**UW Medicine - Pathology**

400-07-01-05

pH Measurements

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| Adopted Date: 08/91  Review Date: 09/05  Revision Date: 2/1/2013 |

PURPOSE

To determine proper pH of a solution using the ion 700 pH/mV/C/F bench meter.

PROCEDURE

***NOTE:*** pH test strips may be used for most solutions

1. Before you begin:

Remove electrode cap. To condition electrode, immerse electrode in electrode storage solution, buffer or tap H2O for at least 30 min. DO NOT use de-ionized H2O. The short glass Coplin jars work well for these steps.

1. Calibration

Calibration should be done regularly, typically every day that the Testr is used. You can calibrate at up to three points (pH 4.01, 7.00, and 10.00).

1. Press ON/OFF button to switch unit on.
2. Dip electrode 1/2" to 1" into buffer (pH 4.01, 7.00, or 10.00).
3. Press CAL button to enter Calibrate (CAL) mode. 'CAL' flashes on the display. Then, a pH value close to the pH buffer value will flash repeatedly.
4. After at least 3 min, press the HODL/CON button to confirm calibration. The display will show 'CO' and then switch to the buffer value reading.
5. Repeat with other buffers if necessary. Rinse electrode in tap H2O before dipping into next buffer.
   1. Buffer Set Selection

To choose USA (4.01, 7.00, 10.00) or NIST (4.01, 6.86, 9.18) buffers:

1. With Tester off, hold HOLD/CON key while pressing ON/OFF key.
2. Press HOLD/CON key again
3. Press CAL key to toggle between USA and NIST sets.
4. Press HOLD/CON to confirm
   1. pH Testing
5. Remove cap from the electrode and press the ON/OFF button to switch Testr on.
6. Dip the electrode 1/2" to 1" into the test solution. Stir once and let the reading stabilize.
7. Note the pH or press HOLD/CON button to freeze the reading. Press HOLD/CON again to release the reading.
8. Press ON/OFF to turn off Testr. If you do not press a button for 8.5 min, the Testr will automatically shut off to conserve batteries.
   1. Instrument Maintenance
      1. Rinse the electrode with tap H2O or electrode storage solution after each measurement.
      2. Periodic soaks in warm pH 4.01 buffer will help remove contaminants.
      3. If possible, keep a small piece of paper or sponge in the electrode cap--moistened with clean H2O or electrode storage solution (NOT de-ionized H2O) and close the cap over the electrode.
   2. When you need a new electrode, see "Electrode Replacement" on insert in back of box.

Written By: Director Approval:

(Signature and Date) (Signature and Date)

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Cytogenetic Supervisor