Electrochemical Analysis of 2-chlorophenol Using a Multi-Walled Carbon Nanotube-Ionic Liquid Composite Modified Electrode

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A multi-walled carbon nanotube-ionic liquid composite modified glassy carbon electrode was fabricated. The modified electrode showed highly catalytic ability towards the oxidation of 2-chlorophenol. Square wave voltammetry was used for the determination of 2-chlorophenol. The oxidation peak currents were linearly with the concentrations of 2-chlorophenol in the range of 0.5 to 12.0 μM , with a detection limit of 0.1 μM . The proposed method was successfully applied for the determination of 2-chlorophenol in water samples with satisfactory recoveries.

Keywords: 2-chlorophenol; Modified electrode; Multi-walled carbon nanotube; Ionic liquid

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