Buffered Peptone Water

Intended Use

Buffered Peptone Water is used for pre-enrichment of injured *Salmonella* species from foodstuffs and other materials prior to selective enrichment and isolation particularly pathogenic Enterobacteriaceae.

Typical Composition (g/liter)

Peptic digest of animal tissue 10.0; Sodium chloride 5.0; Disodium phosphate.12H2O 9.0; Monopotassium phosphate 1.5

Mode of Action

It is noted that sub lethal injury to Salmonellae may occur in many food preservation processes. Pre-enrichment in Buffered Peptone Water at 35°C for 18-24 hours results in repair of injured cells. Recently ISO committee has also recommended this pre-enrichment medium for the detection of Enterobacteriaceae. The phosphate buffer system prevents bacterial damage due to changes in the pH of the medium.

Preparation

Suspend 20.07 grams of dehydrated medium in 1Liter distilled water. Dispense in 50 ml in suitable containers. Sterilize by autoclaving at 15 lbs pressure (121°C) for 20 minutes.

Final pH 7.0±0.2 at 25°C

Storage

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Experimental Procedure and Evaluation

Inoculate the test sample in Buffered peptone water and incubate at 35 - 37°C for 16 - 20 hours. Transfer material to selective enrichment media, Modified Rappaport Vassiliadis Medium and Fluid Selenite Cystine Broth. Incubate Rappaport Vassiliadis Medium at 42°C and at Fluid Selenite Cystine Broth 35 - 37°C for 24 hours. Subculture on selective plating media. Examine the plates for colonies of Salmonella species.

Quality Control

Organism	Inoculum	Growth
Salmonella Typhimurium ATCC 14028	50 - 100	Luxuriant
Salmonella Typhi ATCC 19430	50 - 100	Luxuriant
Salmonella Enteritidis ATCC 13076	50 - 100	Luxuriant

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Reference

1. International Organization for Standardization (ISO), 1993, Draft ISO/DIS, 6579.
2. Angelotti R., 1963, “Microbiological Quality of Foods”, Academic Press, New York.
3. Edel W. and Kampelmacher E.H., 1973, Bull. Wld. Hlth. Org., 48:167.
4. Bureau of Indian Standards IS: 5887 (Part 3) 1999.