



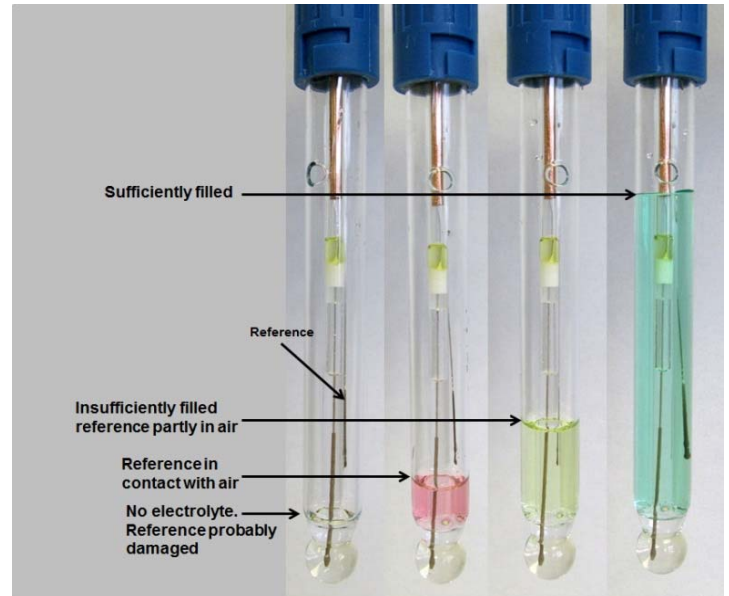
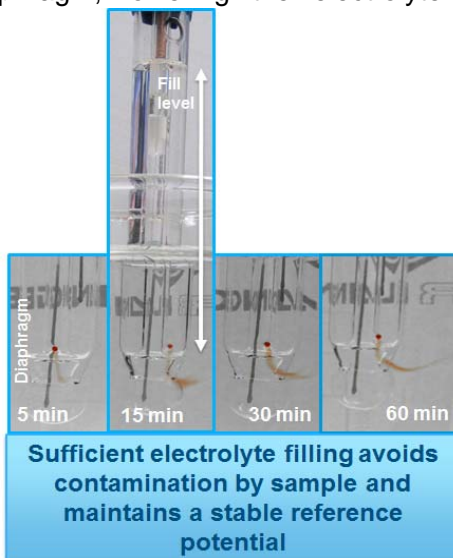
pH electrode filling

pH electrode filling solution

The pH measurement chain is a combination of pH glass and reference electrodes. The pH glass electrode is filled with KCl and sealed. The reference electrode must be in contact with the sample solution. Liquid filled electrodes are separated from sample solution by a diaphragm. Depending on the measuring conditions and on the type of diaphragm, more or less electrolyte can flow through the diaphragm, lowering the electrolyte level.

The reference element must be covered with electrolyte solution, otherwise it can be damaged. The level of electrolyte provides a certain hydrostatic pressure on

the inner side of the diaphragm to keep sample solution out. If the electrolyte level decreases, the pressure decreases as well. Depending on the depth of immersion of the pH probe, sample solution may have a higher hydrostatic pressure than the



inner electrolyte. Sample solution can flow through the diaphragm inside the probe. The contamination with sample solution dilutes the electrolyte. It introduces ions, which may react with the reference electrode material or form particles or precipitates. Last can block the diaphragm.

All above is the reason for unreliable pH measurements.

The correct electrolyte filling:

Electrolyte filling level should be 5mm below the refill hole. If the level is 2 cm lower or more, refill the electrode. Never let the reference element become dry and in contact with air. This will damage the reference element.

