BUFFERED PEPTONE WATER (BROTH) (7418)

Intended Use
Buffered Peptone Water is used for the non-selective pre-enrichment of *Salmonella* spp. from food.

Product Summary and Explanation
Edel and Kamelmacher[1] 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 maintains a high pH over the pre-enrichment period and allows in repair of injured cells that may be sensitive to low pH.[3] This is particularly important for vegetable specimens which have a low buffering capacity. Buffered Peptone Water is used in standard methods.[4]

Principles of the Procedure
Peptone is the nitrogen, carbon, vitamin, and mineral sources in Buffered Peptone Water. Sodium Chloride maintains the osmotic balance. Phosphates buffer the medium.

Formula / Liter
Peptone..... 10 g
Sodium Chloride ..... 5 g
Disodium Phosphate..... 3.5 g
Monopotassium Phosphate ..... 1.5 g
Final pH: 7.2 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions
1. For Laboratory Use.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions
1. Dissolve 20 g 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 white to light beige.

Prepared Appearance: Prepared medium is clear, with no to light precipitate and colorless to pale yellow.

Expected Cultural Response: Cultural response in Buffered Peptone Water incubated aerobically at 35 ± 2°C and examined for growth at 18 - 24 hours.

Microorganism	Approx. Inoculum (CFU)	Response
Escherichia coli ATCC® 25922	10 - 300	Good growth
Salmonella typhimurium ATCC® 14028	10 - 300	Good growth

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

Test Procedure
Refer to appropriate references for specific procedures using Buffered Peptone Water.

Results
Growth is indicated by turbidity.

Storage
Store sealed bottle containing the dehydrated medium at 2 - 30°C. 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.

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.

Packaging

Buffered Peptone Water	**Code No.**	**7418A**	**500 g**
		7418B	**2 kg**
		7418C	**10 kg**

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. **Sadovski, A. Y.** 1977. J. Food Technol. **12:**85-91.
4. **Vanderzant, C., and D. F. Splittstoesser (eds.).** 1992. Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association, Washington, D.C.

Technical Information
Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.