PHOSPHATE BUFFER, pH 7.2 (7380)

Intended Use
Phosphate Buffer, pH 7.2 is used for the preparation of microbiological dilution blanks.

Product Summary and Explanation
The formula for phosphate buffer is specified by the American Public Health Association (APHA) for use in diluting test samples. Phosphate Buffer, pH 7.2 is specified for use in diluting water, dairy products and food for microbiological methods. In the examination of water[1] and dairy products[2] the addition of magnesium chloride is recommended.

This buffer is also referred to as Butterfield's Buffered Phosphate Diluent and recommended for examination of food.[2] Phosphate Buffer, pH 7.2 stabilizes the pH of water used for dilutions.

Principles of the Procedure
Phosphate Buffer, pH 7.2 is used in the preparation of dilution blanks for use in microbiological testing. Phosphate Buffer is used rather than unbuffered water in order to standardize this potential variable due to the wide variation in the pH of distilled water from multiple sources.

Formula / Liter
Potassium Dihydrogen Phosphate..... 26.22 g
Sodium Carbonate..... 7.78 g
Final pH: 7.2 ± 0.1 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Supplement
Magnesium Chloride, 5 mL

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

Directions
Stock Solution
1. Dissolve 34 g of the medium in one liter of purified water until evenly dissolved.
2. Autoclave at 121°C for 15 minutes, if desired. Store under refrigeration.

Working Solution
1. Add 1.25 mL of Stock Solution and 5 mL of a magnesium chloride solution (81.1 g $MgCl_2 \bullet 6H_2O$ per liter of purified water) to purified water and make up to one liter.
2. Dispense into bottles or tubes to provide 99 ± 2.0 mL, 9 ± 0.2 mL or other appropriate quantities. 3.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free flowing, and white.

Prepared Appearance: Prepared buffer is clear and colorless.

Expected Cultural Response[2]: Cultural response of *Escherichia coli* on Violet Red Bile Agar (32°C, 18 - 24 hours) after holding for one hour at room temperature in the working solution.

Microorganism	Response (Toxicity Test)
Escherichia coli ATCC® 25922	growth

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

Test Procedure
Refer to appropriate references for a complete discussion and use of Phosphate Buffer, pH 7.2.

Results
Refer to appropriate references for results following test procedures.

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 appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Packaging

Phosphate Buffer, pH 7.2	**Code No.**	**7380A**	**500 g**
		7380B	**2 kg**
		7380C	**10 kg**

References

1. **Greenberg, Trussell, and Clesceri (eds.).** 1985. Standard methods for the examination of water and wastewater, 16th ed. American Public Health Association, Washington, D.C.
2. **Richardson. (ed.). 1985.** Standard methods for the examination of dairy products, 15th ed. American Public Health Association, Washington, D.C.
3. **Bacteriological Analytical Manual.** 1995. 8th ed. AOAC International, Gaithersburg, MD.

Technical Information
Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (410)780-5120 or fax us at (410)780-5470.