

Dey-Engley Neutralizing Broth ISO

For the neutralization and testing of antiseptics and disinfectants, and for the detection of microorganisms on surfaces of sanitary interest.

Practical information

Applications	Categories
Enrichment with neutralizers	General use

Industry: Cosmetics

Regulations: ISO 16212 / ISO 18416 / ISO 21149 / ISO 21150 / ISO 22717 / ISO 22718

Principles and uses

Dey-Engley Neutralizing Broth is used to cultivate a broad range of microorganisms while neutralizing disinfectants and antimicrobials which have inherent bacteriostatic properties.

Peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly of the B-group. Dextrose is the fermentable carbohydrate providing carbon and energy. Five neutralizers inactivate a number of disinfectant and antiseptic chemicals. Sodium bisulfite neutralizes aldehydes. Sodium thioglycollate neutralizes mercurials. Sodium thiosulfate neutralizes iodine and chlorine. Lecithin neutralizes quaternary ammonium compounds. Polysorbate 80, a non-ionic surface active agent, neutralizes substituted phenolics. Bromocresol purple is used as an indicator for dextrose utilization. The organisms that ferment dextrose will turn the medium from a purple to yellow color.

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Formula in g/L

Bromocresol purple	0,02	Casein peptone	5
Dextrose	10	Lecithin	7
Polysorbate 80	5	Sodium bisulfite	2,5
Sodium thioglycollate	1	Sodium thiosulfate	6
Yeast extract	2,5		

Preparation

Suspend 39 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Distribute into appropriate containers and sterilize in autoclave at 121 °C for 15 minutes.

Instructions for use

For the neutralization and testing of antiseptics and disinfectants:

- Add 1 mL of the test sample to one tube containing 9 ml of Neutralizing Broth.
- Add an amount of inoculum from a broth culture as desired.
- Incubate tubes at 35 °C.
- Growth is indicated by a color change from purple to yellow or by pellicle formation.
- Growth in the Neutralizing Broth indicates the neutralization of disinfectant.

For the detection of microorganisms on surfaces of sanitary interest:

- Apply a sterile cotton swab on the material surface to recover the microorganisms.
- Immerse the swab in the Neutralizing Broth tube.
- Incubate tubes at 35 °C.
- Growth is indicated by a color change from purple to yellow or by pellicle formation.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Green-blue	Violet	7,6±0,2

Microbiological test

Incubation conditions: (35±2 °C / 18-24 h).

Microorganisms	Specification
Salmonella typhimurium ATCC 14028	Good growth
Escherichia coli ATCC 25922	Good growth
Staphylococcus aureus ATCC 25923	Good growth
Pseudomonas aeruginosa ATCC 27853	Good growth
Bacillus subtilis ATCC 6633	Good growth

Storage

Temp. Min.: 2 °C
Temp. Max.: 25 °C

Bibliography

Downes and Iro(ed), 2001. Compendium of method for the microbiological examination of foods, 4th ed. American Public Health Association, Washitong, D.C.
Association for the Advancement of Medical Instrumentation. 1984. Process control guidelines for gamma radiation sterilization of medical devices. AAMI, Arlington,VA