

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 water¹ and dairy products² 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

Supplement

Magnesium Chloride, 5 mL

*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

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.
3. *Final pH is taken after Phosphate Buffer, pH 7.2 has been autoclaved and cooled to 25°C (room temperature).

Working Solution

1. Add 1.25 mL of Stock Solution and 5 mL of a Magnesium Chloride solution (81.1 g MgCl₂ • 6H₂O 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. Autoclave at 121°C for 15 minutes.
4. *Final pH is taken after Phosphate Buffer, pH 7.2 has been autoclaved and cooled to 25°C (room temperature).

Quality Control Specifications

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

Prepared Appearance: Prepared buffer is clear to slightly hazy / opalescent with or without trace precipitate and colorless.

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 (517)372-9200 or fax us at (517)372-2006.