

Certified pH and Conductivity Standards

**COMPLETE
TRACEABILITY**



Radiometer Analytical certified pH and conductivity standards give you:

- total control of the traceability chain and calculated uncertainties,
- direct traceability to primary standards and the reference method,
- the competence and integrity of a laboratory internationally recognised to be accredited for the measurement of pH and conductivity reference materials.



Complete confidence

You can't afford to take chances with quality. You need to be sure that the solutions you use are certified and fully traceable to national standards. Only an officially accredited laboratory can give you complete confidence in your solutions. This accreditation is recognised in more than 35 countries. What greater assurance can you ask for?

Proof of the quality of your standards...

Accredited Calibration Laboratory

The use of standards manufactured by an accredited laboratory gives you complete confidence in the traceability chain and calculated uncertainties. Radiometer Analytical is part of the Hach Lange group and their Calibration Laboratory, located in Berlin, is accredited for the calibration of certified pH and conductivity standards by DKD, the German national accreditation authority. This accreditation (No. DKD-K-47901) is recognised in more than 35 countries. All standards are formulated in compliance with NIST, IUPAC and DIN19266 specifications⁽¹⁾.

IUPAC Series certified pH standards are fully traceable to the Standard Hydrogen Electrode through Certified Reference Material produced by the Primary Laboratory of either NIST or DFM⁽²⁾.

Radiometer Analytical certified conductivity standards are fully traceable to SI units via Certified Reference Materials manufactured by NIST. They are prepared and calibrated according to the internationally recognised demal scale laid down by the International Organisation of Legal Metrology (OIML – Recommendation No. 56).

A guaranteed value

the nominal value of the standard is guaranteed until first opening, even after several years' storage⁽³⁾.

A useful reference

a pH or conductivity temperature dependence table is printed on the bottle.

Safe storage

thanks to the airtight can.

GLP - right from the start

the date of opening can be marked directly on the bottle.

A

Proven traceability

each standard comes with its own Certificate of Conformity and Traceability.

Recommended shelf life

the observed typical shelf life after opening is printed on the bottle, ensuring timely use (2-3 months depending on the standards).



GLP - every day

the number of uses can be marked directly on the bottle in line with Good Laboratory Practice.

Accurate values

the nominal value and the tolerance of pH standards are given with a resolution of 3 significant decimals.

B

International accreditation

a DKD Calibration Certificate proves the traceability to national standards.

Foolproof calibration

each bottle of pH standard is supplied with 25 colour-coded beakers.

(1) Except pH7.000 formulated by us according to NIST, IUPAC and DIN19266 specifications of pH6.865 and pH7.413.

(2) Dansk Fundamental Metrologi A/S is accredited for pH measurements by the Danish Accreditation and Metrology Fund (DANAK) (no. 255).

(3) 4-year guarantee for pH standards (2 years for pH 12.45). 2-year guarantee for conductivity standards (1 year for the 25 µS/cm). The guarantee is valid from the date of the Certificate of Conformity and Traceability and only applies to standards kept unopened in the sealed can in compliance with the storage recommendations specified in the certificate.

(4) ISO Guide 31 provides guidelines for certified reference materials.

Glossary & useful links

NIST	National Institute of Standards and Technology www.nist.gov
IUPAC	International Union of Pure and Applied Chemistry www.iupac.org
DFM	Danish National Metrology Institute www.dfm.dtu.dk
DKD	Deutscher Kalibrierdienst www.dkd.eu
DANAK	Danish Accreditation and Metrology Fund www.danak.org
OIML	International Organisation of Legal Metrology www.oiml.org
ISO	International Organization for Standardization www.iso.org
USI	International System of Units www.bipm.fr/en/si
GLP	Good Laboratory Practice

A comprehensive range

IUPAC Series certified pH standards

Type	Value*	Qty	Part No.
pH1.679	pH 1.679 ±0.010 at 25°C	500 ml	S11M001
pH4.005	pH 4.005 ±0.010 at 25°C	500 ml	S11M002
pH6.865	pH 6.865 ±0.010 at 25°C	500 ml	S11M003
pH7.000	pH 7.000 ±0.010 at 25°C	500 ml	S11M004
pH7.413	pH 7.413 ±0.010 at 25°C	500 ml	S11M005
pH9.180	pH 9.180 ±0.010 at 25°C	500 ml	S11M006
pH10.012	pH 10.012 ±0.010 at 25°C	500 ml	S11M007
pH12.45	pH 12.45 ±0.05 at 25°C	500 ml	S11M008

Certified conductivity standards

Type	Value*	Qty	Part No.
KCl 1 D	111.3 mS/cm ±0.5% at 25°C	500 ml	S51M001
KCl 0.1D	12.85 mS/cm ±0.35% at 25°C	500 ml	S51M002
KCl 0.01D	1408 µS/cm ±0.5% at 25°C	500 ml	S51M003
NaCl 0.05%	1015 µS/cm ±0.5% at 25°C	500 ml	S51M004
NaCl 25**	25.0 µS/cm ±5% at 25°C	250 ml	S51M013

* Tolerance.

** Supplied in a glass bottle.

Each standard is delivered in an airtight can and is supplied with a film-wrapped Certificate of Conformity and Traceability as well as a DKD Calibration Certificate specifying the exact measured value and calculated expanded uncertainty (k=2) for each batch of pH and conductivity solution.

Safety data sheets for all standards are available on request. Please contact your local distributor or download them directly from our web site.

Worldwide recognition

Accreditation by the German national accreditation body, DKD, is automatically international due to the mutual agreement made between the members of the European co-operation for Accreditation and bilateral agreements between specific countries. Signatories include the following:



 Australia	NATA	 Ireland	NAB	 Slovenia	SA
 Austria	BMWA	 Israel	ISRAC	 Slovakia	SNAS
 Belgium	BELAC	 Italy	SIT	 South Africa	SANAS
 Brazil	INMETRO	 Latvia	LATAK	 Spain	ENAC
 Czech Republic	CAI	 Lithuania	LA	 Sweden	SWEDAC
 Denmark	DANAK	 Netherlands	RvA	 Switzerland	SAS
 Estonia	EAK	 New Zealand	IANZ	 Turkey	TURKAK
 Finland	FINAS	 Norway	NA	 United Kingdom	UKAS
 France	COFRAC	 Poland	PCA	 United States	A2LA
 Greece	ESYD	 Portugal	IPAC		
 Hong Kong	HKAS	 Singapore	SAC-SINGLAS		



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