

OXFORD LAB FINE CHEM LLP

ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Yeast Mannitol Broth

Principle

Yeast mannitol broth is used for cultivation of nitrogen fixing Rhizobium. It is composed of yeast extract, mannitol, dipotassium phosphate, magnesium sulphate, sodium chloride and calcium carbonate. Yeast extract serves as a good source of readily available amino acids, vitamin B complex and accessory growth factors for Rhizobia. It also aids in oxidation-reduction potential of medium in the range favorable for Rhizobia and serves as hydrogen donor in respiratory process. Mannitol is the carbon source. Dipotassium phosphate resists the change in pH of medium. Magnesium sulphate and calcium carbonate provides cations essential for the growth of Rhizobia.

Use: For cultivation of Rhizobium species.

Contents*

Ingredients	Gram/Liter
Yeast extract	1.000
Mannitol	10.000
Dipotassium phosphate	0.500
Magnesium sulphate	0.200
Sodium chloride	0.100
Calcium carbonate	1.000
pH at 25°C	6.8 ±0.2

* Formula adjusted for optimum performance and parameters

Directions: Dissolve 12.80 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 inoculate test sample aseptically.

Specimens types analyzed
Root nodules and soil samples 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.

Quality Control

Appearance	Beige colored free flowing, homogeneous powder
Reaction of 1.28% solution	6.8 ±0.2 at 25 °C
pH	6.60- 7.00
Color and clarity of ready medium	Buff white colored opalescent solution
Growth Promotion properties	Best at ≤ 100 CFU at 25-30°C, 5 days
Indicative properties	Optimum at ≤ 100 CFU at 25-30°C, 5 days
Negative control	Performed using sterile distilled water

Different Microbial Response: Cultural characteristics observed after incubation at 25-30°C for 4-5 days. Inoculum 50-100 CFU.

Organism	Microbial culture	Inoculum (CFU)	Growth
<i>Rhizobium species</i>	Lab isolate	50-100	Luxuriant

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

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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. Pelczar M. J. Jr., Reid R. D, Chan E. C. S., (1977), *Microbiology*, Tata McGraw-Hill Publishing company Ltd, New Delhi.
2. Subba Rao N. S., (1977), *Soil Microorganisms and Plant Growth*, Oxford and IBH Publishing Co.

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