

QUALITY WORK INSTRUCTIONS (QWI)

CALIBRATION PROCEDURE

pH METER

Document #: QWI-34

Revision #: 1

Effective Date: 12/2/09

1.0 SUMMARY

Generally applicable to aqueous solutions/dispersions and more specifically, applicable to non-diluted flowable formulations and to aqueous dilutions of all products.

2.0 PROCEDURE

Equipment needed:

Magnetic stirrer, appropriate stirrer bars or equivalent device

Appropriate sample container(s).

Certified buffer solutions with pH 7.0, 4.0, and 10.0.

De-ionized water

1. Multi-Point standardization allows the user to calibrate over the widest pH range while retaining the highest degree of measurement accuracy and precision. Utilization of this method requires that all samples and standards be at the same temperature. Therefore, manual temperature entry must be used or measurement errors will result. The user will be asked to enter data in this order:
 - a. Number of points
 - b. Buffer value
 - c. Solution temperature
2. Using 3 clean 50 ml beakers, fill the beakers half full of buffer solution, one with pH 4, one with pH 7, and one with pH 10.
3. Check and record temperature of each solution.
4. Place electrode into the pH 4 buffer solution.
5. Switch the pH meter mode from standby to pH, wait until needle stops then record meter reading. Return the mode switch back to standby.
6. Wipe off the electrode with a dry cloth and then place the electrode into the pH 7 solution and return mode switch back to pH, allowing needle to stop. Record the meter reading.
7. Wipe off the electrode with a dry cloth and then place the electrode into the pH 10 solution and return mode switch back to pH, allowing needle to stop. Record the meter reading.
8. Repeat procedure with all three solutions to check the repeatability of the meter.
9. If all readings are OK, return the meter to standby mode, procedure is now completed.
10. If readings do not match the value of the solutions, follow calibration procedures in the manual.
11. Record your calibration results on the Internal Calibration Chart (Form 29).