Phosphate Buffer, pH 7.2

Intended Use
Phosphate Buffer, pH 7.2 is used for the preparation of dilution blanks for use in the examination of waters, dairy products, foods and other materials.


User Quality Control

Identity Specifications
BBL™ Phosphate Buffer, pH 7.2
Dehydrated Appearance: White, fine, homogeneous, free of extraneous material.
Solution: 3.4% solution, soluble in purified water. Solution is colorless, clear to trace hazy.
Prepared Appearance: Colorless, clear to trace hazy.
Stock Solution at 25°C: pH 7.2 ± 0.5
BBL™ Phosphate Buffer, pH 7.2 (prepared)
Appearance: Colorless to light yellow and clear to trace hazy.
Reaction at 25°C: pH 7.2 ± 0.1

Summary and Explanation
The formula for phosphate buffer was originally specified by the American Public Health Association (APHA) for use in diluting test samples. Phosphate Buffer, pH 7.2 still is specified for use in diluting water samples,‡‡ dairy products and foods in standard microbiological methods. In some compendial methods,§ this product is referred to as Butterfield’s Phosphate Buffered Dilution Water. Some methods require the addition of 5.0 mL of a magnesium chloride solution (81.1 g MgCl₂•6H₂O per L of purified water) to the product. General chapters <61> and <62> of the USP recommend the use of Phosphate Buffer, pH 7.2 for preparing dilutions of nonsterile pharmaceutical products when performing Microbial Enumeration Tests and Tests for Specified Microorganisms.†

Principles of the Procedure
Phosphate buffer is used in the preparation of dilution blanks for use in microbiological testing rather than unbuffered water in order to standardize this potential variable due to the wide variation in the pH of purified water from multiple sources. Sodium carbonate is a pH regulator.

Formula
BBL™ Phosphate Buffer, pH 7.2
Approximate Formula* Per Liter
Potassium Dihydrogen Phosphate ........................................ 26.22 g
Sodium Carbonate .................................................................. 7.78 g

Directions for Preparation from Dehydrated Product
1. Prepare a stock solution, according to standard procedure, by dissolving 34.0 g in purified water and make up to 1 L.
2. Dispense and sterilize, if desired. Store under refrigeration.
3. Prepare a working solution for use in dilution blanks, according to standard procedure, by adding 1.25 mL of stock solution to purified water and make up to 1 L (1:800).
4. Dispense in bottles or tubes to provide a post-autoclaving volume of 99 ± 2 mL or 9 ± 0.2 mL or other appropriate quantity.
5. Autoclave at 121°C for 15 minutes.

*NOTE: If desired, add 5.0 mL of magnesium chloride solution (81.1 g MgCl₂•6H₂O per L of purified water).

Sample Collection and Handling
For water, dairy and food samples, follow appropriate standard methods for details on sample collection and preparation according to sample type and geographic location.‡‡

For pharmaceutical samples, refer to the USP for details on sample collection and preparation for testing of nonsterile products.†
Procedure
For water, dairy and food samples, refer to appropriate standard references for details on test methods for using Phosphate Buffer, pH 7.2.©

For pharmaceutical samples, refer to USP General Chapters <61> and <62> for details on the examination of nonsterile products using Phosphate Buffer, pH 7.2.¹

References
7. U.S. Food and Drug Administration. Bacteriological analytical manual, online. AOAC International, Gaithersburg, Md.

Availability
BBL™ Phosphate Buffer, pH 7.2
AOAC BAM COMPF EP JP SMD SMWW USDA USP
Cat. No. 211544 Dehydrated – 500 g* 214973 Prepared Bottles (Working Solution), 500 mL (septum screw cap) – Pkg. of 10* 257385 Prepared Bottles (Stock Solution), 100 mL (septum screw cap) – Ctn. of 25* * QC testing performed according to USP/EP/JP performance specifications.