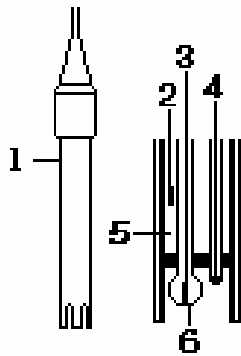


pH Electrode Structure and Storage

General pH Combination Electrode



1. Reference Filling Hole ; hole filling electrode with the filling solution
2. Ag/AgCl or calomel electrode ; Reference Electrode
3. pH mono electrode ; indicator electrode
4. Temperature sensor
5. Reference Filling Solution ; Saturated KCl Solution
6. Glass Membrane; membrane selectively responding hydrogen ion

pH Electrode Storage

Electrodes are stored in the cap storage solution supplied by *istek*. Membrane must be kept wet. If there is no storage solution, pH 4 buffer is best for the single glass electrode and saturated KCl is preferred for a calomel and Ag/AgCl reference electrode. Saturated KCl is the preferred solution for a combination electrode. Electrodes are sometimes stored in distilled water, but this method causes electrode life to decrease.

pH Electrode Maintenance (Electrode Cleaning)

If it takes long time to response or a stable data isn't obtained, can often be restored to normal performance by one of the following procedures; Glass electrodes fail because of scratches, deterioration or accumulation of debris on the glass surface.

- Salt deposits

Recover electrode by alternately immersing it three times each in 0.1N HCl and 0.1N NaOH for approx. five minutes. If this fails, immerse tip in KCl solution for 30s. After recovery, soak in pH 7.00 buffer overnight. Rinse and soak in pH 7.00 buffer. Rinse again with distilled water before use.

- Oil/Grease films Remove oil/Grease films with detergent, and then rinse electrode with distilled water.

- Clogged Reference Junction Heat diluted KCl solution to about 60 ~ 80 °C. The electrode must be stored in this solution for approx. ten minutes, then cool electrode in not heated KCl solution.

- Protein removal Protein coatings can be removed by soaking glass electrodes in a 10% pepsin solution adjusted to pH 1 to 2.