

Buffered Peptone Water (BPW) (ISO) (NCM0015)

Intended Use

Buffered Peptone Water (BPW) (ISO) is used for the non-selective pre-enrichment of a variety of microorganisms from food including *Salmonella* spp. and *Cronobacter* spp. from food. Buffered Peptone Water (BPW) (ISO) is not intended for use in the diagnosis of disease or other conditions in humans.

Description

Formulated to ISO 6579-1:2017, ISO 22694:2017, ISO 21528-1:2017 and ISO 12950:2010. This pre-enrichment medium is designed to help sublethally damaged salmonellae recover before introducing them into a selective medium. This nutrient medium is free from inhibitors and is well buffered to maintain pH 7.0 for the incubation period. Sublethal injury to salmonellae occurs in many food processes and this pre-enrichment step greatly increases recovery of these organisms.

Typical Formulation

Enzymatic Digest of Casein	10.0 g/L
Sodium Chloride	5.0 g/L
Disodium Hydrogen Phosphate (anhydrous)	3.6 g/L
Potassium Dihydrogen Phosphate	1.5 g/L
Final pH: 7.0 ± 0.2 at 25°C	

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution

1. Refer to SDS

Preparation

1. Dissolve 20.1 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

Test Procedure

- For detection of *Salmonella* spp. (Water Quality) - Refer to ISO 19250:2010
- For detection and enumeration of Enterobacteriaceae - Refer to ISO 21528-1:2017
- For detection and enumeration and Serotyping of Salmonella - Refer to ISO 6579-1:2017
- For detection *Cronobacter* spp. - Refer to ISO 22964:2017
- For detection of STEC - Refer to ISO/TS 13136:2012

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing and beige.

Prepared Appearance: Prepared medium is clear with no precipitate and pale yellow.

Expected Cultural Response: Cultural response in Buffered Peptone Water (BPW) (ISO), incubated aerobically at 37 ± 1°C and examined for growth after 16 - 20 hours incubation.

Technical Specification Sheet



MICROORGANISM	ATCC	APPROX. INOCULUM (CFU)	EXPECTED RESULTS
Pre-enrichment for <i>Salmonella</i> and <i>Enterobacteriaceae</i> detection			
<i>Escherichia coli</i>	25922	10-100	Growth
<i>Escherichia coli</i>	8739	10-100	Growth
<i>Salmonella enteritidis</i>	13076	10-100	Growth
<i>Salmonella typhimurium</i>	14028	10-100	Growth
<i>Cronobacter sakazakii</i>	29544	10-100	Growth
<i>Cronobacter muytjensii</i>	51329	10-100	Growth
Diluent for enumeration of microorganisms and <i>L. monocytogenes</i>			
<i>Escherichia coli</i>	25922	>10 ⁴ *	T ₁ plate counts w/in ± 30% of counts for T ₀
<i>Escherichia coli</i>	8739	>10 ⁴ *	T ₁ plate counts w/in ± 30% of counts for T ₀
<i>Staphylococcus aureus</i>	25923	>10 ⁴ *	T ₁ plate counts w/in ± 30% of counts for T ₀
<i>Listeria monocytogenes</i>	13932	>10 ⁴ *	T ₁ plate counts w/in ± 30% of counts for T ₀
<i>Listeria monocytogenes</i>	35152	>10 ⁴ *	T ₁ plate counts w/in ± 30% of counts for T ₀

The organisms listed are the minimum that should be used for quality control testing.

*Following a diluent testing procedure in BPW where final plating onto TSA yields a countable recovery amount at T₀ and T₁

Results

Growth is indicated by turbidity.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure

Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Storage

Store dehydrated culture media at 2-30°C away from direct sunlight. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.



References

1. ISO 19250:2010 Water quality -- Detection of *Salmonella* spp.
2. ISO 21528-1:2017 Microbiology of the food chain -- Horizontal method for the detection and enumeration of Enterobacteriaceae -- Part 1: Detection of Enterobacteriaceae
3. ISO 6579-1:2017 Microbiology of the food chain – Horizontal method for the detection, enumeration and serotyping of *Salmonella*
4. ISO 22964:2017 Microbiology of the food chain -- Horizontal method for the detection of *Cronobacter* spp.
5. ISO/TS 13136:2012 Microbiology of food and animal feed – Real-time polymerase chain reaction (PCR)-based method for the detection of food-borne pathogens – Horizontal method for the detection of Shiga toxin-producing *Escherichia coli* (STEC) and the determination of O157, O111, O26, O103 and O145 serogroups