

R2A Agar w/o Agar

Cat. 1470

For the total aerobe count in treated waters.

Practical information

Applications	Categories
Non selective enumeration	Mesophilic aerobic

Industry: Water

Principles and uses

R2A Agar w/o Agar was developed by Reasoner and Geldreich for bacteriological plate counts of treated potable water, being able to recover the stressed chlorine-treated bacteria. Nutritionally rich mediums suppress these slow growing bacteria, whereas a low nutrient medium, such as R2A Agar w/o Agar, in combination with a lower incubation temperature and longer incubation time, stimulates the growth of stressed and chlorine-tolerant bacteria.

Proteose peptone and casein hydrolysate provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is the source of vitamins, particularly of the B-group. Dextrose is a source of fermentable carbohydrate as an energy source; Starch absorbs toxic metabolic by products and thereby aids the recovery of injured organisms. Sodium pyruvate increases the recovery of stressed cells. Magnesium sulfate provides divalent cations and sulfate. Dipotassium phosphate is used to balance the pH and provide phosphate.

Formula in g/L

Glucose	0,5	Dipotassium phosphate	0,3
Proteose peptone	0,5	Sodium pyruvate	0,3
Starch	0,5	Yeast extract	0,5
Casein hydrolysate	0,5	Magnesium Sulfate Anhydrous	0,024

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 3,12 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 °C for 15 minutes. Cool to 50 °C and mix well.

Instructions for use

Inoculate and incubate at 35±2 °C for 24-72 hours.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber	7,2±0,2

Microbiological test

Incubation conditions: (35±2 °C / 24-72 h).

Microorganisms	Specification
Escherichia coli ATCC 11775	Good growth
Staphylococcus epidermidis ATCC 12228	Good growth

Escherichia coli ATCC 25922	Good growth
Staphylococcus aureus ATCC 25923	Good growth
Staphylococcus aureus ATCC 6538	Good growth
Bacillus subtilis ATCC 6633	Good growth
Escherichia coli ATCC 8739	Good growth
Pseudomonas aeruginosa ATCC 9027	Good growth

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

American Public Health Association (1985) Standard Method for the Enumeration of Water and Wasterwater, European Pharmacopeia 7.0.