TM 1592 – R-2A BROTH

INTENDED USE

For cultivation and maintenance of heterotrophic bacteria from potable waters.

PRODUCT SUMMARY AND EXPLANATION

R-2A Broth is similar to R-2A Agar except agar. Total count recommended for the bacterial examination of potable waters gives an estimate of the aerobic and facultatively anaerobic bacteria, which grow best at 35°C in a rich medium. R-2A Broth enables better recovery of these bacteria from treated waters under different incubation conditions. 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 total bacterial count of drinking water is determined by plate count on a nutritionally rich medium. However, all organisms present are not able to grow on them, either because they are slow growers or because they can't grow on that media. For this reason, a nutritionally reduced medium was described. R-2A Agar is a modification of this medium.

COMPOSITION

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

PRINCIPLE

This medium consists of casein acid hydrolysate, yeast extract, biopeptone as source of essential growth factors required for metabolism of the bacteria. Dextrose is the energy source. Starch acts as a neutralizer that neutralizes any toxic metabolites, if present. Phosphate buffers the medium while sodium pyruvate supplies additional nutrition. Magnesium sulphate serves as a source of ions. Due to the presence of the above mentioned ingredients these media allow the growth of stressed and chlorine tolerant bacteria present in treated waters.

INSTRUCTION FOR USE

- Dissolve 3.12 grams in 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely. Dispense into tubes.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 min. DO NOT OVERHEAT.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Yellow coloured, clear solution in tubes.
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	Incubation Temperature	Incubation Period
Candida albicans	10231	10-100	Good-luxuriant	35-37°C	24-72 Hours
Escherichia coli	25922	50-100	Good-luxuriant	35-37°C	24-72 Hours
Salmonella Enteritidis	13076	50-100	Good-luxuriant	35-37°C	24-72 Hours
Enterococcus faecalis	29212	50-100	Good-luxuriant	35-37°C	24-72 Hours
Salmonella Typhi	6539	50-100	Good-luxuriant	35-37°C	24-72 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.

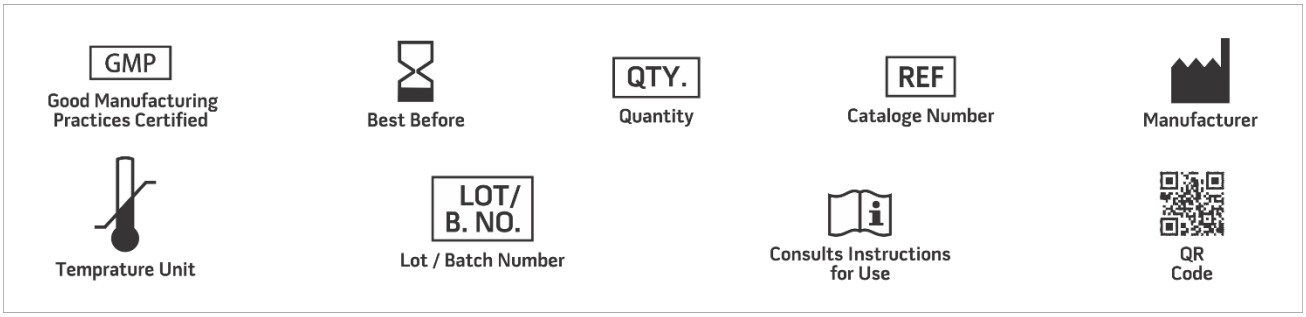
DISPOSAL

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

REFERENCES

1. Reasoner and Geldreich, 1985, Appl. Environ. Microbiol., 49:1.

2. Stark and McCoy. 1938. Zentralbl. Bacteriol. Parasitenkd. Infectionskr. Hyg. Abt.2 98 : 201
3. Collins and Willoughby, 1962, Arch. Microbiol., 43:294.
4. Greenberg A. E., Trussell R. R. and Clesceri L. S. (Eds.), 1985, Standard Methods for the Examination of Water and Wastewater, 16th ed., APHA, Washington, DC.



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

***For Lab Use Only**

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