OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Peptone Water

Principle

Peptone water is composed of peptone and sodium chloride. Peptone, serves the simplest source of the nitrogen, carbon and other growth factors such vitamins. Sodium chloride maintains the osmotic balance. Peptone is rich in tryptophan and used for studying indole production. The production of indole can be detected by using Kovacs or Ehlrich reagent. Peptone water is also utilized as a base for carbohydrate fermentation studies with the addition of sugar and indicators such as phenol red, bromocresol purple or bromothymol blue.

Use: Recommended for cultivation of non-fastidious organism, for studying carbohydrate fermentation patterns and performing the indole test.

Contents*

Ingredients	Gram/Litre
Proteose Peptone	10.000
Sodium Chloride	5.000
pH at 25˚C	7.2 ±0.2

*** Formula adjusted for optimum performance and parameters**

Directions: Dissolve 15.0 grams in 1000 ml distilled water, boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121 °C) for 15 min, cool.

For Determining Carbohydrate Fermentation Patterns: Add 1.8 ml 1% phenol red solution to 1liter peptone water. Mix thoroughly. Dispense into test tubes containing inverted Durham vials and autoclave at 121°C for 15 minutes. Aseptically add sufficient sterile carbohydrate solution to yield a 1% final concentration. Rotate each tube to thoroughly distribute the carbohydrate.

For Determining tryptophan production: take 5 to 10 ml of peptone water in test tube and autoclave at 121°C for 15 minutes. Aseptically inoculate test sample and incubate at 35-37°C for 18-24 hours. The tryptophan is detected by observing red ring at the interface of the medium on addition of Kovac's reagent.

Specimens types analyzed
Pharmaceutical samples, clinical and non-clinical 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 1.5% solution	**7.2 ±0.2 at 25 ˚C**
pH	**7.00- 7.40**
Color and clarity of ready medium	**Light amber color clear solution**
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**

Different Microbial Response

Tryptophan production is detected after incubation at 35-37°C for 18-24 hours. The tryptophan is detected by observing red ring at the interface of the medium on addition of Kovac's reagent.

Organism	Inoculum	Growth	Tryptophan production
Staphylococcus aureus **(ATCC 25923)**	**50-100**	**Luxurious**	**Negative reaction, no red ring at the interface**
Escherichia coli **(ATCC 8739)**	**50-100**	**Luxurious**	**Positive reaction, red ring at the interface**

Sugar fermentation is detected by adding 1% sugar in peptone water and 1.8 ml 1% phenol red solution to 1liter peptone water. Incubation at 35-37°C for 18-24 hours.

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Organism	Acid in absence of dextrose	Gas in absence of dextrose	Acid with added dextrose	Gas with added dextrose
Escherichia coli (ATCC 25922)	Negative reaction, no change in red color	Negative reaction	Positive reaction, color changes to yellow	Bubble formation positive reaction

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.**

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