

Measuring ultra-micro droplets with the FLAT ISFET pH Electrode

□ Outline and Purpose □

Certain valuable and rare samples of pharmaceuticals, biotic specimens, biochemical reagents, and cosmetics require only the smallest possible volume for measurement. However, the minimum sample volume required for our standard pH electrode is a few mL. Even with our electrode for micro-volume samples, the requirement is 50 μ L. The FLAT ISFET pH Electrode (0040N-10D) used with a devised method of measurement has made it possible to measure from just a few μ L. Procedures and methods are described below.



□ Measurement Procedure □

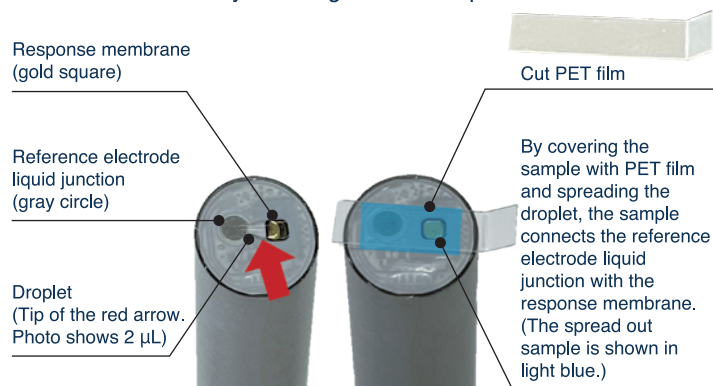
1. Set the 0040N-10D in a 3.33 mol/L KCl solution (#300) so that the response membrane and liquid junction are completely immersed, for about 30 minutes.
2. Calibrate the pH meter using two or more pH standard solutions so that they sandwich the expected pH of the sample solution. For example, when measuring a sample with a pH of about 5, calibration at pH 4.01 and pH 6.86 is recommended.
3. Place the 0040N-10D upside down on the arm of the electrode stand.
4. Drop a sample solution onto the tip of the 0040N-10D using a micropipette or similar device, then measure. When doing this, make sure that the sample solution is connecting the response membrane with the liquid junction. Covering the dropped sample solution with a cover glass or PET film makes it possible to measure smaller amounts.*

*Patent applications have been made in Japan.

□ Expected Effects □

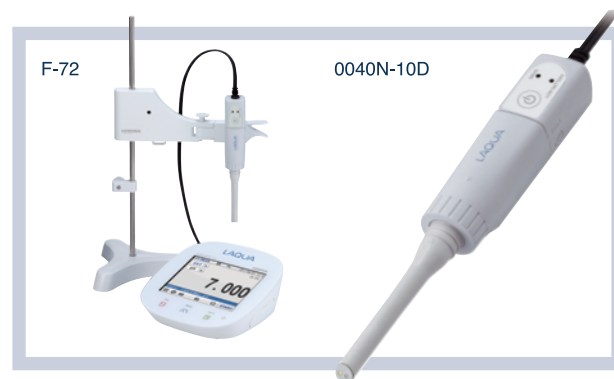
- Measurement is possible from as little as 2 μ L.
- Minimizes the amount of valuable and expensive samples used.

What we can know by covering a micro-droplet.



□ Our Products □

0040N-10D and Benchtop pH Meter (F-27) also available as a set.



0040N-10D ▶

