A New Phosphate Selective Electrode and Its Application in Some Foods

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A highly sensitive phosphate selective electrode (ISE) was fabricated using Ba_3PO_4 , Cu_2S and Ag_2S solids. The highest sensitivity of ISE was obtained with 20% Ba_3PO_4 (m/m) composition. The ISE shows a slope of about 57 mV towards the phosphate ion in the concentration range 1×10^{-1} M - 1×10^{-6} M. The ISE characterization was performed. The ISE was judged to be accurate in the presence of possible interfering ions. The amount of phosphate in foods was measured as real sample analysis and the proposed ISE was accepted as a reliable, sensitive and easy-to-make sensor device for phosphate analysis in food samples.

Keywords: Ion selective electrode, Phosphate, Determination, Food sample

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