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Estudio preliminar en la miniaturización de electrodos selectivos a iones Pb(II) basados en
derivados de tiourea
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Abstract

The present work reports the miniaturization of a solid - contact lead (II) ion selective electrode based on 1 - benzoyl - 3,3 - diethylthiourea (BDE) as neutral carrier and tris - 2 - ethylhexilphosphate (TEHP) as mediator solvent in a polyvinyl chloride (PVC) matrix. Microelectrodes were prepared with glass capillaries of different diameters (2, 1 y 0,8 mm) and illustrates a good sensitivity to the metallic cation, with a slope close to a Nernstian logarithmic relationship for a divalent ion (29,53 mV/decade). Furthermore, the microelectrodes shows detection limits in order of 10^{-6} mol/L and a linearity range from 10^{-6} to 10^{-3} mol/L. These results are similar to reports for other sensors based on thiourea derivatives and even for commercial selective electrodes.

Keywords

Lead(II)-ion selective microelectrodes, 1 - benzoyl- 3,3-diethylthiourea.

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