

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



GLOBAL LOCATIONS

AMERICAS

Canada
 Fisher Scientific Canada
 112 Colonnade Road
 Ottawa, Ontario
 Post Code: K2E 7L6
 Toll-Free Number: 800-234-7437
 Fax: 800-463-2996
 www.fishersci.ca

Latin America
 Fisher Scientific Global Export, Latin America
 3970 Johns Creek Court
 Suite 500
 Suwanee, GA
 Post Code: 30024
 Toll-Free Number: 770-871-4725
 Fax: 770-871-4726
 www.fishersci.com

United States
 Fisher HealthCare
 9999 Veterans Memorial Drive
 Houston, TX
 Post Code: 77038
 Toll-Free Number: 800-640-0640
 Fax: 800-290-0290
 www.fisherhealthcare.com

Fisher Scientific
 2000 Park Lane Drive
 Pittsburgh, PA
 Post Code: 15275
 Toll-Free Number: 800-766-7000
 Fax: 800-926-1166
 www.fishersci.com

ASIA

China
 Fisher Scientific Worldwide (Shanghai)
 Co., Ltd
 Hotline: +86 400 881 5117
 website: www.fishersci.com.cn
 E-mail: sales.china@thermofisher.com

Shanghai office
 2F, Building 7
 No. 27 Xin Jinqiao Rd
 Shanghai 201206
 P.R. China
 Tel: +86 21-52581100; +86 21-61925688
 Fax: +86 21-52580119

Beijing office
 Units 702-715, 7th Floor,
 Tower West, Yonghe Plaza
 No.28 Andingmen East Street
 Beijing 100007
 P.R. China
 Tel: +86 10-84193588
 Fax: +86 10-84193580

Guangzhou office
 Room 2405-2406, Time Estate Center
 No.410-412 Middle DongFeng Road
 Guangzhou 510030
 P.R. China
 Tel: +86 20-83145288
 Fax: +86 20-38771941

India
 Fisher Scientific (Part of Thermo Fisher Scientific)
 403-404, B-Wing, Delphi
 Hirandani Business Park
 Powai, Mumbai-400 076
 India
 Toll-Free Number: 1 800 209 7001
 Fax: 91 22 6680 3001/3002
 qfc.customercare@thermofisher.com
 www.fishersci.in

Japan

Fisher Scientific Japan
 Thermo Fisher Scientific K.K.
 C-2F, 3-9 Moriya-cho
 Kanawaga-ku, Yokohama
 221-0022 Japan
 Tel: 81 45 450 6310
 Fax: 81 45 450 6316
 support@fishersci.co.jp
 www.fishersci.co.jp

Korea

Fisher Scientific Korea
 Sambu Bldg. 13F
 676 Yeoksam-dong,
 Kangnam-Gu
 Seoul 135-979, Korea
 Dir (02) 527-0300
 Customer Service Center: (02) 527-0300
 Fax: (02) 527-0311
 sales@fishersci.co.kr
 www.acros.co.kr

Malaysia

Fisher Scientific Malaysia Sdn Bhd
 No. 3 Jalan Sepadu 25/123
 Taman Perindustrian Axis Seksyen 25
 40400 Shah Alam
 Selangor Darul Ehsan Malaysia
 Technical Service Hotline: 1-300-88-7888
 Tel: (603) 51218888
 Fax: (603) 51218899
 enquiry.my@thermofisher.com
 www.fishersci.com.my

Singapore

Fisher Scientific Singapore
 Fisher Scientific Pte Ltd.
 8 Pandan Crescent
 LL4, #05-05 UE Tech Park
 Singapore 128464
 Tel: (65) 6873 6006
 Fax: (65) 6873 5005
 enquiry.sg@thermofisher.com
 www.fishersci.com.sg

EUROPE

Austria

Fisher Scientific (Austria) GmbH
 Rudolf von Alt-Platz 1
 A-1030 Wien
 Toll-Free Number: 0800 20 88 40
 Fax: 0800 20 66 90
 info.austria@thermofisher.com
 www.at.fishersci.com

Belgium

Fisher Scientific
 BP 567
 B-7500 Tournai 1
 Tel: 056 260 260
 Fax: 056 260 270
 be.fisher@thermofisher.com
 www.be.fishersci.com

Czech Republic

Fisher Scientific, spol. s r.o.
 Kosmonautů 324
 Pardučice
 CZ-530 09
 Tel: 466 798 230
 Fax: 466 435 008
 info.cz@thermofisher.com
 www.thermofisher.cz

Denmark

Fisher Scientific
 Industrivej 3
 DK-3550 Slangerup
 Tel: +45 70 27 99 20
 Fax: +45 70 27 99 29
 kundservice@thermofisher.com
 www.fishersci.dk

Finland

Fisher Scientific Oy
 Ratastie 2
 FI-01620 Vantaa
 Tel: +358 802 76 280
 Fax: +358 802 76 235
 fisher.fi@thermofisher.com
 www.fishersci.fi

France

Fisher Scientific
 Parc d'Innovation BP 50111
 67403 Illkirch Cedex
 Dir: 03 88 67 53 20
 Fax: 03 88 67 11 68
 fr.commande@thermofisher.com
 www.fr.fishersci.com

Germany

Fisher Scientific GmbH
 Im Heiligen Feld 17
 D-58239 Schwerte
 Tel: +49 (0)2304 932-5
 Fax: +49 (0)2304 932-950
 info.germany@thermofisher.com
 www.de.fishersci.com

Ireland

Fisher Scientific Ireland
 Suite 3 Plaza 212
 Blanchardstown Corporate
 Park 2
 Ballycoolin
 Dublin 15
 Tel: +353 01 885 5854
 Fax: +353 01 899 1855
 fsie.sales@thermofisher.com
 www.ie.fishersci.com

Italy

Fisher Scientific
 Tel: 02 953 28 258
 Fax: 02 953 27 374
 it.fisher@thermofisher.com
 www.it.fishersci.com

The Netherlands

Fisher Scientific
 Scheepbouwersweg 1b
 Postbus 4
 1120 AA Landsmeer
 Tel: 020 487 70 00
 Fax: 020 487 70 70
 nl.info@thermofisher.com
 www.nl.fishersci.com

Norway

Fisher Scientific
 Frysjaeveien 33E
 0884 Oslo
 Tel: +47 22 95 59 59
 Fax: +47 22 95 59 40
 fisher.no@thermofisher.com
 www.fishersci.no

Portugal

Fisher Scientific
 Rua Pedro Alvares Cabral, n°24, 3°D
 Edifício Euro - Infantado
 2670-391 Loures
 Tel: +351 21 425 33 50/4
 Fax: +351 21 425 33 51
 pt.fisher@thermofisher.com
 www.pt.fishersci.com

Spain

Fisher Scientific
 C/ Luis I, 9
 28031 MADRID
 Tel: 91 380 67 10
 Fax: 91 380 85 02
 es.fisher@thermofisher.com
 www.es.fishersci.com

Sweden

Fisher Scientific
 Box 9193
 400 94 Göteborg
 Tel: +46 31 352 32 00
 Fax: +46 31 352 32 50
 fisher.se@thermofisher.com
 www.fishersci.se

Switzerland

Fisher Scientific
 Wilstrasse 57
 5610 Wohlen
 Tel: 056 618 41 11
 Fax: 056 618 41 41
 info.ch@thermofisher.com
 www.ch.fishersci.com

United Kingdom

Fisher Scientific UK
 Bishop Meadow Road
 Loughborough
 Leicestershire LE11 5RG
 Tel: +44 (0)1509 555500
 Fax: +44 (0)1509 555111
 fsuk.sales@thermofisher.com
 www.fisher.co.uk

Rest of Europe

Thermo Fisher Scientific
 Geel West Zone 2
 Janssen Pharmaceuticaalaa 3a
 2440 Geel - Belgium
 Tel: +32 14 57 52 11
 Fax: +32 14 59 26 10
 www.acros.com

MIDDLE EAST AND AFRICA

Fisher Scientific Global Export

MEA Office
 DAFZA
 Office Block 4A #504
 P.O. Box 54710
 Dubai, UAE
 Tel: +971 4609 1594
 Fax: +971 4204 5564
 www.fishersci.com

OCEANIA

Australia

Thermo Fisher Scientific Australia Pty Ltd
 5 Caribbean Drive
 Scoresby, VIC 3179
 Tel: +1300 735 292
 Fax: +61 3 9763 1169
 AUInfo@thermofisher.com
 www.thermofisher.com.au

New Zealand

Thermo Fisher Scientific New Zealand Ltd
 244 Bush Road,
 Albany, Auckland 0632
 Toll-Free Number: 0800 933 966
 Fax: +64 9 800 6788
 infonz@thermofisher.com
 www.thermofisher.co.nz

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GC_FB_EU_0111_053



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

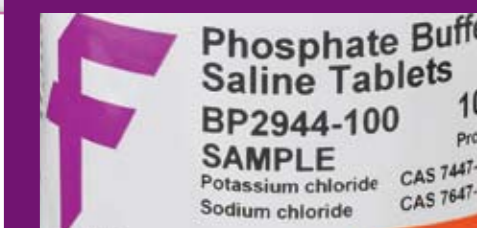
Properties of JustPURE Buffers

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 ₁₃ NO ₃ ·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 ₂₀ 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