OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

Regd Office: Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

Tel: +91 250 2390032 / 2390989 / 2390990
Email: sales@oxfordlabchem.com /
info@oxfordlabchem.com
Web: www.oxfordlabchem.com

Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Nutrient Agar

Principle

Nutrient agar is a basic medium and commonly used for cultivation, enrichment, enumeration, prolonged maintenance and storage of wide variety of microbes. The nutrient agar is widely used as non-selective microbial medium for routine microbiology analysis. Nutrient agar is prominently used for cultivation of the non-fastidious organisms. Nutrient agar is ideal microbial media for the teaching, demonstration and routine analysis. Nutrient Agar is a simple medium composed of the peptone, meat extract (equivalent to beef extract), yeast extract which provide ample amount of the carbon and nitrogen essential and nonessential amino acids, along with the vitamins and trace minerals. Sodium chloride maintains the osmotic equilibrium of the medium. Agar is solidifying agent.

Use: Recommended for the refinement of non-fastidious microorganisms from clinical and non-clinical samples. It is generally used for examination of water and dairy products.

Contents

Ingredients	Gram/Litre
Peptone	5.0
Meat extract	1.5
Yeast extract	1.5
Sodium chloride	5.0
Agar	15.0
pH at 25˚C	7.4±0.2

*** Formula adjusted for optimum performance and parameters # Equivalent to Beef Extract**

Directions: Dissolve 28.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 min, cool it to 42-45 °C and distribute aseptically in desired. Ensure complete solidification and inoculate test sample aseptically.

Specimens types analyzed

Pharmaceutical samples, clinical and non-clinical samples, food and dairy products etc.

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Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Appearance	**Beige colored free flowing, homogeneous powder**
Reaction of 2.8% solution	**7.4 ±0.2 at 25 ˚C**
pH	**7.20- 7.60**
Gelling	**Firm comparable with 1.5% agar gel**
Color and clarity of ready medium	**Pale yellow colored opalescent gel**
Growth Promotion properties	**Best at ≤ 100 CFU at 32-37 ºC for 18-72 h**
Indicative properties	**Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h**
Negative control	**Performed using sterile distilled water**

Quality Control

Different Microbial Response

Organism	Inoculum	Growth	Recovery	Incubation Temperature	Incubation period
Escherichia coli **(ATCC 8739)**	**50-100**	**Luxurious**	**80-90%**	**33-37 ºC**	**18-48 h**
Bacillus spizizenii **(ATCC 6633)**	**50-100**	**Luxurious**	**80-90%**	**33-37 ºC**	**18-48 h**
Salmonella typhimurium **(ATCC 14028)**	**50-100**	**Luxurious**	**80-90%**	**33-37 ºC**	**18-48 h**
Staphylococcus aureus **(ATCC 25923)**	**50-100**	**Luxurious**	**80-90%**	**33-37 ºC**	**18-48 h**

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Storage and Shelf Life

Hygroscopic; keep container tightly closed. Store in cool dry place.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

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.**
3. **Rand, M. C., Arnold E. Greenberg, and Michael J. Taras, (1976), *Standard methods for the examination of water and wastewater*. Prepared and published jointly by American Public Health Association, American Water Works Association, and Water Pollution Control Federation.**

Disclaimer:

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