

# pH Best Practices

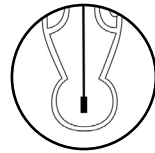
## Keep the electrode hydrated



**Why** – Drying out the electrode leads to drifting pH values, slow response times, and incorrect measurements.

**Fix** – “Revive” a dry electrode by submerging the bulb and junction in pH storage solution for at least one hour.

## Pick the right electrode for your sample



**Why** – General purpose electrodes are functional for a wide variety of applications but not ideal for all samples.

**Fix** – Based on your sample you may require an electrode designed for food, high/low temp, non-aqueous, or other types of samples.

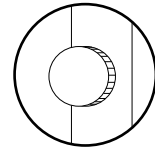
## Rinse, do not wipe your electrode



**Why** – Wiping the pH glass can produce a static charge which interferes with the pH reading of the electrode.

**Fix** – Simply rinse the electrode with distilled or deionized water (DI). Blot (do not rub) with a lint-free paper towel (e.g. Kimwipes®) to remove excess moisture.

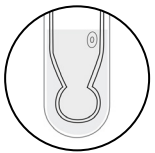
## Open or loosen the fill hole cap



**Why** – A closed electrode fill hole may lead to slower stabilization times.

**Fix** – Loosen or remove the fill hole cap. Remember to put it back when storing the electrode. (Not applicable for non-refillable electrodes)

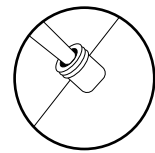
## Store your electrode in storage solution



**Why** – Storing in deionized water (DI) causes ions to leach from the glass membrane and reference electrolyte resulting in a slow and sluggish response.

**Fix** – Store your electrode in storage solution or pH 4.01 or pH 7.01 buffer if you do not have storage solution.

## Keep the electrolyte level full

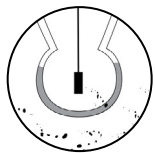


**Why** – Electrolyte flows out from the reference junction over time. Low electrolyte levels may cause erratic readings.

(Not applicable for non-refillable electrodes)

**Fix** – Ensure that your electrode fill solution level is no less than one-half inch from the fill hole cap.

## Clean your electrode regularly



**Why** – Deposits can form on the electrode during use, coating the sensing glass. This can lead to erroneous calibrations and readings.

**Fix** – Clean the electrode using a specially formulated cleaning solution for pH electrodes- ideally one that’s developed for your application.

## Properly submerge your electrode



**Why** – Both the pH sensing glass and reference junction need to be completely immersed in order to function properly.

**Fix** – Add enough sample to submerge both the junction and sensing glass.

## Calibrate often



**Why** – All pH electrodes need to be calibrated often for best accuracy.

**Fix** – The frequency of calibration depends on how accurate you want to be - daily calibration is ideal.

## Inspect your electrode



**Why** – Over time, the sensing portion of the glass becomes less responsive and will eventually fail. Damage from use is also possible. This will cause erroneous readings.

**Fix** – Check your electrode for damage and perform a slope and offset calculation. Reference blog for instructions.

*Read our blog on “Top 10 Mistakes in pH Measurement” at [hannainst.com/top10](http://hannainst.com/top10)*

*Hanna has put together this guide to serve as a quick reference tool for best practices.*

*Always remember to consult the instruction manual or contact us directly for detailed instructions for your specific needs.*