

Calibration Buffers, pH 4.01, 7.00, 10.00 - Technical Memo

SOLUTIONS:

	500 ml	1 Gallon
Calibration Buffer, pH 4.01	Part 1026A	Part 1026C
Calibration Buffer, pH 7.00	Part 1027A	Part 1027C
Calibration Buffer, pH 10.00	Part 1028A	Part 1028C

For storage requirements and expiration date refer to individual bottle labels.

APPLICATION:

Newcomer Supply Calibration Buffers, pH 4.01, 7.00 and 10.00 are ready-to-use buffer solutions for pH meter calibrations. Newcomer Supply standardized calibration buffers resist changes in pH and are color coded for ease of use.

- Part 1026: Calibration Buffer, pH 4.01 is a red color-coded solution for pH measurement of acidic samples.
- Part 1027: Calibration Buffer, pH 7.00 is a yellow color-coded solution for pH measurement of neutral samples.
- Part 1028: Calibration Buffer, pH 10.00 is a blue color-coded solution for pH measurement of basic samples.

METHOD:

Solutions: All solutions are manufactured by Newcomer Supply, Inc.

Storage: Store all calibration buffers out of direct sunlight.

PROCEDURE:

1. Refer to pH meter/electrode manufacturer's procedure manual(s) for detailed operational and maintenance instructions.
2. Calibration buffers and test sample(s) should be at equal temperature prior to testing.
3. Select pH buffers that frame the pH of the sample(s).
 - a. Use pH 7.00 buffer plus at least one other pH value close to the expected measurement range.
4. Pour fresh calibration buffers into individually marked beakers.
 - a. Do not perform calibration readings directly from original buffer container.
 - b. Close buffer containers to avoid carbon dioxide uptake.
5. Rinse electrode with distilled water before and after each use.
6. Gently blot electrode with lint-free wipes after each rinsing.
 - a. See Procedure Note #1.
7. Place electrode into initial calibration buffer; follow manufacturer's instructions for measuring and reading pH level.
8. Repeat with second and/or third calibration buffer measurements.
9. Verify and document calibration of pH standards.
10. Proceed with pH reading of samples once calibration is completed.
11. Rinse and store electrode after completion of sample pH readings.
12. Discard calibration buffers after use.

PROCEDURE NOTE:

1. Only lint-free wipes such as Kimwipes® should be used to blot the electrode. The use of cloth or paper towels to blot/wipe the electrode may produce a static charge and interfere with pH values.

REFERENCES:

1. Carson, Freida L., and Christa Hladik Cappellano. *Histotechnology: A Self-instructional Text*. 4th ed. Chicago: ASCP Press, 2015. 78-79.
2. Ruff, Bess. "How to Calibrate and Use a PH Meter: 12 Steps (with Pictures)." *WikiHow*, September 12, 2021.
3. Modifications developed by Newcomer Supply Laboratory.