

## 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<sup>1</sup> and dairy products<sup>2</sup> 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.<sup>2</sup> 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 ± 0.2 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.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes. Store under refrigeration.
4. \*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 MgCl<sub>2</sub> • 6H<sub>2</sub>O 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**

<b>Phosphate Buffer, pH 7.2</b>	<b>Code No.</b>	<b>7380A</b>	<b>500 g</b>
		<b>7380B</b>	<b>2 kg</b>
		<b>7380C</b>	<b>10 kg</b>

### **References**

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