Technical Information

Buffered Peptone Water

Product Code: DM 1614S

Application: - Buffered Peptone Water is recommended for pre-enrichment of injured *Salmonella* species from foods prior to selective enrichment and isolation. It is recommended by BIS committee under the specifications IS: 5887(Part III)-1999.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Sodium chloride	5.000
Disodium phosphate.12H_2O	9.000
Monopotassium phosphate	1.500
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Edel and Kampelmacher (1) noted that sublethal injury to Salmonellae may occur in many food preservation processes. Enriching injured cells in Lactose broth (DM2003S) (pH 6.9) may be further detrimental to their recovery (2). Pre-enrichment in Buffered Peptone Water at 35°C for 18-24 hours results in repair of injured cells (3). Recently ISO committee has also recommended this pre-enrichment medium for the detection of *Enterobacteriaceae* (4). Present formulation is recommended by BIS as a non-selective pre-enrichment medium as well as a diluent for detection of *Salmonella* (5).

Inoculate the test sample in Buffered peptone water and incubate at 35 - 37°C for 16 - 20 hours. Transfer the culture to selective enrichment media, Modified Rappaport Vassiliadis Medium (DM 2137I) and Fluid Selenite Cystine Broth (DM 1025I). Incubate DM 2137I at 42°C and DM1025I at 35 - 37°C for 24 hours. Subculture on selective plating media. Examine the plates for colonies of *Salmonella* species.

Methodology

Suspend 25.5 grams of dehydrated powder media in 1000 ml distilled water. Dispense in 50 ml amounts. Sterilize by autoclaving at 15 lbs pressure (121°C) for 20 minutes.

Quality Control

Appearance

Cream to yellow coloured homogeneous free flowing powder.

Colour and Clarity

Light yellow coloured clear solution without any precipitate.

Reaction

Reaction of 2.0% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH Range

6.80-7.20

Cultural Response

DM 1614S: Cultural characteristics observed after an incubation at 35-37°C for 18 - 24 hours.

Organism	Inoculum (CFU)	Growth
Salmonella Typhimurium ATCC 14028	50-100	luxuriant
Salmonella Typhi ATCC 19430	50-100	luxuriant
Salmonella Enteritidis ATCC 13076	50-100	luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.
Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Edel W. and Kampelmacher E.H., 1973, Bull. Wld. Hlth. Org., 48:167.
2. Angelotti R., 1963, "Microbiological Quality of Foods", Academic Press, New York.
3. Sadovski A.Y., 1977, J. Fd. Technol., 12:85.
4. International Organization for Standardization (ISO), 1993, Draft ISO/DIS, 6579.
5. Bureau of Indian Standards, IS : 5887 (Part 3) 1999.

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