

BUFFERED PEPTONE WATER (ISO) pH 7.0 (7417)

Intended Use

Buffered Peptone Water (ISO), pH 7.0 is used for the non-selective pre-enrichment of *Salmonella* spp. from food in a laboratory setting. Buffered Peptone Water (ISO), pH 7.0 is not intended for use in the diagnosis of disease or other conditions in humans.

Description

Edel and Kamelmacher¹ found that food preservation techniques involving heat, desiccation, preservatives, high osmotic pressure, or pH changes cause sublethal injury to *Salmonella* spp. Pre-enrichment in a non-selective medium allows for repair of cell damage and facilitates the recovery of *Salmonella*. Lactose Broth is frequently used for this purpose, but it may be detrimental to recovering *Salmonellae*.² Buffered Peptone Water (ISO), pH 7.0, maintains a high pH over the pre-enrichment period, allowing repair of injured cells that may be sensitive to a low pH.³ The pH factor is particularly important for vegetable specimens, which have a low buffering capacity. Buffered Peptone Water conforms with the formula specified in International Organization for Standardization (ISO), ISO/TS 11133-2:2014.

Typical Formulation

Peptone	10.0 g/L
Sodium Chloride	5.0 g/L
Disodium Phosphate	3.5 g/L†
Monopotassium Phosphate	1.5 g/L

† Equivalent to 9.0 g of disodium hydrogen phosphate dodecahydrate

Final pH: 7.0 ± 0.2 at 25°C

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

Precaution

Refer to SDS

Preparation

1. Dissolve 20 grams of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium, if necessary.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and off white to light beige.

Prepared Appearance: Prepared medium is clear with no to light precipitate, colorless to light amber.

Expected Cultural Response: Cultural response in Buffered Peptone Water (ISO), pH 7.0 incubated aerobically at 35 ± 2°C and examined for growth after 16 - 20 hours incubation.

Microorganism	Response
<i>Cronobacter sakazakii</i> ATCC® 29544	Good growth
<i>Escherichia coli</i> ATCC® 25922	Good growth
<i>Salmonella typhimurium</i> ATCC® 14028	Good growth

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

Technical Specification Sheet



Test Procedure

Refer to appropriate references for specific procedures using Buffered Peptone Water (ISO), pH 7.0.

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.

Limitations 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. Edel, W., and E. H. Kampelmacher. 1973. Bull World Hlth. Org. 48:167-174.
2. Angelotti, R. 1963. Microbiological quality of foods. Academic Press, New York.
3. Sadowski, A. Y. 1977. J. Food Technol. 12:85-91.
4. International Organization for Standardization (ISO). ISO/TS 11133-2014, ICS: 07.100.30, Food Microbiology, 1211 Geneva 20, Switzerland.
5. British Standards Institute (BSI). 2002. BS EN ISO 6579: incorporating Corrigendum No. 1. Microbiology of food and animal feeding stuffs – horizontal method for the detection of Salmonella spp. London: BSI.



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