Buffered Peptone Water, BPW |

AS-1160

For the first, non-selective enrichment of bacteria, especially pathogenic *Enterobacteriaceae*, from foodstuffs and other materials.

A non-selective pre-enrichment medium called Buffered Peptone Water (BPW) was created expressly to identify and enumerate *Salmonella* in food and water samples. Widely accepted and defined by multiple ISO protocols (ISO 11133, ISO 11290, ISO 19250, ISO 21528, ISO 6579, ISO 6887), BPW has a crucial role in the recovery of *Salmonella* cells that have been slightly harmed, often caused by conditions related to food processing.

Peptone, sodium chloride, and a phosphate buffer system, among other nutrient-rich ingredients in BPW, create ideal circumstances for bacterial growth and resuscitation. The medium lessens the harmful effects of acidic environments on injured cells by preserving a constant pH. Pre-enrichment in BPW is important for amplifying the target organism prior to selective enrichment processes because *Salmonella* is generally not present in food matrices.

In addition to *Salmonella*, BPW is also used in the counting of *Listeria monocytogenes* and as a diluent for other microbes. Samples are routinely inoculated into BPW and then allowed to incubate to facilitate bacterial repair and growth. The enhanced culture is then moved to selective media so that *Salmonella* can be isolated and identified using distinctive colony morphology.

Composition (gr/L)

Peptone from Casein	10
Sodium Chloride	5
Disodium Hydrogen Phosphate	9
Potassium Dihydrogen Phosphate	1.5
Final pH at 25°C	7.2 ± 0.2

Preparation

Dissolve 25.5 g of the powder into 1 litter distilled water. Mix and pour into final containers. Autoclave at 121 °C for 15 minutes.

Quality Control

Dehydrated Appearance: Cream-white to light beige, free flowing, homogeneous, free of extraneous material.
Prepared Appearance: Light amber, clear.
Reaction of 2.55% Solution at 25°C: pH 7.2 ± 0.2

Microbial Test Results

Incubate at 35 ± 2°C for 18 to 24 hours.

Organism (ATCC)	Recovery
Escherichia coli (25922)	Good
Salmonella enterica subsp. Enterica serotype Enteritidis (13076)	Good
Salmonella enterica subsp. Enterica serotype Typhimurium (14028)	Good
Salmonella enterica subsp. Enterica serotype Typhi (19430)	Good
Pseudomonas aeruginosa (27853)	Good

Storage

Keep the container at 15-30 °C and prepared medium at 2-8 °C.