

Ion Selective Electrodes



INTRODUCTION :

- The concentration of ions and gases in solution may be determined using ion selective electrodes. When a suitable sensing electrode is immersed in a solution containing ions or gases, an electrical potential may develop at the electrode surface due to a selective spontaneous reaction. The magnitude of this potential varies with the concentration of the selected ion or gas.
- ISEs are responsive to concentration of particular ions in the test liquid and are variable-potential electrodes.
- When measurements are made using an ion meter, by calibrating with various standard solutions, direct readings of the concentration of the ion can be taken.
- Slope of the electrode depends on the temperature therefore measurements must be taken at a fixed temperature.
- **SOLID STATE ELECTRODES** are as combination electrodes complete with reference electrode. These electrodes incorporate a solid sensing surface made of compressed silver halides, or solid crystalline material.
- A solid state electrode develops a voltage due to ion-exchange occurring between the sample and the inorganic membrane. An equilibrium mechanism occurs due to the very limited solubility of the membrane material in the sample.

Safety Features:

- GAS SENSORS are combination electrodes that detect dissolved gases in a solution. No external reference is required for these electrodes. The sensing element is separated from the sample solution by a gas permeable membrane.
- A gas sensor works due to the partial pressure of the measured gas in solution. The dissolved gas in the sample diffuses into the membrane and changes the pH in a thin film of unbuffered electrolyte on the surface of the internal pH sensor. Diffusion continues until the partial pressure of the sample and the thin film is the same. The pH change is proportional to the dissolved gas in the sample.
- STORAGE AND CLEANING It is sufficient to store the electrode in a standard solution during short measuring intervals. In order not to strain the membrane unnecessary, the electrode should be stored dry if it is not used for several days. After the dry storage put into standard solution for 3 - 4 hours for new measurements. Contaminations should be removed with a wet paper towel, don't use organic solvents like acetone

Safety Features:

- No Reference electrode needed
- Solid state sensors
- Refillable Type
- Our ISEs are compatible with other make Ion / pH meter
- Direct measurement of Ionic concentration
- Standard supply with ISAB & Calibration Solutions
- Refillable Type
- Virtually unbreakable
- Fast response no maintenance
- No membranes or replacement module

Support & Services



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