

## TECHNICAL DATA SHEET

### Brilliant Green Agar

#### Principle

Brilliant green agar is composed of protease peptone, yeast extract, lactose, saccharose, sodium chloride, brilliant green, phenol red and agar. Protease peptone provides nitrogen and necessary growth elements. Yeast extract provide nitrogen, carbon, vitamins and other growth factors. Lactose and sacchorese are source of carbohydrates. Sodium chloride maintains osmotic balance. Brilliant green inhibits both gram positive and negative bacteria except *Salmonella spp.*. Phenol red is pH indicator. Agar is solidifying agent.

**Use:** For the selective isolation of *Salmonella* other than *S.typhi* from faeces, food and dairy products.

#### Contents\*

| Ingredients      | Gram/Litre |
|------------------|------------|
| Protease Peptone | 10.000     |
| Yeast Extract    | 3.000      |
| Lactose          | 10.000     |
| Saccharose       | 10.000     |
| Sodium Chloride  | 5.000      |
| Brilliant Green  | 0.012      |
| Phenol Red       | 0.080      |
| Agar             | 20.000     |
| pH at 25°C       | 6.9 ±0.2   |

\* Formula adjusted for optimum performance and parameters

**Directions:** Dissolve 58.00 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, (AVOID OVERHEATING) cool it to 42-45 °C and distribute aseptically in petri plates. Ensure complete solidification and inoculate test sample aseptically.

#### 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                        | Pinkish beige colored free flowing, homogeneous powder |
| Reaction of 5.8% solution         | 6.9 $\pm$ 0.2 at 25 °C                                 |
| pH                                | 6.70- 7.10                                             |
| Gelling                           | Firm comparable with 2% agar gel                       |
| Color and clarity of ready medium | light orange brown colored opalescent gel              |
| 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                |

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**Different Microbial Response:** Cultural characteristics observed after incubation at 33-37°C for 24-48 hours. Inoculum 50-100 CFU.

| Organism                      | ATCC      | Growth       | Recovery  | Colony color                    |
|-------------------------------|-----------|--------------|-----------|---------------------------------|
| <i>Salmonella typhimurium</i> | 14028     | Good         | ≥ 60%     | Pink white with red surrounding |
| <i>Salmonella Abony</i>       | NCTC-6017 | Good         | ≥ 60%     | Pink white with red surrounding |
| <i>Salmonella enteritidis</i> | 13076     | Good         | ≥ 60%     | Pink white with red surrounding |
| <i>Escherichia coli</i>       | 8739      | None to poor | 0-10%     | Yellow-green                    |
| <i>Escherichia coli</i>       | 25922     | None to poor | 0-10%     | Yellow-green                    |
| <i>Staphylococcus aureus</i>  | 25923     | Inhibited    | Inhibited | --                              |
| <i>Staphylococcus aureus</i>  | 6538      | Inhibited    | Inhibited | --                              |

**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.

**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.
3. Downes F P and Ito K. (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.

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