OXALIS Diagnostics Pvt. Ltd.

Technical Data

R-2A Agar. 100 g / 500 g

Used for the enumeration and cultivation of bacteria from potable water.

Product Presentation:

Cat No.	Product description	Pack Size
11180010100	R-2A Agar	100 Gram
11180010500	R-2A Agar	500 Gram

Principle

Reasoner and Geldreich developed R-2A medium to check the bacterial count in treated potable water. They found that plate count agar does not permit the growth of many bacteria that may be present in treated potable water supplies. Results from parallel studies with spread, membrane filter, and pour plate procedures showed that R-2A medium yielded significantly higher bacterial counts than in Plate Count Agar. Low nutritional content, longer incubation time, yielded higher counts and increased detection of heterotrophic bacteria. As a tool to monitor heterotrophic bacterial populations in water treatment processes and in treated distribution water, R-2A spread or membrane filter plates incubated at 28°C for 5 to 7 days is recommended. These conditions provide adequate time for growth of slow-growing bacteria. R-2A is useful in heterotrophic plate count analyses and for subculture of bacteria isolated from potable water samples. It is used for the recovery of stressed and chlorine-tolerant bacteria from drinking water.

Media contains low concentration of nutrients which allows the growth of slow growing bacteria without being suppressed by fast growing bacteria. Yeast extract provides a source of trace elements and vitamins. Proteose peptone provides nitrogen, vitamins, amino acids, carbon and minerals. Dextrose serves as a carbon source. Soluble starch aids in the recovery of injured organisms by absorbing toxic metabolic by-products. Sodium pyruvate increases the recovery of stressed cells. Dipotassium phosphate is used to balance the pH and provide phosphate. Magnesium sulphate is a source of divalent cations and sulphate. Agar is the solidifying agent.

Composition

Ingredients	Grams / Litre
Casein acid hydrolysate	0.50
Proteose Peptone	0.50
Yeast Extract	0.50
Dextrose	0.50
Soluble Starch	0.50
Sodium Pyruvate	0.30
Dipotassium phosphate	0.30
Magnesium Sulphate	0.05
Agar	15.00

Final pH (at 25°C) 7.2±0.2

*Formula adjusted, standardized to suit performance parameters

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Type of specimen

Water and waste water samples.

Specimen Collection and Handling

Ensure that all samples are properly labeled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

- ✓ Suspend 18.20 g of powder in 1000 mL distilled water.
- ✓ Mix thoroughly.
- ✓ Boil to dissolve the medium completely.
- ✓ Sterilize by autoclaving 121°C for 15 minutes or as per validated cycle.

Storage and Stability

- ✓ Store Dehydrated culture media in cool, dry place at 10°C-30°C away from direct light.
- ✓ Store prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Quality Control

Dehydrated Appearance: Cream to Light yellow homogeneous, free flowing powder
Prepared Appearance: Off white to light yellow colored slightly opalescent gel forms in petridishes.

Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating ≤ 100 cfu of appropriate microorganism.

Cultural Response :

Organism	Type Culture	Growth	Incubation Temperature	Incubation Period
Pseudomonas aeruginosa	ATCC 27853	Good	30°C -35°C	18-24 Hours
Escherichia coli	ATCC 8739	Good	30°C -35°C	18-24 Hours
Salmonella Typhimurium	ATCC 14028	Good	30°C -35°C	18-24 Hours
Staphylococcus aureus	ATCC 25923	Good	30°C -35°C	18-24 Hours
Bacillus spizizenni	ATCC 6633	Good	30°C -35°C	18-24 Hours
Enterococcus faecalis	ATCC 14506	Good	30°C -35°C	18-24 Hours
Aspergillus brasilensis	ATCC 16404	Good	20°C -25°C	24-72 Hours
Candida albicans	ATCC 10231	Good	20°C -25°C	24-72 Hours

Interpretation of Results

- ✓ Examination of plates for growth after completion of incubation period.

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Warranty

- ✓ This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Disposal

Disposal of infectious material and material that comes in to contact with clinical sample must be decontaminated and dispose of by autoclaving or incineration or established laboratory procedures.
User must be ensure safe disposal of used or unusable preperation of the products.

Reference

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.

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