

CM 22344 – R-2A AGAR PLATE

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

The heterotrophic plate count (HPC), formerly known as the standard plate count is a procedure for estimating the number of live heterotrophic bacteria in water and 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.

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

Casein acid hydrolysate, proteose peptone and yeast extract provide nitrogen, carbon compounds, vitamins, amino acids and minerals. Dextrose/glucose serves as an energy source. Magnesium sulphate is a source of divalent cations and sulphate. Soluble starch aids in the recovery of injured organisms by absorbing toxic metabolic byproducts while sodium pyruvate increases the recovery of stressed cells. Dipotassium hydrogen phosphate is used to balance the pH of the medium. The number of colonies on a plate are reported as CFU (Colony Forming Units) per volume of sample.

INSTRUCTION FOR USE

Either streak, inoculate or surface 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 |
| Sterility Check | : | Passes release criteria |



INTERPRETATION

Cultural response was observed after incubation.

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Recovery | Incubation Temperature | Incubation Period |
|--|-------|-------------------|----------------|----------|------------------------|-------------------|
| <i>Escherichia coli</i> | 25922 | 50-100 | Good-Luxuriant | >=50% | 35-37°C | 24-72 hours |
| <i>Escherichia coli</i> | 8739 | 50-100 | Good-Luxuriant | >=50% | 35-37°C | 24-72 hours |
| <i>Bacillus subtilis subsp. spizizenii</i> | 6633 | 50-100 | Good-Luxuriant | >=50% | 35-37°C | 24-72 hours |
| <i>Enterococcus faecalis</i> | 29212 | 50-100 | Good-Luxuriant | >=50% | 35-37°C | 24-72 hours |
| <i>Staphylococcus aureus subsp. aureus</i> | 25923 | 50-100 | Good-Luxuriant | >=50% | 35-37°C | 24-72 hours |
| <i>Aspergillus brasilienses</i> | 16404 | 10-100 | Good-Luxuriant | >=50% | 35-37° | 24-72 hours |
| <i>Candida albicans</i> | 10231 | 50-100 | Good-Luxuriant | >=50% | 35-37° | 24-72 hours |
| <i>Salmonella enteritidis</i> | 13076 | 50-100 | Good-Luxuriant | >=50% | 35-37° | 24-72 hours |
| <i>Pseudomonas aeruginosa</i> | 9027 | 50-100 | Good-Luxuriant | >=50% | 35-37° | 24-72 hours |
| <i>Salmonella typhi</i> | 6539 | 50-100 | Good-Luxuriant | >=50% | 35-37° | 24-72 hours |

PACKAGING:

Doubled layered 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

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

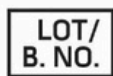
REFERENCES

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.





Quantity



Lot / Batch Number



Temperature Unit



Best Before



Manufacturer



Certification of
Good Manufacturing Practices



Catalogue No.



European Conformity



QR
Code



Consults Instructions for use :

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

***For LabUse Only**

