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ELECTROCHEMICAL SENSORS FOR HEAVY METAL IONS DETECTION FROM AQUEOUS SOLUTIONS

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Abstract

Due to the major negative impact of heavy metal ions toward human health and environment, even at low concentrations, the development of simple, fast and not expensive detection methods of heavy metals is a major challenge for the scientists. Among the different analytical methods for the analysis of heavy metal ions, the corresponding methods based on electrochemical sensors are discussed in this review, due to their above mentioned advantages. Several types of electrochemical sensors and their analytical applications based on electrochemical methods such as: potentiometry, voltammetry and amperometry, are presented. The electrochemical sensors could revolutionize the field of real-time and on-line environmental analysis, due to their high performances as: low detection limits, a wide linear response range, good stability and reproducibility.

Key words: detection of heavy metal ions, ion-selective-electrodes, potentiometry

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