

## TECHNICAL DATA SHEET

### Dey-Engley Neutralizing Broth

#### Principle

Dey-Engley Neutralizing broth is formulated as per the procedure described by Engley and Dey (1970). Media consist of Tryptone, yeast extract, dextrose, sodium thioglycollate, sodium thiosulphate, sodium bisulphite, Lecithin, polysorbate 80 and Bromocresol purple. Tryptone and yeast extract provides nitrogen and carbon source, vitamins and other essential nutrients like vitamins and cofactors. Dextrose is an energy source or carbon source. The sodium thioglycollate, sodium thiosulphate, sodium bisulphite and lecithin, act as neutralizing substances for almost all the active products used as antiseptics and disinfectants in commercial products. Sodium thioglycollate neutralizes mercurial; sodium thiosulfate neutralizes iodine and chlorine and Sodium bisulfite neutralizes aldehydes. While lecithin neutralizes quaternary ammonium compounds. The polysorbate 80 is used as a non-ionic surface-active agent, which neutralizes substituted phenolics compounds. Bromocresol purple is pH indicator dye. In medium the lecithin is used in high concentration for neutralization of chemicals the media become bit hazy and turbidity cannot be measured by spectrophotometer. Consequently, bromocresol purple and dextrose are added to the medium. The organisms that ferment dextrose will turn the medium from purple to yellow and the growth of *Pseudomonas species*, which do not ferment dextrose, can be detected by the formation of a pellicle on the surface of the broth.

**Use:** For neutralizing and testing antiseptics and disinfectants.

#### Contents\*

Ingredients	Gram/Litre
Tryptone	5.00
Yeast Extract	2.50
Dextrose	10.00
Sodium Thioglycolate	1.00
Sodium Thiosulphate	6.00
Sodium Bisulfate	2.50
Polysorbate 80	5.00
Lecithin	7.00
Bromocresol purple	0.02
pH at 25°C	7.6 ±0.2

\* Formula adjusted for optimum performance and parameters

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**Directions:** Dissolve 39.00 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, cool it to 42-45 °C and distribute aseptically as desired and inoculate the test sample.

## Specimens types analyzed

Food and dairy samples; Environmental samples, cosmetic, pharmaceutical samples etc.

## 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

<b>Appearance</b>	<b>Bluish beige colored free flowing, homogeneous powder</b>
<b>Reaction of 3.9% solution</b>	<b>7.6 ±0.2 at 25°C</b>
<b>pH</b>	<b>7.40- 7.80</b>
<b>Color and clarity of ready medium</b>	<b>Light purple to reddish colored, opalescent solution</b>
<b>Growth Promotion properties</b>	<b>Best at ≤ 100 CFU at 32-37°C for 18-72 h</b>
<b>Indicative properties</b>	<b>Optimum at ≤ 100 CFU at 32-37°C for 18-48 h</b>
<b>Negative control</b>	<b>Performed using sterile distilled water</b>

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Range of  
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**Different Microbial Response:** Cultural characteristics observed after incubation at 33-37°C for 18-24 hours. Inoculum 50-100 CFU for bacteria and 25 ± 2°C for 24-48 hours for Yeast and mold.

Organism	ATCC	Inoculum (CFU)	Growth	Media color
<i>Staphylococcus aureus</i>	25923	50-100	Luxuriant	Yellow
<i>Bacillus spizizenii</i>	6633	50-100	Luxuriant	Yellow
<i>Pseudomonas aeruginosa</i>	27853	50-100	Luxuriant	Yellow
<i>Salmonella typhimurium</i>	14028	50-100	Luxuriant	Yellow
<i>Escherichia coli</i>	8739	50-100	Luxuriant	Yellow
<i>Candida albicans</i>	10231	50-100	Luxuriant	Yellow

**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. American Public Health Association (1978), Standard Methods for the Examination of Dairy Products, 14<sup>th</sup>Ed., Washington D.C.
2. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), (2015), Standard Methods for the Examination of Water and Wastewater, Wastewater, 20<sup>th</sup>Ed., American Public Health Association, Washington, D.C.
3. Difco Manual (1998). 11<sup>th</sup>Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
4. Jorgensen, J. H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock. D.W. (2015) Manual of Clinical Microbiology, 11<sup>th</sup>Edition. Vol. 1

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