

## **TECHNICAL DATA SHEET**

# **Tryptophan Medium (Tryptophan Broth)**

### **Principle**

Tryptophan broth contain special peptone which provides necessary nitrogen, carbon sources, vitamins, growth factors and also trace ingredients to non-fastidious organisms. Sodium chloride maintains osmotic equilibrium of the medium. DL-Tryptophan is an amino acid, which serves as a substrate to study indole reaction. Tryptophan broth is used for detection of indole production, which one of the necessary biochemical tests in identification of bacteria. The indole production is detected by using Kovac's reagent by formation of red color complex.

**Use:** For differentiation of bacteria on the basis of indole production.

### **Contents\***

| <b>Ingredients</b>     | <b>Gram/Litre</b> |
|------------------------|-------------------|
| <b>Special peptone</b> | <b>10.00</b>      |
| <b>Tryptophan</b>      | <b>1.00</b>       |
| <b>Sodium Chloride</b> | <b>5.00</b>       |
| <b>pH at 25°C</b>      | <b>7.2 ±0.2</b>   |

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

**Directions:** Dissolve 16.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely and distribute aseptically. 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**

**Water samples and 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                        | Light Beige colored free flowing, homogeneous powder |
| Reaction of 1.5% solution         | 7.2 $\pm$ 0.2 at 25 °C                               |
| pH                                | 7.00- 7.40                                           |
| Color and clarity of ready medium | Light amber colored opalescent solution              |
| Growth Promotion properties       | Best at $\leq$ 100 CFU at 32-37 °C for 18-72 h       |
| Indicative properties             | Optimum at $\leq$ 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 33-37°C for 1848 hours. Inoculum 50-100 CFU.

| Organism                    | ATCC  | Growth    | Indole production |
|-----------------------------|-------|-----------|-------------------|
| <i>Escherichia coli</i>     | 8739  | Luxuriant | Positive reaction |
| <i>Escherichia coli</i>     | 25922 | Luxuriant | Positive reaction |
| <i>Klebsiella aerogenes</i> | 13048 | Luxuriant | Negative reaction |

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

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