72 hours
Candida albicans	10231	50-100	Good-Luxuriant	>=50%	35-37°	24-72 hours
Salmonella enteritidis	13076	50-100	Good-Luxuriant	>=50%	35-37°	24-72 hours
Pseudomonas aeruginosa	9027	50-100	Good-Luxuriant	>=50%	35-37°	24-72 hours
Salmonella typhi	6539	50-100	Good-Luxuriant	>=50%	35-37°	24-72 hours

PACKAGING:

Doubledlayered packing containing 5 No. of plates with one silica gel desiccant bag packed inside it.

STORAGE

On receipt,store the plates at 15–30 °C. Avoid freezing and overheating. Do not open until ready to use. Prepared plates stored in their original sleeve wrapping until just prior to use may be inoculated up to the expiration date and incubated for recommended incubation times. Allow the medium to warm to room temperature before inoculation.

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

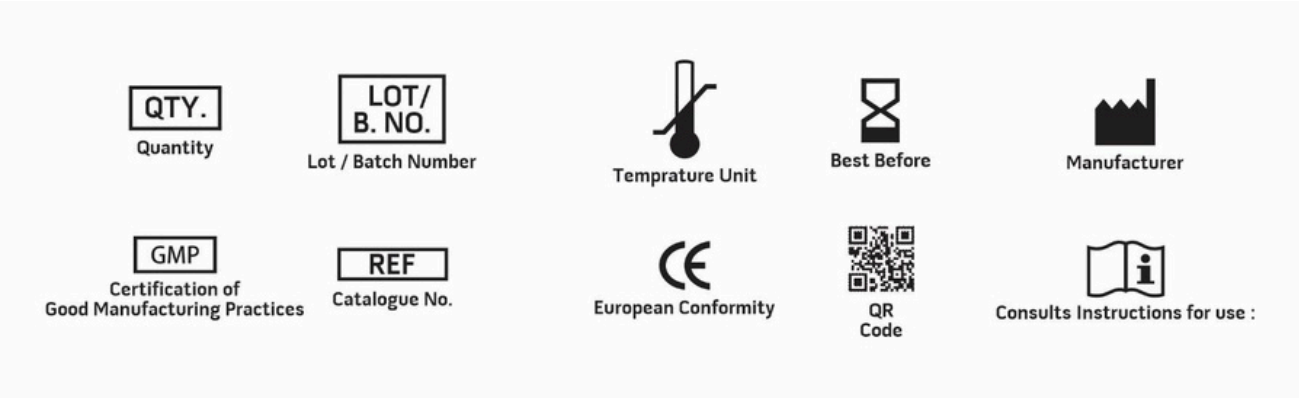
DISPOSAL

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

REFERENCES

1.ClesceriL. 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.



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

***ForLabUse Only**