

Choose Fisher BioReagents® buffers for:

- QUALITY:** tight specifications
CONSISTENCY: lot-to-lot uniformity
SELECTION: powders, concentrated stock solutions, or ready-to-use liquids
PACKAGING: state-of-the-art containers designed for safety and utility

- CONVENIENCE:** pre-qualified for a variety of applications
ECONOMY: size configurations to meet all budgets
SCALE: from bench to batch sizes

| Description | Size | Cat. No. |
|--|-------------|------------|
| Buffers for Life Science Applications | | |
| EDTA Ethylenediamine Tetraacetic Acid | | |
| 0.5M (pH 8.0) | 100mL | BP2482-100 |
| 0.5M (pH 8.0) | 500mL | BP2482-500 |
| 0.5M (pH 8.0) | 1L | BP2482-1 |
| 0.5M (pH 8.0) | 20L | BP2482-20 |
| 0.5M (pH 8.0), DEPC | 100mL | BP2483-100 |
| 0.5M (pH 8.0), DEPC | 500mL | BP2483-500 |
| 0.5M (pH 8.0), DEPC | 1L | BP2483-1 |
| Powder | 500g | BP118-500 |
| HEPES | | |
| 1.0M (pH 7.3) | 100mL | BP299-100 |
| 1.0M (pH 7.3) | 500mL | BP299-500 |
| 1.0M (pH 7.3) | 1L | BP299-1 |
| Crystals | 100g | BP310-100 |
| Crystals | 500g | BP310-500 |
| Crystals | 1kg | BP310-1 |
| Crystals | 5kg | BP310-5 |
| PBS Phosphate Buffered Saline | | |
| Tablets | 100 tablets | BP2944-100 |
| 1X | 4L | BP2438-4 |
| 1X | 20L | BP2438-20 |
| 10X | 500mL | BP399-500 |
| 10X | 1L | BP399-1 |
| NEW CellPURE™ PBS 10X | 4L | BP2940-4 |
| 10X | 4L | BP399-4 |
| 10X | 20L | BP399-20 |
| 1X Powder Concentrate | 10L | BP661-10 |
| 1X Powder Concentrate | 50L | BP661-50 |
| NEW Powder with Tween® 20 | 10 pouches | BP2938-10 |
| NEW Powder with BSA | 10 pouches | BP2942-10 |
| 10X Powder Concentrate | 2x1L | BP665-1 |
| STE Sodium Chloride-Tris-EDTA | | |
| 1X (pH 8.0) | 1L | BP2478-1 |
| 10X (pH 8.0) | 500mL | BP2479-500 |
| 10X (pH 8.0) | 1L | BP2479-1 |
| TBS Tris-Buffered Saline | | |
| 1X (pH 7.4) | 1L | BP2472-1 |
| 10X (pH 7.4) | 100mL | BP2471-100 |
| 10X (pH 7.4) | 500mL | BP2471-500 |
| 10X (pH 7.4) | 1L | BP2471-1 |

* Pre-weighed powder in poly bottle. Dissolve in water.

** Pre-weighed powder in foil pack. Dissolve in water.

Related Core BioReagents

NEW!

Ethanol, Molecular Biology Grade

| Cat. No. | Size |
|------------|-------|
| BP2818-100 | 100mL |
| BP2818-500 | 500mL |
| BP2818-4 | 4L |

NEW!

Isopropanol, Molecular Biology Grade

| Cat. No. | Size |
|------------|-------|
| BP2618-500 | 500mL |
| BP2618-1 | 1L |
| BP2618-212 | 2.5L |
| BP2618-4 | 4L |



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CellPURE™ Biological Buffers

JustPURE™ "Good" Buffers

Core Essential Buffers

Buffers for Life Science Research



CellPURE Biological Buffers



- Ultrapure zwitterionic biological buffers
- Optimized for cell/tissue culture work
- Wide applicability to molecular biology and biochemical studies
- Manufactured under strict quality control guidelines to ensure performance and reliability

Fisher BioReagents buffers meet the needs of every budget and scale.

- Economical powders come in various package sizes
- Concentrated stock solutions provide convenience in one step of easy dilution
- Ready-to-use solutions offer the biggest time savings of all

Obtaining optimal results in your research requires careful selection of reagents. When your experiments require exact buffering conditions, you can depend on the reliability of Fisher BioReagents buffers. All Fisher BioReagents buffers are manufactured from high-quality raw materials under ISO 9001 2000-certified manufacturing and testing processes. In addition, buffer sterilization is done by submicron filtration and/or autoclaving.

The purpose of a buffer in a biological system is to maintain intracellular and extracellular pH within the physiological range and resist changes in pH due to the presence of internal and external influences. CellPURE Biological Buffers from Fisher BioReagents are ultrapure zwitterionic buffers that possess both positive and negative charges. First described by Good and co-workers in 1966, these organic buffers have pKa values at or near physiological pH and minimal interference with biological processes. CellPURE Biological Buffers are ideal for cell cultivation, isolation of cells, enzyme assays, and other biochemical applications.

(Reference: Good, N.E., et al. (1966) Hydrogen Ion Buffers for Biological Research. Biochemistry 5(2): 467-477)

Advantages

- Cell culture tested
- Analyzed for the absence of nucleases and proteases
- Tested for endotoxin and bioburden levels
- pK_a values mostly independent of temperature and concentration
- High water solubility
- Minimal permeability to biological membranes

Applications

- Tissue culture media and maintenance of cell lines
- Enzyme assays
- Electrophoresis of RNA
- Transfection of mammalian cells

Properties of CellPURE Biological Buffers

| Cat. No. | Product Description | Formula | Molecular Weight | pK _a @ 25° C | Useful pH Range | Cell Culture Tested | Endotoxin Assay | Nuclease and Protease Tested | Size |
|------------|---------------------|--|------------------|-------------------------|-----------------|---------------------|-----------------|------------------------------|------|
| BP2941-100 | BIS-TRIS | C ₈ H ₁₃ NO ₅ | 209.24 | 6.5 | 5.8 to 7.2 | X | X | X | 100g |
| BP2943-100 | BIS-TRIS propane | C ₁₁ H ₂₀ N ₂ O ₆ | 282.33 | 6.8† | 6.3 to 9.5 | X | X | X | 100g |
| BP2947-100 | BES | C ₆ H ₁₅ NO ₅ S | 213.25 | 7.1 | 6.4 to 7.8 | X | X | X | 100g |
| BP2936-100 | MOPS | C ₇ H ₁₃ NO ₃ S | 209.26 | 7.2 | 6.5 to 7.9 | X | X | X | 100g |
| BP2946-25 | MOPS sodium salt | C ₇ H ₁₄ NNaO ₃ S | 231.25 | 7.2 | 6.5 to 7.9 | X | X | X | 25g |
| BP2937-100 | HEPES | C ₈ H ₁₅ N ₂ O ₄ S | 238.30 | 7.5 | 6.8 to 8.2 | X | X | X | 100g |
| BP2939-100 | HEPES Sodium Salt | C ₈ H ₁₇ N ₂ NaO ₄ S | 260.29 | 7.5 | 6.8 to 8.2 | X | X | X | 100g |
| BP2945-100 | TES | C ₆ H ₁₃ NO ₆ S | 229.25 | 7.5 | 6.8 to 8.2 | X | X | X | 100g |

† pK_a = 9.0 for the second dissociation stage

Technical Tip

The Water Makes a Difference. CellPURE Biological Buffers are of the highest quality (purity ≥ 99%). They are tested for low heavy metal content and the absence of endotoxins, nucleases, and proteases. It is important to use only water of the highest quality to prepare the buffer solutions. Water that stands too long in pipes or water produced by a system needing routine maintenance increases the risk for contamination of buffer solutions. Fisher BioReagents provides several grades of high purity water suitable for the preparation of high quality buffer solutions.

JustPURE “Good” Buffers



- Ultrapure zwitterionic buffers
- Optimized for research in cellular and molecular biology
- Low interference with biological reactions

Zwitterionic buffers possessing both positive and negative charges were described in 1966 by Good and co-workers as being suitable for work with biological molecules. Popularly known today as “Good” buffers, these organic buffers have several advantages compared to traditional inorganic buffering systems such as phosphate, borate, and bicarbonate. “Good” buffers approach the “ideal” buffer state by having pKa values at or near physiological pH and minimal interference with biological processes. JustPURE “Good” buffers from Fisher BioReagents have very high purity (assay > 99%) and only trace amounts of metal ions, which makes them useful for applications requiring tight control of elemental content.

(Reference: Good, N.E., et al. (1966) Hydrogen Ion Buffers for Biological Research. Biochemistry 5(2): 467-477)

Advantages

- pK_a values mostly independent of temperature and concentration
- High water solubility
- Chemically and enzymatically stable
- Minimal permeability to biological membranes
- Limited effect on biochemical reactions
- Minimal absorption in spectral range 240 to 700nm

Applications

- High efficiency transfection of mammalian cells
- Gel electrophoresis of RNA
- Protein isolation applications
- Cell cultures and enzyme assays
- Bioanalytical methods such as IEF, 2-D electrophoresis, SDS-PAGE

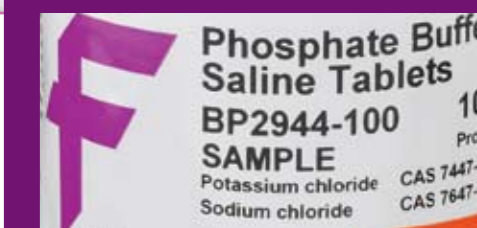
Properties of JustPURE Buffers

| Cat. No. | Product Description | CAS No. | Formula | Molecular Weight | pK _a @ 25° C | Useful pH Range | Form | Size |
|------------|---------------------|------------|---|--------------------|-------------------------|-----------------|--------------|------|
| BP2920-250 | MES hydrate | 4432-31-9 | C ₄ H ₁₀ NO ₂ S·xH ₂ O | 195.24 (anhydrous) | 6.1 | 5.5 to 6.7 | White powder | 250g |
| BP2935-100 | ACES | 7365-82-4 | C ₈ H ₁₀ N ₂ O ₄ S | 182.20 | 6.8 | 6.1 to 7.5 | White powder | 100g |
| BP2924-50 | PIPES | 5625-37-6 | C ₈ H ₁₀ N ₂ O ₅ S ₂ | 302.37 | 6.8 | 6.1 to 7.5 | White powder | 50g |
| BP2929-25 | BIS-TRIS propane | 64431-96-5 | C ₁₁ H ₂₀ N ₂ O ₆ | 282.33 | 6.8† | 6.3 to 9.5 | White powder | 25g |
| BP2925-100 | MOPS | 1132-61-2 | C ₇ H ₁₃ NO ₃ S | 209.26 | 7.2 | 6.5 to 7.9 | White powder | 100g |
| BP2926-100 | MOPS sodium salt | 71119-22-7 | C ₇ H ₁₄ NNaO ₃ S | 231.25 | 7.2 | 6.5 to 7.9 | White powder | 100g |
| BP2921-50 | HEPES | 7365-45-9 | C ₈ H ₁₅ N ₂ O ₄ S | 238.30 | 7.5 | 6.8 to 8.2 | White powder | 50g |
| BP2931-100 | HEPES sodium salt | 75277-39-3 | C ₈ H ₁₇ N ₂ NaO ₄ S | 260.29 | 7.5 | 6.8 to 8.2 | White powder | 100g |
| BP2933-100 | EPPS | 16052-06-5 | C ₉ H ₁₉ N ₂ O ₄ S | 252.33 | 8.0 | 7.3 to 8.7 | White powder | 100g |
| BP2922-100 | Tricine | 5704-04-1 | C ₆ H ₁₃ NO ₃ | 179.17 | 8.1 | 7.4 to 8.8 | White powder | 100g |
| BP2930-50 | Gly-Gly | 556-50-3 | C ₂ H ₅ N ₂ O ₂ | 132.12 | 8.2 | 7.5 to 8.9 | White powder | 50g |
| BP2923-100 | TAPS | 29915-38-6 | C ₈ H ₁₇ NO ₃ S | 243.28 | 8.4 | 7.7 to 9.1 | White powder | 100g |
| BP2934-100 | CHES | 103-47-9 | C ₈ H ₁₅ NO ₃ S | 207.29 | 9.3 | 8.6 to 10.0 | White powder | 100g |
| BP2928-100 | CAPS | 1135-40-6 | C ₈ H ₁₅ NO ₃ S | 221.32 | 10.4 | 9.7 to 11.1 | White powder | 100g |

† pK_a = 9.0 for the second dissociation stage



Additional Buffers from Fisher BioReagents



NEW Phosphate Buffered Saline (PBS) Products

- Maximum convenience - tablets, pre-weighed powder, and ready-to-use solutions
- High purity for reliability and consistency
- Broad usage in cell culture, molecular biology, and biochemical studies

BP2944-100 Phosphate Buffered Saline Tablets

Application: Specifically developed for use in immunoassay procedures. The need to weigh and mix individual components is eliminated.

Usage: One tablet dissolved in 200mL of molecular biology grade water yields 0.01M phosphate buffer, 0.0027M KCl, and 0.137M NaCl, pH 7.4 at 25°C.

Specifications:

Tablet Diameter½"

Dissolution Time≤ 10 min.

pH.....7.2 to 7.6

BP2938-10 Phosphate Buffered Saline with Tween® 20 (in pouches)

Application: Phosphate Buffered Saline with the detergent Tween 20 (PBST) is used as a wash buffer and diluent for ELISA and Western blot.

Usage: Dissolve the pre-weighed contents of one pouch in 1L of molecular biology grade water. Formulation per liter is 0.01M phosphate buffered saline, 0.138M NaCl, 0.0027M KCl, and 0.05% Tween 20, pH 7.4 at 25°C.

Specifications:

AppearanceWhite powder

Dissolution Time< 5 min.

pH.....7.2 to 7.6



NEW!

Water (0.1µm filtered), Molecular Biology Grade

| Cat. No. | Size |
|------------|-------|
| BP2819-100 | 100mL |
| BP2819-1 | 1L |
| BP2819-4 | 4L |
| BP2819-10 | 10L |
| BP2819-20 | 20L |

BP2940-4 CellPURE Phosphate Buffered Saline, 10X Solution

Application: CellPURE Phosphate Buffered Saline provides an optimal formulation for cell biology experiments in which the osmolarity of cells must be maintained. PBS can also be used in biochemistry studies for maintaining proteins in a certain pH range.

Usage: When diluted to a 1X concentration using molecular biology grade water, this product yields 0.01M phosphate buffer and 0.154M NaCl, pH 7.4 at 25°C.

Specifications:

Cell Culture Suitability..... Pass test

Endotoxin Assay.....≤ 1.0 EU/mL

Heavy Metals.....≤ 5ppm (as lead)

Nuclease and Protease Not detected

BP2942-10 Phosphate Buffered Saline with BSA (in pouches)

Application: Optimized for use in immunohistology protocols.

Usage: Dissolve the pre-weighed contents of one pouch in 1L of molecular biology grade water. Formula per liter is 0.01M phosphate buffered saline, 0.138M NaCl, 0.0027M KCl, and 1.0% (w/v) bovine serum albumin (BSA), pH 7.4 at 25°C.

Specifications:

Dissolution Time.....< 15 min.

pH.....7.2 to 7.6

Protein by UV Absorbance.....9.0 to 10.5mg/mL