Preparation of Ti/Sb-SnO₂-GO/PbO₂ Electrode and Its Application in Electrochemical Oxidation Treatment of Ultralow-Concentration Residual Hydrazine in Water

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A novel Ti/Sb-SnO₂-GO/PbO₂ electrode was prepared for the water treatment technology. The Sb-SnO₂-GO layer was successfully prepared by thermal deposition on Ti substrate, and the PbO₂ film was loaded as the working surface by electrodeposition method. Both of the preparation process of the interlayer Sb-SnO₂-GO and PbO₂ coatings were optimized. The electrochemical degradation of hydrazine hydrate was investigated in different conditions using the optimized electrode. The results showed that the electrochemical oxidation was so efficient that the ultralow-concentrated hydrazine was almost completely removed from water.

Keywords: Electrochemical Oxidation; Hydrazine; Electrodeposition; PbO₂ electrode; Kinetics

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