HiEncap™ Buffered Peptone Water

EC1494ICCL

HiEncap™ Buffered Peptone Water is used as a pre-enrichment medium for increasing the recovery of injured *Salmonella* species from foods prior to selective enrichment and isolation. The composition and performance criteria of this medium are as per the applications laid down in ISO 6579-2002.

Composition**

Ingredients	Gms / Litre
Enzymatic Digest of Casein	10.000
Sodium chloride	5.000
Disodium hydrogen phosphate,12H_2O	9.000
Potassium dihydrogen phosphate	1.500
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Each capsule contains 5.02 gms of dehydrated medium. Suspend 1 capsule in 250ml (4 capsules in 1000 ml) distilled or purified water. Heat to boiling to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Microorganisms that are subjected to environmental stresses may become structurally or metabolically damaged or injured. These microorganisms are unable to replicate in selective environments. Therefore these injured organisms must be resuscitated or permitted to repair the damage by incubation in an appropriate, non-selective environment (1). Edel and Kampelmacher (2) noted that sublethal injury to Salmonellae may occur in many food preservation processes. Enriching injured cells in Lactose Broth (pH 6.9) may be further detrimental to their recovery (3). Pre-enrichment in Buffered Peptone Water (M1494I) at 35°C for 18-24 hours results in repair of injured cells (4). The buffering system prevents bacterial damage due to change in the pH of the medium. Recently ISO committee has also recommended this pre-enrichment medium for the detection of *Enterobacteriaceae* from food stuffs and other materials (5).

Inoculate 10 grams specimen in 50 ml of Buffered Peptone Water (EC1494ICCL) and incubate at 35°C for 18 hours. Transfer 10 ml from this medium to 100 ml of Mueller Kauffman Tetrathionate Novobiocin Broth Base (M1496I) and Rappaport Vassiliadis Soya Broth (RVS Broth) (M1491) and incubate at 43°C for 24-48 hours and then subculture on selective media like XLD Agar, Modified (M031I). Examine the plates for colonies of *Salmonella* species.

Quality Control

Appearance
Gelatin capsule containing,cream to yellow granular media

Colour and Clarity of prepared medium
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
6.80-7.20

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.(Recovery is observed on XLD Agar, M031I)

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery

Cultural Response

Salmonella Enteritidis *ATCC 13076*	50-100	luxuriant	>=50%
Salmonella Typhi *ATCC 6539*	50-100	luxuriant	>=50%
Salmonella Typhimurium *ATCC 14028*	50-100	luxuriant	>=50%
Escherichia coli ATCC 25922	50-100	luxuriant	>=50%
Pseudomonas aeruginosa ATCC 27853	50-100	luxuriant	>=50%

Storage and Shelf Life

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

Reference

1. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.
2. Edel W. and Kampelmacher E. H., 1973, Bull. Wld. Hlth. Org., 48: 167.
3. Angelotti R., 1963, “Microbiological Quality of Foods”, Academic Press, New York.
4. Sadovski A. Y., 1977, J. Food Technol., 12.85.
5. International Organization for Standardization (ISO), 2002, Draft ISO/DIS, 6579.

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