MI-506 AND MI-508
FLEXIBLE pH MICROELECTRODES
OPERATING INSTRUCTIONS

Calibration (In-vitro Calibration)

The Flexible pH Electrode along with a standard laboratory calomel or silver-silver chloride reference electrode with liquid junction, can be used as the electrode pair. The pair is calibrated in at least two pH buffer solutions which are close to the pH values expected. Follow the procedure recommended by the manufacturer of your pH meter for calibrating your pH meter with our MI-506/MI-508.

Optimum Response Time: Optimum response time will be obtained after the probe has been exercised in two buffer solutions. Place a pH 4.01 buffer or equivalent in a beaker and a pH 6.86 buffer or equivalent in a second beaker.

Hold the MI-506/MI-508 and reference electrode together and touch the pH 4.01 buffer allowing 15-20 seconds for equilibration. Rinse the two electrodes with distilled water and then touch the pH 6.86 buffer in the same manner. Do this several times.

A skin reference (i.e. our A-30) is applied to the body of the patient and the pH electrode is placed into a test tube containing a pH 7 buffer solution. The patient touches either the buffer solution or a buffer soaked gauze extending from the buffer solution. The pH 7 reading can now be calibrated on the meter.

A second pH electrode is now placed into this second test tube and the patient must now make contact with this buffer as mentioned above. The pH electrode can also be calibrated on the technician before measurements on a patient. However, this method of calibration can result in actual pH error up to 0.5 pH units.

Sterilization and Disinfection

The electrode can be sterilized in ethylene oxide or chemically sterilized with gluteraldehyde solutions such as Cidex 7.

> ***Note:*** *Probe cannot be autoclaved. The electrode can be disinfected with ethyl alcohol or zephirin chloride.*

Accepted methods of sterilization should be followed prior to usage.

Handling

Avoid excessive bending or sharp angle bends just behind the rigid (bulb) tip.

Be careful not to apply pressure against the inner glass capillary tube.

Cleaning

When using the microelectrode in solutions containing protein, it should be soaked in an enzyme cleaning solution such as Terg-a-zyme (Alconox, Inc.) or a chromic sulfuric glass cleaning solution can be used to remove the protein build up.

> ***Note:*** *When cleaning, never pinch the electrode between fingers and pull through for drying --- always pat dry.*

After cleaning, rinse thoroughly with distilled water.

Storage

Always clean the microelectrode before storing:

Long-term (over 2 weeks): over 2 weeks): Return the electrode to its original container and prepare it in the same condition in which you received it.

Short-term: The probe can be left in an acid pH buffer solution (pH 4.01).

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