

PRODUCT CODE: 413795

Buffered Peptone Water (ISO 6579, ISO 22964, ISO 6887, DIN 10181, 10160) (Dehydrated Culture Media) for microbiology

Preparation

Suspend 20 grams of the medium in one litre of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes. The prepared medium should be stored at 2-8°C.

The colour is very light amber. The dehydrated medium should be homogeneous, free-flowing and white cream to slightly toasted in colour. If there are any physical changes, discard the medium.

Uses

BUFFERED PEPTONE WATER is a non-selective medium recommended as a preenrichment medium by the UNE-EN-ISO 6579 normative in food samples containing suspected contaminants such as *Salmonella*, in ISO 19250 normative in water samples and in ISO 22964 in milk and milk products for *Enterobacter sakazakii*.

Salmonella can be present in small numbers and are usually found with considerably larger numbers of other *Enterobacteriaceae* or other families. Pre-enrichment is necessary to allow the detection of small numbers of *Salmonella* or injured *Salmonella*. A feature common to all selective media is that sublethally injured organisms are not generally detected and therefore a recovery step must be included in examination procedures.

This is of importance, particularly in the food industry as various processes such as heat, desiccation, preservation processes, pH changes, etc, cause sublethal injuries to *Salmonella*. The broth is rich in nutrients and produces high resuscitation rates for sublethally injured bacteria and intense growth. Changes in pH may cause damages to bacteria growth.

Buffered Peptone Water maintains a high pH over the enrichment period via the phosphate buffer system and allows repair of injured cells sensitive to low pH. Pancreatic digest of casein provides nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance.

The medium for *Salmonella* is designed for the selective enrichment with MKTTN Broth with Brilliant Green & Novobiocin and Rappaport Soy Broth (Vassiliadis) (ISO 6579). Inoculate and incubate at $37 \pm 1^\circ\text{C}$ for 18 ± 2 hours. And Rappaport Soy Broth (Vassiliadis) (ISO 19250). Inoculate and incubate at $36 \pm 2^\circ\text{C}$ for 18 ± 2 hours.

The medium for *Enterobacter sakazakii* must be used as a preenrichment before inoculating Lauryl Sulfate Tryptose Broth Modified (m LST). Inoculate the Buffered peptone water at $37 \pm 1^\circ\text{C}$ for 18 ± 2 hours.

Composition

See in Data Sheet (TDS).

Microbiological Test

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of $37 \pm 1^\circ\text{C}$ and observed after 18 ± 2 hours.

Microorganism	Growth	Inoculum (CFU/ml)
<i>Salmonella enteritidis</i> ATCC 13076	Good	10^{-10^2}
<i>Salmonella typhi</i> ATCC 19430	Good	10^{-10^2}
<i>Salmonella typhimurium</i> ATCC 14028	Good	10^{-10^2}
<i>Enterobacter sakazakii</i> ATCC 29544	Good	10^{-10^2}

According to ISO 11133:

Microorganism	International Standard	Incubation	Methods of Control	Criteria
<i>Escherichia coli</i> ATCC 25922	ISO 6887	45 min – 1 h 20°C to 25°C	Quantitative	$\pm 30\%$ colonies
<i>Escherichia coli</i> ATCC 8739	ISO 6887	45 min – 1 h 20°C to 25°C	Quantitative	$\pm 30\%$ colonies
<i>Staphylococcus aureus</i> ATCC 25923	ISO 6887	45 min – 1 h 20°C to 25°C	Quantitative	$\pm 30\%$ colonies
<i>Listeria monocytogenes</i> ATCC 13932	ISO 11290-2	1 h ± 5 min / $20 \pm 2^\circ\text{C}$	Quantitative	$\pm 30\%$ colonies
<i>Listeria monocytogenes</i> ATCC 35152	ISO 11290-2	1 h ± 5 min / $20 \pm 2^\circ\text{C}$	Quantitative	$\pm 30\%$ colonies
<i>Salmonella typhimurium</i> ATCC 14028	ISO 6579/ ISO 21528-1	18 ± 2 h/ $37 \pm 1^\circ\text{C}$	Qualitative	Turbidity
<i>Salmonella enteritidis</i> ATCC 13076	ISO 6579	18 ± 2 h/ $37 \pm 1^\circ\text{C}$	Qualitative	Turbidity
<i>Escherichia coli</i> ATCC 25922	ISO 21528-1	18 ± 2 h/ $37 \pm 1^\circ\text{C}$	Qualitative	Turbidity
<i>Escherichia coli</i> ATCC 8739	ISO 21528-1	18 ± 2 h/ $37 \pm 1^\circ\text{C}$	Qualitative	Turbidity

Reference media TSA Agar

Storage

Once opened keep powdered medium closed to avoid hydration.

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