

## TECHNICAL DATA SHEET **Pikovskaya's Broth (Medium)**

### Principle

Pikovskayas Broth was modified by Sundara Rao and Sinha (1963) for cultivation of phosphate-solubilizing bacteria from soil. It is composed of yeast extract, dextrose, calcium phosphate, ammonium sulphate, potassium chloride, magnesium sulphate, manganese sulphate and ferrous sulphate. Yeast extract provides nitrogen, carbon, vitamins and other nutrients necessary to support bacterial growth. Dextrose acts as an energy source. Different salts and yeast extract supports the growth of organisms and enhances phosphate solubilization. Calcium phosphate is source of inorganic phosphate.

**Use:** For the cultivation phosphate solubilizing microorganisms.

### Contents\*

Ingredients	Gram/Litre
Yeast Extract	0.500
Dextrose	10.000
Calcium Phosphate	5.000
Ammonium Sulphate	0.500
Potassium Chloride	0.200
Magnesium Sulphate	0.100
Manganese Sulphate	0.0001
Ferrous Sulphate	0.0001
pH at 25°C	6.0 ±0.5

\* Formula adjusted for optimum performance and parameters

**Directions:** Dissolve 16.30 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

Soil samples and biofertilizers 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	Off white colored free flowing, homogeneous powder
Reaction of 1.6% solution	6.0 ±0.5 at 25 °C
pH	5.50- 6.50
Color and clarity of ready medium	Off white solution with flocculants
Growth Promotion Properties	Best at ≤ 100 CFU at 32-37 °C for 18-72 h
Indicative Properties	Optimum at ≤ 100 CFU at 32-37 °C for 18-48 h
Negative Control	Performed using sterile distilled water

**Different Microbial Response:** Cultural characteristics observed after incubation at 35±2°C for 24-48 hours.

Organism	ATCC	Inoculum (CFU)	Growth
<i>Pseudomonas aeruginosa</i>	27853	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. Subba Rao N. S., (1977), Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi.
2. Sundara Rao W. V. B. and Sinha M. K., (1963), Indian Journal of Agriculture Science, 33:272.

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