

Product Information

08105 Buffered Peptone Water, ISO (Pepton Water, buffered, ISO; Tryptone Phosphate Water, ISO; BPW, ISO)

For the non-selective pre-enrichment of bacteria, in particular pathogenic members of the Enterobacteriaceae (sub-lethally damaged), from food and other material.

Composition:

Ingredients	Grams/Litre
Enzymatic digest of casein	10.0
Sodium chloride	5.0
Disodium hydrogen phosphate (anhydrous)	3.5*
Potassium dihydrogen phosphate	1.5
Final pH 7.0 +/- 0.2 at 25°C	

*equivalent to 9.0g of disodium hydrogen phosphate dodecahydrate

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance: Light yellow coloured, homogeneous, free flowing powder.
Colour and Clarity: Light yellow coloured, clear solution without any precipitate.

Directions:

Suspend 20 g in 1 litre of distilled water. Mix well and distribute into final containers. Sterilize by autoclaving at 121°C for 15 minutes.

Principle and Interpretation:

Edel and Kampelmacher (1) 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 (2). Buffered Peptone Water (ISO) is a pre-enrichment medium for the isolation of *Salmonella* species from food and other samples. The pre-enrichment gives the sub-lethally damaged *Salmonella* time to repair and to proliferate (3). This step is needed if low numbers of bacteria are expected and to improve the recovery rate.

After the pre-enrichment step it is recommended to use a selective enrichment step with Müller Kauffmann Tetrathionate Broth (Cat. No. 43052) and Rappaport Vassiliadis Broth, modified (Cat. No. 17173).

According to ISO the specimen is inoculated 1:10 in Buffered Peptone Water (ISO) and incubated at 37°C for 16-20 hours (1). Transfer 10 ml from this medium to 100 ml of Tetrathionate Broth and incubate at 43°C for 24 - 48 hours and then subculture on selective XLD Agar (Cat. No. 95586). Examine the plates for colonies of *Salmonella* species.

Cultural characteristics after 24 hours at 37°C

Organisms (ATCC)	Growth
<i>Salmonella serotype Enteritidis</i> (13076)	+++
<i>Salmonella serotype Typhi</i> (19430)	+++
<i>Salmonella serotype Typhimurium</i> (14028)	+++

References:

1. W. Edel, E.H. Kampelmacher, Bull. Wld. Hlth. Org., 48, 167 (1973)
2. R. Angelotti, "Microbiological Quality of Foods", Academic Press, New York (1963)
3. A.Y. Sadovskii, J. Fd. Technol., 12, 85 (1977)
4. International Organization for Standardization (ISO), B.S. Anon, Microbiology of food and animal feeding stuffs Horizontal method for the detection of *Salmonella* spp., EN ISO 6579 (2002)