# pH Calibration Kit

## Introduction

The Flinn pH Calibration Kit contains two pH buffer solutions and a calibration screwdriver to properly calibrate a handheld pH meter.

## Materials

Calibration screwdriver

pH 7.00 buffer solution, 100 mL

pH 4.00 buffer solution, 100 mL

## *Safety Precautions*

*pH buffers are relatively harmless but may be irritating to skin and eyes. Wear chemical splash goggles and chemical-resistant gloves. Please review current Material Safety Data Sheets for additional safety, handling, and disposal information.*

## Procedure

1. If the pH electrode is dry, soak it in tap water for 5 minutes. If there are white crystals around the cap, rinse the electrode with water until the crystals dissolve.
2. Add pH 7.00 buffer solution to a small beaker or vial up to a depth of ½ inch.
3. Immerse the pH electrode in the sample of pH 7.00 buffer. Allow the reading to stabilize.
4. Use the small screwdriver to adjust the pH 7 calibration screw (see Figure 1) until the display reads 7.00.
5. Rinse the electrode with distilled water.
6. Immerse the electrode in pH 4.00 or pH 10.00 standard buffer solution.
7. Once the display stabilizes (pH 4.00 or 10.00), approximately one minute, remove the pH meter from the buffer solution (see Figure 1).
8. Store the electrode with a few drops of pH buffer or tap water in the protective cap. **Never use deionized or distilled water.**

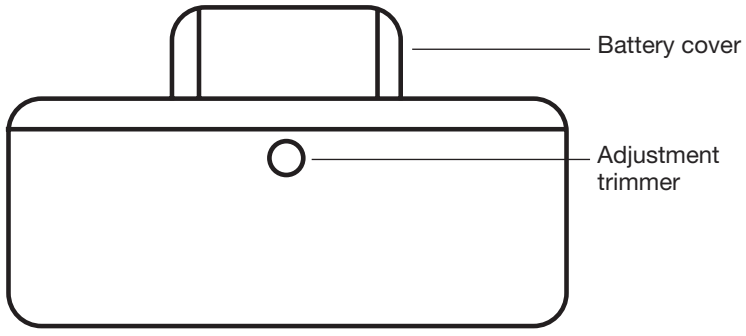


**Figure 1.**



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## Disposal

Please consult your current *Flinn Scientific Catalog/Reference Manual* for general guidelines and specific procedures governing the disposal of laboratory waste. The pH buffers can be disposed of by flushing down the drain with excess water according to Flinn Suggested Disposal Method #26b.

## Tips

- Always use fresh buffer solution; never reuse buffer solution.
- Never immerse the pH electrodes up to the white plastic body.
- After use, rinse the electrode with water to minimize contamination.
- If the pH electrode is unresponsive, try soaking the electrode in 0.1 M HCl solution for five minutes; then 0.1 M NaOH solution for five minutes; and finally in 0.1 M HCl again. This should clean and improve responsiveness of the electrode.
- Never soak the pH electrode in distilled or deionized water. Their low ionic strength will extract ions from the electrode bulb resulting in a slow response.
- If measuring the pH of base solutions, a pH 10.00 buffer may provide a better calibration standard.

## Materials for the *pH Calibration Kit* are available from Flinn Scientific, Inc.

| Catalog No. | Description |
|---|---|
| AP8720 | pH Calibration Kit |
| B0089 | pH 4.00 Buffer Solution, 500 mL |
| B0092 | pH 7.00 Buffer Solution, 500 mL |
| B0095 | pH 10.00 Buffer Solution, 500 mL |

Consult your *Flinn Scientific Catalog/Reference Manual* for current prices.