

SOP for Calibration of pH meter and Product pH Measurement

Calibration of pH meter

Sausage maker or designee will calibrate the pH meter prior to use.

1. Use the procedures recommended by manufacturer of equipment (this will vary, but a general version is shown below).
2. For greatest accuracy, it is recommended that the instrument be calibrated before each use or hourly, whichever is longer. It is recommended to calibrate with two standard buffer solutions - usually pH 4 and pH 7.
3. Rinse the electrode with some pH 7 solution or clean water. Dip the bottom ($1\frac{1}{2}$ ") of the electrode into a beaker containing pH 7 solution.
4. Press the CALIBRATION key. The LCD will blink; the calibration can then be confirmed. Wait 30 seconds and press the confirmation key to confirm the first buffer.
5. If everything is satisfactory, the secondary LCD will blink "4" expecting the second buffer at pH 4. If the wrong solution is used or the electrode has been used or if the buffer is out of specification, the panel will blink to alert the user.
6. Rinse the electrode with clean water or some pH 4 solution. Dip the bottom ($1\frac{1}{2}$ ") of the electrode into a beaker containing pH 4 solution.
7. The LCD will stop blinking "4" when it has stabilized, and the calibration can then be confirmed. Wait 30 seconds and press the confirmation key to confirm the first buffer.
8. The buffer reference disappears from the secondary display and the meter is calibrated and ready to use.

pH Measurement Procedures

Sausage maker or designee will measure product pH.

The pH reading of any sample is directly affected by temperature. In order for the meter to measure the pH accurately, it must know/measure the temperature. Many pH meters compensate for sample temperature; use of some older units may require the operator to standardize sample temperature.

1. To prepare the meat product for testing, mix a product and distilled water in a 1:1 ratio to make a slurry. A kitchen-type blender can be used to make the slurry. A slurry is necessary to allow accurate reading of pH.
2. Place the pH electrode into the mixture so that the bottom ($1\frac{1}{2}$ ") of the electrode is submerged in the slurry to be tested, stir gently, and allow the electrode to adjust and stabilize.
3. If measurements are taken successively in different samples, it is recommended to rinse the electrode thoroughly first with deionized water or tap water, if deionized water is not available, and then with some of the next sample to condition the electrode before immersing it in the sample.