



## MONTANA WHOLESALE FOOD pH Meters and Calibration Tips

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The purpose of this document is to assist food processors that use pH meters in correctly calibrating the device. Correct calibration is needed for many purposes, but most importantly to ensure the food is safe for consumers.

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### pH Meters

This agency highly recommends that all food processors that use pH meter obtain one that has an automatic temperature adjustment feature built into the meter. Using this type of meter ensures the food may be tested at any temperature for which the device was engineered.

### Two-Point Calibration/Standardization

A two-point calibration is more accurate calibration technique than a one-point calibration. The two-point calibration adjusts the meter at two different pH values. Therefore, the meter has been adjusted to respond to two data points rather than one data point. The second calibration point is selected on the basis of the type of solution (acidic or basic) to be measured, so a more accurate reading may be established.

#### Buffer solutions

For nearly all food applications, this agency highly recommends pH 4.00 and pH 7.00 buffer solutions for calibration purposes.

#### Two-Point Calibration Procedure

1. Rinse the electrode with distilled water
2. Place the electrode in pH 7.00 buffer solution
3. Wait for the meter to stabilize, then adjust the meter until it reads pH 7.00
4. Remove the electrode from the solution
5. Rinse electrode with distilled water
6. Place the electrode in pH 4.00 buffer solution
7. Wait for the meter to stabilize, then adjust the meter until it reads pH 4.00.
8. Remove the electrode from the solution
9. Rinse electrode with distilled water
10. Return the electrode into the pH 7.00 buffer solution. If the reading does not return 7.00, then repeat the calibration procedure using both buffers.