

Certificate of Analysis

pH Buffer Standard

DIN Buffer Standard pH 1.679 ± 0.010 @ 25°C

| | | | |
|---------------|------------|-------------------------|------------|
| Product No: | 101679 | Date of Measurement: | 15/05/2025 |
| Lot No: | 167725E1 | Date of Sample Receipt: | 15/05/2025 |
| Expiry Date*: | 28/05/2027 | Date of Manufacture*: | 15/05/2025 |

Specification:

1.669 - 1.689 @ 25°C

Mean Measured Value:

1.681 pH @ 25°C

Method:

The result reported above was determined by analysis of a sample of this lot taken at time of manufacture. Test Method used was TPPHB. Measured with a combination glass electrode after multiple point calibration with reference materials. This certificate relates solely to the sample as received by the laboratory, bearing the product code and lot number given above. The uncertainty of measurement has been calculated not to exceed ± 0.015pH at 95% confidence level, i.e. coverage factor k =2.

Metrological Traceability:

The test result is traceable to Standard Reference Material of National Institute of Standards and Technology (USA), SRM 189c Potassium Tetraoxalate and SRM 185i Potassium Hydrogen Phthalate.

Compliance:

This Test Method is in accordance with IUPAC Recommendations 2002 Measurement of pH. Definition, Standards and Procedures.

Accreditation:

Reagecon Diagnostics Ltd. is accredited to ISO 17025 by the American Association for Laboratory Accreditation, under scope 6739.03, for the test method, TPPHB, used to generate the above result. This accreditation deems Reagecon competent on a quality systems level and a technical level to perform the tests on the scope of accreditation. Reagecon has the Quality Management Systems in place to ensure that each individual test result generated using TPPHB is technically valid and is supported by appropriate uncertainty measurements.

Date of Issue of the Certificate :

15/05/2025

QC Laboratory Technician

PILI Jashil



All raw materials used to prepare this product are of high purity.

*The detail above is based on information supplied in writing by Reagecon Manufacturing.

Tested by Reagecon Quality Control Laboratories for Reagecon Manufacturing

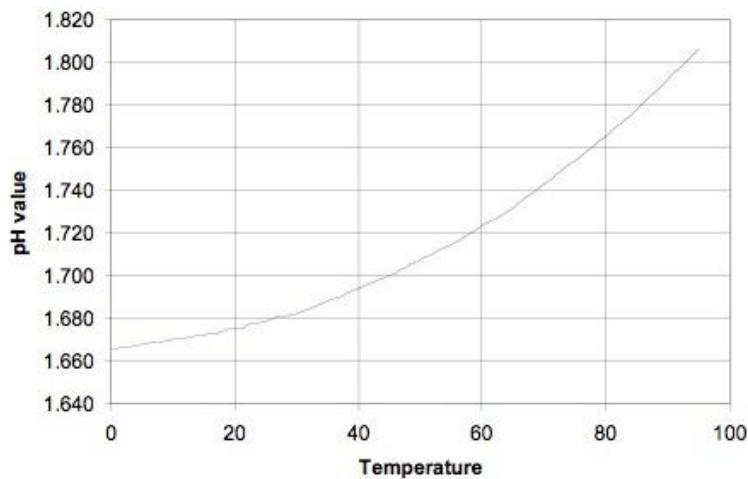
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pH 1.679 at 25°C



| TEMP. (°C) | pH VALUE | TEMP. (°C) | pH VALUE | TEMP. (°C) | pH VALUE |
|------------|----------|------------|----------|------------|----------|
| 0 | 1.666 | 33 | 1.686 | 66 | 1.734 |
| 1 | 1.666 | 34 | 1.687 | 67 | 1.736 |
| 2 | 1.667 | 35 | 1.688 | 68 | 1.739 |
| 3 | 1.667 | 36 | 1.689 | 69 | 1.741 |
| 4 | 1.668 | 37 | 1.690 | 70 | 1.743 |
| 5 | 1.668 | 38 | 1.692 | 71 | 1.745 |
| 6 | 1.668 | 39 | 1.693 | 72 | 1.747 |
| 7 | 1.669 | 40 | 1.694 | 73 | 1.750 |
| 8 | 1.669 | 41 | 1.695 | 74 | 1.752 |
| 9 | 1.670 | 42 | 1.697 | 75 | 1.754 |
| 10 | 1.670 | 43 | 1.698 | 76 | 1.756 |
| 11 | 1.671 | 44 | 1.699 | 77 | 1.758 |
| 12 | 1.671 | 45 | 1.700 | 78 | 1.761 |
| 13 | 1.672 | 46 | 1.702 | 79 | 1.763 |
| 14 | 1.672 | 47 | 1.703 | 80 | 1.765 |
| 15 | 1.672 | 48 | 1.704 | 81 | 1.768 |
| 16 | 1.673 | 49 | 1.706 | 82 | 1.770 |
| 17 | 1.673 | 50 | 1.707 | 83 | 1.773 |
| 18 | 1.674 | 51 | 1.709 | 84 | 1.775 |
| 19 | 1.675 | 52 | 1.710 | 85 | 1.778 |
| 20 | 1.675 | 53 | 1.712 | 86 | 1.781 |
| 21 | 1.675 | 54 | 1.713 | 87 | 1.783 |
| 22 | 1.677 | 55 | 1.715 | 88 | 1.786 |
| 23 | 1.678 | 56 | 1.716 | 89 | 1.789 |
| 24 | 1.678 | 57 | 1.718 | 90 | 1.792 |
| 25 | 1.679 | 58 | 1.720 | 91 | 1.795 |
| 26 | 1.680 | 59 | 1.722 | 92 | 1.798 |
| 27 | 1.681 | 60 | 1.723 | 93 | 1.800 |
| 28 | 1.681 | 61 | 1.725 | 94 | 1.803 |
| 29 | 1.682 | 62 | 1.727 | 95 | 1.806 |
| 30 | 1.682 | 63 | 1.728 | | |
| 31 | 1.683 | 64 | 1.730 | | |
| 32 | 1.685 | 65 | 1.732 | | |

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Certificate of Conformity and Traceability

pH 1.679 ± 0.010 (k=2) - 25°C

Traceability:

Traceable to NIST pH scale. Certified Reference material from National Institute of Standards & Technology (NIST) - Nominal value pH 1.677 @ 25°C. The exact value of this standard was determined with an expanded uncertainty of ± 0.002 pH by NIST using a standard Hydrogen Electrode Apparatus.

Certified Value:

pH 1.679 ± 0.010 (k=2) - 25°C The limits of expanded uncertainty are given to guarantee a confidence level of ~95% (k=2). This uncertainty reflects the combined effects of measurement errors, operator errors and equipment errors.

Stability:

When stored under Good Laboratory practice the certified value is valid for the extent of the products shelf life whether opened or unopened.

Measurement:

The certified value was determined by measurements of samples with dedicated electrodes under thermostated conditions using a high-resolution meter traceable to primary standards.

Composition:

Potassium Tetraoxalate 50mmol/L
Added germicide < 0.01%

Formulation:

Specified by NIST, IUPAC and DIN19266.

Preparer:

Reagecon Diagnostics Ltd.

Intended Use:

Standard pH solution for calibration of pH measurement chains.

Preparation of standard:

Potassium Tetraoxalate, puriss p.a. , was dissolved and mixed without loss in purified water. Germicide was added. The solution was protected from evaporation and contamination until bottling.

Storage:

Before use: store in unopened bottle.

After opening: store in capped bottle in normal atmospheric conditions at a temperature between 5°C and 30°C.

Recommended Use:

First use: Write the opening date on the bottle using an indelible pen or appropriate label.

Use a clean dry beaker for taking an aliquot for calibration and cap bottle as soon as aliquot is taken.

Never pour the used aliquot back into the bottle. Always follow Good Laboratory Practice.

For accurate measurements at a temperature other than 25°C, refer to the table above when calibrating your meter.