The 7 Most Asked Questions About pH…

METTLER TOLEDO

1. How often should I calibrate my pH electrode?

A general rule is that the more frequently you perform a calibration the higher the accuracy of your results, so the frequency should be adjusted to match the requirements of your application. Some applications might require a calibration before every measurement, but in general it is enough to calibrate every 24 to 48 hours.


SevenExcellence
Buffer / Standard group
Setup>Buffer / Standard group
Type
Name
pH
METTLER TOLEDO Europe (Ref. 25°C)
METTLER TOLEDO USA (Ref. 25°C)
MERCK (Ref. 20°C)
DIN(19266)/NIST (Ref. 25°C)
DIN(19267) (Ref. 25°C)
Back
New
Multiprometer
pH 4.01
Technische Pufferlösung
Technical Buffer Solution
Solution tampon technique
51 350 004 250 ml
51 350 018 6x250 ml
METTLER TOLEDO

2. How do I know that I have a good calibration curve?

The slope of your calibration curve should be -59.1 mV/pH units at 25ºC. However, the actual response is often quoted as a percentage, and a good calibration should lie between 95% and 102% of the theoretical value in mV. Another measure of a good calibration is the offset at the zero point (0 mV at pH 7), which should remain relatively stable and should not exceed ±30 mV.

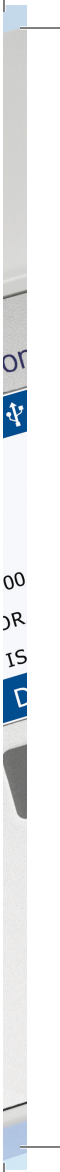

Hier öffnen – Tear open here – Ouvrir ici
METTLER TOLEDO
Mettler-Toledo GmbH, Analytical
CH-8603 Schwerzenbach, Switzerland
pH-Pufferlösung
pH Buffer Solution
Solution Tampon pH
pH 7.00 / 20 mL
Best.-Nr. / Order no. / Référence
51 302 047
Rückführbar auf zertifizierten internat. Standard (ZSRM, NIST)
Traceable to certified international standard (CSRM, NIST)
Raccordé aux étalons internationaux certifiés (MRC, NIST)
pH 7.00
pH 10.00
Technische Pufferlösung
Technical Buffer Solution
Solution tampon technique
51 350 010 250 ml
51 350 024 6x250 ml
Regeneration Solution
Regenerationslösung
Solution de régénération
Order no.: 51 350 104 25 mL
pH
220 mV (pH7)
Redox-Pufferlösung
Redox Buffer Solution
Solution tampon Redox
51 350 060 250 ml
51 350 062 6x250 ml

3. How often do I have to replace my electrode?

Well looked after electrodes that are used in clean aqueous samples should last one to three years. However, there are other factors such as frequent usage or aggressive and hot samples that can reduce an electrode's lifetime. The clearest indication that your electrode has reached the end of its lifespan is a reduced calibration slope.

4. What should I do if my readings are unstable?

The most common causes of unstable readings are simple factors such as clogged junctions, low electrolyte level or air bubbles in the electrode and dirty connectors. If it is none of these then consult the troubleshooting guide (www.electrodes.net) for a more thorough approach.




METTLER TOLEDO
pH/Ion
ompact
12-Sep-2011
10:47
23.4°C
ATC
6.434 pH
00, 4.01, 7.00, 9.21, 11.00
ALICE
M0999
RANGE_JUICE
ISM_SENSOR
Data
Store
Menu
Mode
Cal
Read

5. How do I store my pH electrode?

Always: A pH electrode can always be stored in its filling reference solution, both short term and long term. This solution is specific for each electrode, so refer to the electrode leaflet to make sure that you are using the correct solution.

Sometimes: pH 4 or pH 7 buffer can be used for short term storage such as in between measurements to keep the membrane hydrated.

Never: Never store an electrode in deionized water as this will deplete the ion rich reference electrolyte from the reference chamber, increasing the electrical resistance.


METTLER TOLEDO
InLab®Micro
pH
pH 0...14 0...80 °C

6. Which reference electrolyte do I need?

There are five different types of electrolytes and which one to use depends on your electrode and application:

- 3mol/L KCl for ARGENTHAL™ reference systems.
- FRISCOLYT-B® as a long term storage solution and for use in cold or proteinaceous samples. The glycerin content in the electrolyte prevents freezing of the electrolyte and any precipitation with silver ions.
- 1mol/L KNO_3 for applications where chloride in the electrolyte causes a precipitate in the sample.
- 1mol/L LiCl in Ethanol for non-aqueous applications.
- 3mol/L KCl saturated with AgCl for pH electrodes with a conventional Ag/AgCl reference system. This electrolyte should not be used with sulfide-containing media.

7. How do I clean my pH electrode?

Between every measurement and calibration the electrode should be cleaned with deionized water. The electrode needs a special cleaning if the junction is blocked with:

- Silver sulfide: use junction cleaner containing thiourea.
- Silver chloride: soak the electrode in concentrated ammonia solution.
- Proteins: use electrode cleaner containing pepsin and HCl.
- Other blockages: clean electrode in ultrasonic bath or in 0.1 mol/L HCl solution.

Find further information in the operating manuals or the troubleshooting guide (www.electrodes.net).

www.mt.com/pH

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