

ABSTRACT

The newly constructed tubular flow-through electrolytic cell useful for electrochemical generation of volatile compounds was used in this presented work. The general aim of this work was to test several cathode materials to obtain the best basic characteristics of selenium determination by electrochemical hydride generation using the tubular electrolytic cell. The tested cathode materials were lead wire, lead/tin alloy (75 % of Pb and 25 % of Sn) and granulated lead. At first the optimizations of relevant working parameters were carrier out for all of these cathode materials. Under the optimal working parameters, the basic characteristics of selenium determination were found. The highest sensitivity ($7.6 \cdot 10^3 \text{ dm}^3 \mu\text{g}^{-1}$) and the lowest limit of detection ($0.42 \mu\text{g} \cdot \text{dm}^{-3}$) were obtained for granulated lead as cathode material.

Subject words:

Analytical chemistry

Key words:

Atomic absorption spectrometry, electrochemical generation of volatile hydrides, tubular electrolytic cell