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## Anodic Stripping Voltammetric Behavior of Mercury in Chloride Medium and its Determination at a Gold Film Electrode

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**Abstract:** The electrochemical behavior of aqueous Hg(II) ions at a gold film electrode is described. The effects of supporting electrolyte and halide ions on the anodic stripping voltammetric behavior of Hg(II) ions was illustrated to prepare a basis for the analysis in real samples with high saline content. The concentration ratio of metallic mercury to halide ions at the electrode surface determines the resulting peak characteristics. The peak potentials in particular shift in a more negative direction as the halide concentration increases. A comparative study with Cu(II) ions revealed that a different mechanism is involved in their reoxidation steps. Mercuric ions were collected at 0.2 V from 0.1 M HClO<sub>4</sub> medium containing 3 x 10<sup>-3</sup> M HCl and a detection limit of 0.12 ng/mL (S/N = 3) was attained (RSD < 5%, n = 5). The method was applied for the determination of mercury in haemodialysis concentrates. No significant interference was observed from other possibly interfering metallic ions.

**Key Words:** Mercury determination, gold film electrode, anodic stripping voltammetry, haemodialysis solution

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