



# Reagecon

A CALIBRE SCIENTIFIC COMPANY



pH Buffer Solutions



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## About Reagecon

Reagecon, part of the Calibre Scientific Group of companies is one of the largest producers of Physical and Chemical Standards. The company is based in an 8,000 sq. metre facility that includes a large suite of manufacturing, quality control and research and development laboratories in Shannon, Ireland with sales offices in Shanghai and North America, Europe and the UK through our Calibre Scientific sister companies. Reagecon employs 100 people, 50% are chemistry or science graduates and most are involved in the development, production, testing, quality control and sales & marketing of over 6,000 product references that we currently produce. We have a very active R&D programme and develop and bring to market many hundreds of new standards, every year.

All Reagecon manufactured products are underpinned by and demonstrate our position as a centre of excellence in the science of Metrology. Product is manufactured, tested, and certified under the applicable ISO/IEC 17025 (A2LA Ref: 6739.03) or ISO/IEC 17034 (A2LA Ref: 6739.01) accreditation or ISO/IEC 17025 (A2LA Ref: 6739.02) for Calibration, in one of our 20 specially equipped laboratories.

The resulting product is classified within one of 54 product families, these families are then grouped and promoted under 7 main product headings, as listed below:-

- ✔ Electrochemistry Standards
- ✔ Cation and Anion Standards
- ✔ Pharmacopoeia Reagents and Standards
- ✔ Physicochemical Standards
- ✔ Total Organic and Inorganic Carbon Standards
- ✔ Volumetric Solutions for Titration
- ✔ Customised Standards and Reagents



# pH Buffer Solutions

## Summary of Features & Benefits

### QUALITY PRODUCTION

- ✔ pH Testing is ISO 17025 Accredited
- ✔ Values specified at specific temperatures e.g. 20°C/25°C
- ✔ Manufactured to exacting specifications with an extended shelf life & stability

### TRACEABILITY

- ✔ Directly traceable to the IUPAC pH scale by an unbroken chain of traceability. Reagecon achieve this traceability through a series of comparisons, with the key reference materials being Standard Reference Materials (SRMs) manufactured by NIST

### STABILITY

- ✔ Guaranteed stability throughout entire shelf life, even after opening the bottle, eliminates the requirement to open a fresh bottle of standard every time it is used

### LABELLING

- ✔ Temperature dependence data is available via the product label as are lot numbers and expiry dates for user convenience

### COA & SDS

- ✔ Certificates of Analysis and Safety Data Sheets available online

## Extensive range of pH values

Reagecon manufactures the most comprehensive range of pH Buffer Solutions available to the marketplace, which have been designed to suit all user requirements

- ✔ Laboratory Grade Buffers, pH range 1-13 tested at 20°C and 25°C
- ✔ Colour Coded Buffers for Calibration pH 4, 7, 10
- ✔ Professional Range (Technical, NIST/DIN & High Resolution Buffers)
- ✔ Low Ionic Strength Buffers
- ✔ Borax Free
- ✔ pH Buffer Capsules

We also have several additional offerings that include buffers to calibrate

- ✔ Antimony Electrodes
- ✔ Sterile Buffers
- ✔ Colour Coded pH Buffers with a three decimal place specification.



All are manufactured to exacting specifications with an extended shelf life and cover the pH range of pH 1.00 to pH 13.00 inclusive. All are supplied with a detailed Certificate of Analysis which outlines traceability to N.I.S.T (the N.I.S.T SRM(s) Lot No. is stated on the certificate). Temperature dependence data is available via the product label as are lot numbers and expiry dates.

## Packaging Options

Besides regular bottles, Reagecon offer pH Buffers in a wide variety of convenient packaging options:

- ✔ Twin Neck bottles. These bottles are ideal for use with portable pH meters. Their integral calibration chamber prevents contamination and removes the need to carry a separate measuring container or to decant Buffers for use in the field.
- ✔ Bag-in-Box containers. This packaging consists of a cardboard box with a collapsible plastic liner. This offers a space-saving alternative to bottles and reduces the amount of packaging waste for disposal. Every Bag-in-Box container is supplied with a tap to allow the contents to be easily dispensed.
- ✔ Capsules. The presentation of pH buffers in capsule format is an innovative concept developed by Reagecon, and offers several advantages
- ✔ RECAL Buffers. RECAL is a range of pH Buffers in a wide mouth disposable container which can be used for direct calibration of the electrode and then discarded on completion.

## Guaranteed Traceability

Reagecon's pH Buffer Solutions are directly traceable to the IUPAC pH scale by an unbroken chain of traceability. Reagecon achieve this traceability through a series of comparisons, with the key reference materials being Standard Reference Materials (SRMs) manufactured by NIST.

For proof of traceability, all of these comparisons must be made in a technically - valid manner and the accuracy of each step must be quantified by calculating the associated Uncertainty of Measurement. Reagecon's pH Buffer Solutions meet the ISO definition of traceability: "The ability to relate measurements back to a stated reference (usually an international standard) through an unbroken chain of comparisons, each having stated uncertainties of measurement." Reagecon's traceability claims are guaranteed by our accreditation to ISO/IEC 17025. Traceable analysis is necessary for consistency and universal acceptance of your pH results - including acceptance by regulatory bodies.

## Why use traceable pH Buffers ?

Your pH measurements can only be as good as the pH Buffers that you use. If your pH calibration is made using traceable pH Buffers then you have a direct link to the International pH scale for your measurements. Without this link, you are not entitled to report your measurements in pH units so the number displayed on your pH meter is just that - a number and is not a pH value. The common link that is achieved by traceability allows comparability of results regardless of:

- ✔ When the measurements were made
- ✔ Where the measurements were made
- ✔ What instrumentation was used to make the measurements

Traceable analysis is necessary for consistency and universal acceptance of your pH results - including acceptance by regulatory bodies.

## Fully Accredited

Reagecon's pH analysis is accredited to ISO/IEC 17025 "General requirements for the competence of testing and calibration laboratories". Reagecon's accreditation to ISO/IEC 17025 gives independent proof of three key areas:

- ✔ Our pH analysis is technically valid and is carried out in a thoroughly controlled manner by highly - qualified staff.
- ✔ Our claims over the accuracy of our pH analysis are valid and we have properly quantified our accuracy in our Uncertainty of Measurement calculations.
- ✔ Our pH analysis is traceable to NIST SRMs. It is important to note that NIST do not police claims of traceability to their SRMs.

Why take chances with your pH Buffer supplier's traceability? By using Buffers from a manufacturer that holds ISO/IEC 17025 accreditation you have a guarantee of traceability.

## Stability

Reagecon's pH Buffers have been specially formulated to ensure their stability. The packaging bottles that we use have also been selected and tested to provide maximum stability. We have conducted stability trials on both freshly-opened and part-full bottles of our pH Buffers to validate their shelf-life - an example is given in Figure 2.

Most of Reagecon's pH Buffers have an expiry date of either 2 years or 3 years from the date of manufacture.

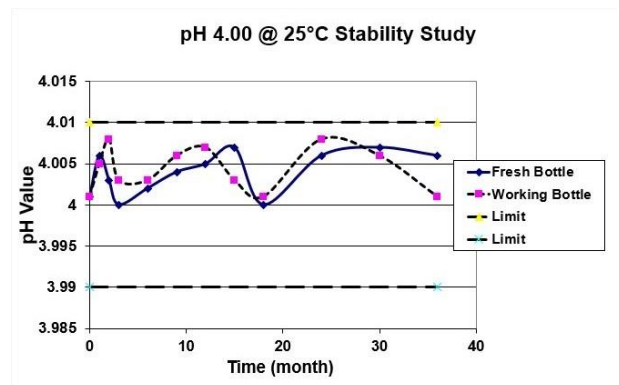


Figure 2: Stability Data for Reagecon pH 4.00 @ 25 °C

### pH Buffers at 20°C

Clear, colourless pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Description	Item No. 500ml	Item No. 1L	Item No. 5L
pH 1.00 Buffer Solution ± 0.02 at 20°C	10105	1010	5010
pH 1.20 Buffer Solution ± 0.02 at 20°C	10125	1012	
pH 2.00 Buffer Solution ± 0.02 at 20°C	10205	1020	5020
pH 3.00 Buffer Solution ± 0.02 at 20°C	10305	1030	5030
pH 4.00 Buffer Solution ± 0.01 at 20°C	10405	1040	5040
pH 4.65 Buffer Solution ± 0.01 at 20°C		1046520	
pH 5.00 Buffer Solution ± 0.01 at 20°C	10505	1050	5050
pH 6.00 Buffer Solution ± 0.01 at 20°C	10605	1060	5060
pH 6.80 Buffer Solution ± 0.01 at 20°C	10685	1068	
pH 7.00 Buffer Solution ± 0.01 at 20°C	10705	1070	5070
pH 8.00 Buffer Solution ± 0.01 at 20°C	10805	1080	5080
pH 9.00 Buffer Solution ± 0.01 at 20°C	10905	1090	5090
pH 9.20 Buffer Solution ± 0.01 at 20°C	10925	10920	
pH 9.22 Buffer Solution ± 0.01 at 20°C	109220	10922	
pH 10.00 Buffer Solution ± 0.01 at 20°C	11005	1100	5100
pH 11.00 Buffer Solution ± 0.05 at 20°C	11105	1110	
pH 12.00 Buffer Solution ± 0.05 at 20°C	11205	1120	5120
pH 13.00 Buffer Solution ± 0.05 at 20°C	11305	1130	5130

### pH Buffers at 25°C

Clear, colourless pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Description	Item No. 500ml	Item No. 1L	Item No. 5L
pH 1.00 Buffer Solution ± 0.02 at 25°C	1010525	101025	
pH 1.68 Buffer Solution ± 0.01 at 25°C	10168	1016825	
pH 2.00 Buffer Solution ± 0.02 at 25°C	1020525	102025	502025
pH 3.00 Buffer Solution ± 0.02 at 25°C	1030525	103025	
pH 4.00 Buffer Solution ± 0.01 at 25°C	1040525	104025	504025
pH 5.00 Buffer Solution ± 0.01 at 25°C	1050525	105025	505025
pH 6.00 Buffer Solution ± 0.01 at 25°C	1060525	106025	506025
pH 6.80 Buffer Solution ± 0.01 at 25°C	1068525	106825	
pH 7.00 Buffer Solution ± 0.01 at 25°C	1070525	107025	507025
pH 8.00 Buffer Solution ± 0.01 at 25°C	1080525	108025	508025
pH 9.00 Buffer Solution ± 0.01 at 25°C	1090525	109025	509025
pH 10.00 Buffer Solution ± 0.01 at 25°C	1100525	110025	
pH 11.00 Buffer Solution ± 0.05 at 25°C	1110525	111025	
pH 12.00 Buffer Solution ± 0.05 at 25°C	1120525	112025	512025
pH 12.45 Buffer Solution ± 0.05 at 25°C	11245525	1124525	
pH 13.00 Buffer Solution ± 0.05 at 25°C	1130525	113025	

### pH Buffers Colour Coded at 20°C

Coloured pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Description	Item No. 500ml	Item No. 1L	Item No. 5L
pH 4.00 Colour Coded (Red) Buffer Solution ± 0.01 at 20°C	10405C	1040C	5040C
pH 7.00 Colour Coded (Yellow) Buffer Solution ± 0.01 at 20°C	10705C	1070C	5070C
pH 9.00 Colour Coded (Blue) Buffer Solution ± 0.01 at 20°C	10905C	1090C	
pH 10.00 Colour Coded (Blue) Buffer Solution ± 0.01 at 20°C	11005C	1100C	5100C

### pH Buffers Colour Coded at 25°C

Coloured pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Description	Item No. 500ml	Item No. 1L	Item No. 5L
pH 4.00 Colour Coded (Red) Buffer Solution ± 0.01 at 25°C	1040525C	104025C	504025C
pH 7.00 Colour Coded (Yellow) Buffer Solution ± 0.01 at 25°C	1070525C	107025C	507025C
pH 10.00 Colour Coded (Blue) Buffer Solution ± 0.01 at 25°C	1100525C	110025C	510025C

### Twin Neck Bottle Format

- ✔ No possibility of contamination
- ✔ No need for separate measuring container for use in the calibration of the electrode
- ✔ Correct quantity of buffer required for calibration is dispensed into the calibrating chamber giving rise to no waste
- ✔ Ideally suited for field work
- ✔ Easy to carry



### pH Buffers Colour Coded at 20°C (Twin Neck)

Coloured pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Description	Item No. 250ml	Item No. 500ml	Item No. 1L
pH 4.00 Colour Coded (Red) Buffer Solution ± 0.01 at 20°C	10402CTT	10405CTT	1040CTT
pH 7.00 Colour Coded (Yellow) Buffer Solution ± 0.01 at 20°C	10702CTT	10705CTT	1070CTT
pH 10.00 Colour Coded (Blue) Buffer Solution ± 0.01 at 20°C	11002CTT	11005CTT	1100CTT

### pH Buffers Colour Coded at ± 0.01 25°C (Twin Neck)

Coloured pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Description	Item No. 250ml	Item No. 500ml	Item No. 1L
pH 4.00 Colour Coded (Red) Buffer Solution ± 0.01 at 25°C	1040225CTT	1040525CTT	104025CTT
pH 7.00 Colour Coded (Yellow) Buffer Solution ± 0.01 at 25°C	1070225CTT	1070525CTT	107025CTT
pH 10.00 Colour Coded (Blue) Buffer Solution ± 0.01 at 25°C	1100225CTT	1100525CTT	110025CTT



### Bag-in-Box Colour Coded at 20°C / 25°C

Coloured, pH Buffer Solutions supplied in cubitainers (Bag-in-Box) with tap. Tested by our ISO 17025 accredited test method and NIST traceable

Description	Item No. 5L	Item No. 10L
pH 4.00 Colour Coded (Red) Buffer Solution $\pm$ 0.01 at 20°C in Bag-in-Box	BPH01	BPH02
pH 7.00 Colour Coded (Yellow) Buffer Solution $\pm$ 0.01 at 20°C in Bag-in-Box	BPH03	BPH04
pH 10.00 Colour Coded (Blue) Buffer Solution $\pm$ 0.01 at 20°C in Bag-in-Box	BPH05	BPH06
pH 4.00 Colour Coded (Red) Buffer Solution $\pm$ 0.01 at 25°C in Bag-in-Box	BPH07	BPH08
pH 7.00 Colour Coded (Yellow) Buffer Solution $\pm$ 0.01 at 25°C in Bag-in-Box	BPH09	BPH10
pH 10.00 Colour Coded (Blue) Buffer Solution $\pm$ 0.01 at 25°C in Bag-in-Box	BPH11	BPH12

### Bag-in-Box Colourless at 20°C / 25°C

Clear, colourless pH Buffer Solutions supplied in cubitainers (Bag-in-Box) with tap. Tested by our ISO 17025 accredited test method and NIST traceable

Description	Item No. 5L
pH 4.00 Buffer Solution $\pm$ 0.01 at 20°C in Bag-in-Box	BPH43
pH 5.00 Buffer Solution $\pm$ 0.01 at 20°C in Bag-in-Box	BPH105
pH 7.00 Buffer Solution $\pm$ 0.01 at 20°C in Bag-in-Box	BPH22
pH 8.00 Buffer Solution $\pm$ 0.01 at 20°C in Bag-in-Box	BPH48
pH 9.00 Buffer Solution $\pm$ 0.01 at 20°C in Bag-in-Box	BPH32
pH 10.00 Buffer Solution $\pm$ 0.01 at 20°C in Bag-in-Box	BPH44
pH 11.00 Buffer Solution $\pm$ 0.05 at 20°C in Bag-in-Box	BPH63
pH 1.00 Buffer Solution $\pm$ 0.02 at 25°C in Bag-in-Box	BPH27
pH 2.00 Buffer Solution $\pm$ 0.02 at 25°C in Bag-in-Box	BPH13
pH 4.00 Buffer Solution $\pm$ 0.01 at 25°C in Bag-in-Box	BPH21
pH 6.00 Buffer Solution $\pm$ 0.01 at 25°C in Bag-in-Box	BPH19
pH 7.00 Buffer Solution $\pm$ 0.01 at 25°C in Bag-in-Box	BPH23
pH 9.00 Buffer Solution $\pm$ 0.01 at 25°C in Bag-in-Box	BPH28
pH 10.00 Buffer Solution $\pm$ 0.01 at 25°C in Bag-in-Box	BPH49
pH 12.00 Buffer Solution $\pm$ 0.05 at 25°C in Bag-in-Box	BPH42



### Antimony Buffers at 25°C

Tested by our ISO 17025 accredited test method and NIST traceable

In addition to conventional pH Buffer Solutions, Reagecon manufacture a range of specialist Buffer Solutions formulated for use in intra-gastric pH analysis using Antimony or equivalent electrodes.

Item No.	Description	Pack Size
10725025	pH 1.07 Antimony Buffer Solution $\pm 0.05$ at 25°C	250ml
10725050	pH 1.07 Antimony Buffer Solution $\pm 0.05$ at 25°C	500ml
401025P	pH 4.00 Antimony Colour Coded (Red) Buffer Solution $\pm 0.05$ at 25°C	250ml
40102550	pH 4.00 Antimony Colour Coded (Red) Buffer Solution $\pm 0.05$ at 25°C	500ml
70125025	pH 7.01 Antimony Colour Coded (Yellow) Buffer Solution $\pm 0.05$ at 25°C	250ml
70125050	pH 7.01 Antimony Colour Coded (Yellow) Buffer Solution $\pm 0.05$ at 25°C	500ml



### Borax Free Buffers at 20°C / 25°C

pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Item No.	Description	Pack Size
1090BF	pH 9.00 Borax Free Buffer Solution $\pm 0.01$ at 20°C	1L
1100BF	pH 10.00 Borax Free Buffer Solution $\pm 0.01$ at 20°C	1L
110025BF	pH 10.00 Borax Free Buffer Solution $\pm 0.01$ at 25°C	1L

### pH Buffer Solutions DIN 19266 Values at 25°C

Clear, colourless DIN Value pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Item No.	Description	Pack Size
101679	pH 1.679 DIN 19266 Buffer Solution $\pm 0.010$ at 25°C	500ml
103776	pH 3.776 DIN 19266 Buffer Solution $\pm 0.010$ at 25°C	500ml
104005	pH 4.005 DIN 19266 Buffer Solution $\pm 0.010$ at 25°C	500ml
10687	pH 6.865 DIN 19266 Buffer Solution $\pm 0.010$ at 25°C	500ml
107413	pH 7.413 DIN 19266 Buffer Solution $\pm 0.010$ at 25°C	500ml
109180	pH 9.180 DIN 19266 Buffer Solution $\pm 0.010$ at 25°C	500ml
110012	pH 10.012 DIN 19266 Buffer Solution $\pm 0.010$ at 25°C	500ml
112454	pH 12.454 DIN 19266 Buffer Solution $\pm 0.050$ at 25°C	500ml

### pH Buffer Solutions DIN 19267 Values at 25°C

Clear, colourless DIN Value pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Item No.	Description	Pack Size
101095	pH 1.09 DIN 19267 Buffer Solution $\pm 0.03$ at 25°C	500ml
103065	pH 3.06 DIN 19267 Buffer Solution $\pm 0.02$ at 25°C	500ml
104655	pH 4.65 DIN 19267 Buffer Solution $\pm 0.01$ at 25°C	500ml
106795	pH 6.79 DIN 19267 Buffer Solution $\pm 0.01$ at 25°C	500ml
109235	pH 9.23 DIN 19267 Buffer Solution $\pm 0.01$ at 25°C	500ml
112755	pH 12.75 DIN 19267 Buffer Solution $\pm 0.05$ at 25°C	500ml

### High Resolution Buffers at 20°C

Coloured High Resolution pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Item No.	Description	Pack Size
104000C	pH 4.000 High Resolution Colour Coded (Red) Buffer Solution $\pm 0.010$ at 20°C	500ml
107000C	pH 7.000 High Resolution Colour Coded (Yellow) Buffer Solution $\pm 0.010$ at 20°C	500ml
110000C	pH 10.000 High Resolution Colour Coded (Blue) Buffer Solution $\pm 0.010$ at 20°C	500ml

### High Resolution Buffers at 25°C

Coloured High Resolution pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Item No.	Description	Pack Size
H40525C	pH 4.000 High Resolution Colour Coded (Red) Buffer Solution $\pm 0.010$ at 25°C	500ml
H70525C	pH 7.000 High Resolution Colour Coded (Yellow) Buffer Solution $\pm 0.010$ at 25°C	500ml
H100525C	pH 10.000 High Resolution Colour Coded (Blue) Buffer Solution $\pm 0.010$ at 25°C	500ml

### Low Ionic Strength Buffers at 20°C

Low Ionic Strength pH Buffer Solutions. Special buffers suitable for accurate measurement of low ionic strength samples, tested by our ISO 17025 accredited test method and NIST traceable

Item No.	Description	Pack Size
LS41	pH 4.10 Low Ionic Strength Buffer Solution $\pm 0.04$ at 20°C	500ml
LS415	pH 4.10 Low Ionic Strength Buffer Solution $\pm 0.04$ at 20°C	5L
LS69	pH 6.96 Low Ionic Strength Buffer Solution $\pm 0.04$ at 20°C	500ml
LS695	pH 6.96 Low Ionic Strength Buffer Solution $\pm 0.04$ at 20°C	5L

### Mercury Free Buffers at 25°C

Tested by our ISO 17025 accredited test method and NIST traceable

Item No.	Description	Pack Size
1020255MF	pH 2.00 Mercury Free Buffer Solution $\pm 0.02$ at 25°C	500ml
1040525CMF	pH 4.00 Mercury Free Colour Coded (Red) Buffer Solution $\pm 0.01$ at 25°C	500ml
1050525MF	pH 5.00 Mercury Free Buffer Solution $\pm 0.01$ at 25°C	500ml
1060525MF	pH 6.00 Mercury Free Buffer Solution $\pm 0.01$ at 25°C	500ml
1070525CMF	pH 7.00 Mercury Free Colour Coded (Yellow) Buffer Solution $\pm 0.01$ at 25°C	500ml
1080525MF	pH 8.00 Mercury Free Buffer Solution $\pm 0.01$ at 25°C	500ml
1100255CMF	pH 10.00 Mercury Free Colour Coded (Blue) Buffer Solution $\pm 0.01$ at 25°C	500ml

### pH Buffer Solutions NIST Values at 20°C

Clear, colourless NIST value pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Item No.	Description	Pack Size
101675	pH 1.675 NIST Value Buffer Solution $\pm 0.010$ at 20°C	500ml
101677	pH 1.677 NIST Value Buffer Solution $\pm 0.010$ at 20°C	500ml
103788	pH 3.788 NIST Value Buffer Solution $\pm 0.010$ at 20°C	500ml
104001	pH 4.001 NIST Value Buffer Solution $\pm 0.010$ at 20°C	500ml
106881	pH 6.881 NIST Value Buffer Solution $\pm 0.010$ at 20°C	500ml
107429	pH 7.429 NIST Value Buffer Solution $\pm 0.010$ at 20°C	500ml
109225	pH 9.225 NIST Value Buffer Solution $\pm 0.010$ at 20°C	500ml
110062	pH 10.062 NIST Value Buffer Solution $\pm 0.010$ at 20°C	500ml
112627	pH 12.627 NIST Value Buffer Solution $\pm 0.050$ at 20°C	500ml

### Phthalate Free Buffers at 20°C / 25°C

Tested by our ISO 17025 accredited test method and NIST traceable

Description	Item No. 500ml	Item No. 1L
pH 4.00 Phthalate Free Buffer Solution $\pm 0.01$ at 20°C	CC10405	CC1040
pH 4.00 Phthalate Free Buffer Solution $\pm 0.01$ at 25°C	CC1040525	CC104025

### Phosphate Free Buffers at 20°C

Tested by our ISO 17025 accredited test method and NIST traceable

Item No.	Description	Pack Size
CC1060	pH 6.00 Phosphate Free Buffer Solution $\pm 0.01$ at 20°C	1L

## Technical pH Buffer Solutions at 25°C

Coloured Technical pH Buffer Solutions, tested by our ISO 17025 accredited test method and NIST traceable

Description	Item No. 250ml	Item No. 500ml	Item No. 1L
pH 2.00 Technical Colour Coded Buffer Solution $\pm 0.02$ at 25°C	TB2002	TB200	TB2001
pH 4.01 Technical Colour Coded Buffer Solution $\pm 0.02$ at 25°C	TB4012	TB401	TB4011
pH 4.60 Technical Colour Coded Buffer Solution $\pm 0.02$ at 25°C	TB4602	TB460	TB46001
pH 7.00 Technical Colour Coded Buffer Solution $\pm 0.02$ at 25°C	TB7002	TB700	TB7001
pH 9.21 Technical Colour Coded Buffer Solution $\pm 0.02$ at 25°C	TB9212	TB921	TB9211
pH 10.00 Technical Colour Coded Buffer Solution $\pm 0.02$ at 25°C	TB1002	TB100	TB1001

## RECAL Single Use Calibration Buffers at 20°C / 25°C

Tested by our ISO 17025 accredited test method and NIST traceable

Reagecon manufactures a range of RECAL Buffers which are presented in wide mouth disposable containers. This range is used for direct calibration of the electrode.



- ✔ Convenient - more efficient calibration, saves time
- ✔ Economical - avoids waste
- ✔ Accuracy - possibility of contamination is eliminated
- ✔ Mobility - easy to store and transport

Item No.	Description	Pack Size
04C60	pH 4.00 Recal Colour Coded (Red) Buffer Solution $\pm 0.01$ at 20°C	6x90ml
07C60	pH 7.00 Recal Colour Coded (Yellow) Buffer Solution $\pm 0.01$ at 20°C	6x90ml
MXC60	pH 4.00, pH 7.00 & pH 10.00 Recal Colour Coded Buffer Solutions at 20°C (mixed pack containing 2 of each pH value)	6x90ml
04C65	pH 4.00 Recal Colour Coded (Red) Buffer Solution $\pm 0.01$ at 25°C	6x90ml
07C65	pH 7.00 Recal Colour Coded (Yellow) Buffer Solution $\pm 0.01$ at 25°C	6x90ml
10C65	pH 10.00 Recal Colour Coded (Blue) Buffer Solution $\pm 0.01$ at 25°C	6x90ml
MX09C65	pH 4.00, pH 7.00 & pH 9.00 Recal Buffer Solutions at 25°C (mixed pack containing 2 of each pH value)	6x90ml
MXC65	pH 4.00, pH 7.00 & pH 10.00 Recal Colour Coded Buffer Solutions at 25°C (mixed pack containing 2 of each pH value)	6x90ml

## pH Buffer Capsules

Tested by our ISO 17025 accredited test method and NIST traceable.

An innovative concept developed by Reagecon is the presentation of pH Buffers in capsule format, offering several advantages including:

- ✔ Preservative free
- ✔ Accuracy  $\pm 0.02$  pH units
- ✔ Easy to store and transport
- ✔ Colour coded, easy to identify
- ✔ Extended shelf life
- ✔ Economical
- ✔ Dissolve quickly



Item No.	Description	Pack Size
CP1040	pH 4.01 Coloured Coded (Red) Buffer Capsules $\pm 0.02$ at 25°C	50 Capsules
CP1070	pH 7.00 Coloured Coded (Green) Buffer Capsules $\pm 0.02$ at 25°C	50 Capsules
CP1090	pH 9.00 Coloured Coded (Purple) Buffer Capsules $\pm 0.02$ at 25°C	50 Capsules
CP1100	pH 10.00 Coloured Coded (Blue) Buffer Capsules $\pm 0.02$ at 25°C	50 Capsules
CPMX4710-UNI	pH Buffer Capsule Kit at 25°C, containing 10 each of pH 4.01, pH 7.00, pH 10.00 and 2 Universal Indicator	Kit
CPMX479	pH Buffer Capsule Kit at 25°C, containing 20 pH 4.01, 20 pH 7.00 and 10 pH 9.00 Capsules	50 Capsules
CPMX47910	pH Buffer Capsule Kit at 25°C, containing 10 pH 4.01, 20 pH 7.00, 10 pH 9.00 and 10 pH 10.00 Capsules	50 Capsules



## Electrode Care & Maintenance

In addition to our pH Buffer Solutions Reagecon manufacture a complete range of products designed to clean, refill, regenerate and store your pH Electrodes

Item No.	Description	Pack Size
ECS	Electrode Cleaning Solution Pepsin-Hydrochloric Acid for the removal of Proteins	500ml
IECS5	Electrode Cleaning Solution Thiourea-Hydrochloric Acid for the removal of Sulphide	500ml
OECS	Electrode Cleaning Solution Organic	500ml
EFS3	Electrode Filling Solution 3M Potassium Chloride Free from Silver Ion	100ml
EFS351	Electrode Filling Solution 3.5M Potassium Chloride Free from Silver Ion	100ml
EFS35AC	Electrode Filling Solution 3.5M Potassium Chloride Saturated with AgCl	100ml
EFS381	Electrode Filling Solution 3.8M Potassium Chloride Free from Silver Ion	100ml
EFS3AC	Electrode Filling Solution 3M Potassium Chloride saturated with Silver Chloride	100ml
EFS4	Electrode Filling Solution 4M Potassium Chloride	100ml
EFS4AC	Electrode Filling Solution 4M Potassium Chloride saturated with Silver Chloride	100ml
EFSKNO	Electrode Filling Solution 10% w/v Potassium Nitrate Double Junction Bridge	100ml
EFSLIET	Electrode Filling Solution 1M Lithium Chloride (LiCl) Dissolved in Ethano	100ml
EFSLIGA	Electrode Filling Solution 1M Lithium Chloride (LiCl) Dissolved in Glacial Acetic Acid	100ml
EFSLICL	Electrode Filling Solution 1M Lithium Chloride (LiCl) Dissolved in Isopropanol	100ml
EFS2AS	Electrode Filling Solution 2M Ammonium Sulphate Double Junction	100ml
EFSAMO1	Electrode Filling Solution Ammonia	100ml
EFSDO	Electrode Filling Solution Dissolved Oxygen Electrolyte	100ml
LKCL	Electrode Filling Solution Saturated Potassium	100ml
EFSNACLO4	Electrode Filling Solution Saturated Sodium Perchlorate in Glacial Acetic Acid	100ml
ESS01	pH Electrode Storage Solution	100ml
ESS5	pH Electrode Storage Solution	500ml
ERS	Electrode Regeneration Solution	100ml
ERSS5	Electrode Rinse Solution	500ml

# 10 STEPS TO MEASURING pH ACCURATELY AND CONSISTENTLY

## STEP 1:

### Select an appropriate measuring system

Select an appropriate system that includes metre, electrode, buffers and controls.  
The system must be fit for purpose



## STEP 2:

### pH Meter Qualification

Perform Equipment Qualification in order to obtain pH measurements that are fit for purpose and proven to be correct.

## STEP 3:

### pH Method Validation

The full test method must be **validated** to ensure it is fit for purpose - accuracy, precision, traceability, sensitivity.



## STEP 4:

### pH Electrode Selection

Variables that need to be considered include the physical configuration, sample, correct choice of electrolyte and correct choice of reference system.

## STEP 5:

### pH Electrode Care & Maintenance

Adopt a routing **care and maintenance** programme for the pHelectrode system to ensure accurate and reliable pH results.



## STEP 6:

### pH Electrode Fault Diagnosis & Remediation

The pH measuring system, meter or solution can cause errors during measurement but it is the reference electrode that causes up to 80% of errors or problems.

## STEP 7:

### Temperature Control of the pH Measurement System

**Temperature effects** can diminish the accuracy and speed of the electrode response and temperature coefficient of variation effects either the calibration buffers, sample or control materials.



## STEP 8:

### pH Buffer Solutions

In order to obtain accurate and fit for purpose pH measurement, the correct selection, use and application of **pH buffers** is of utmost importance.

## STEP 9:

### pH Sample Management

It is important to consider your **sampling strategy**, containers, sampling equipment, preservation, storage and treatment prior to testing.



## STEP 10:

### Role of Accreditation in pH Measurement

The commercial production of high-quality pH buffer solutions involves the acquisition and maintenance of both accreditations and certifications.

*Further information on the 10 Steps to Measuring pH can be found at [www.reagecon.com](http://www.reagecon.com)*





# Reagecon

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