**OXFORD LAB FINE CHEM LLP**
ISO 9001-2008 Certified Company

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# TECHNICAL DATA SHEET

# Dey-Engley Neutralizing Agar

## Principle

**Dey-Engley Neutralizing Agar 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, Bromocresol purple and Agar. 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 mercurials; 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. 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 Agar.**

**Use: For disinfectant testing, wherein neutralization agent is important for determining its bactericidal activity.**

## 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 |
| Agar | 15.00 |
| pH at 25˚C | 7.6 ±0.2 |

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

*This document has been produced electronically and it is valid without signature.*

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**Directions: Dissolve 54.00 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 in desired, allow to solidify 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

| | |
|---|---|
| **Appearance** | **Bluish beige colored free flowing, homogeneous powder** |
| **Reaction of 5.40% solution** | **7.6 ±0.2 at 25 ˚C** |
| **pH** | **7.40- 7.80** |
| **Color and clarity of ready medium** | **Light purple to reddish colored, opalescent gel** |
| **Growth Promotion properties** | **Best at ≤ 100 CFU at 33-37°C for 18-24 hours for bacteria and 25 ± 2˚C for 3-5 days for Yeast and mold** |
| **Indicative properties** | **Optimum at ≤ 100 CFU at 33-37°C for 18-24 hours for bacteria and 25 ± 2˚C for 3-5 days for Yeast and mold** |
| **Negative control** | **Performed using sterile distilled water** |

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**Different Microbial Response: Cultural characteristics observed after incubation at 33-37°C for 18-24 hours for bacteria and 25 ± 2°C for 3-5 days for Yeast and mold.**

| Organism | ATCC | Inoculum (CFU) | Growth |
|---|---|---|---|
| *Staphylococcus aureus* | 25923 | 50-100 | Luxuriant |
| *Bacillus spizizenii* | 6633 | 50-100 | Luxuriant |
| *Pseudomonas aeruginosa* | 27853 | 50-100 | Luxuriant |
| *Salmonella typhimurium* | 14028 | 50-100 | Luxuriant |
| *Escherichia coli* | 8739 | 50-100 | Luxuriant |
| *Aspergillus brasiliensis* | 16404 | 50-100 | Luxuriant |
| *Candida albicans* | 10231 | 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.**

**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, 14th 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, 20th Ed., American Public Health Association, Washington, D.C.**
3. **Difco Manual (1998). 11th 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, 11thEdition. Vol. 1**

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