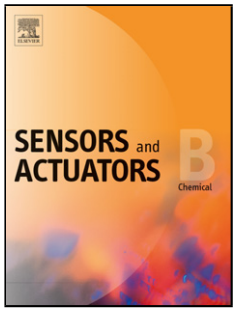

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Voltammetric determination of the herbicide propham on glassy carbon electrode modified with multi-walled carbon nanotubes

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Research Highlights

- A GCE/MWCNTs was used to detect herbicide propham.
- Topography and morphology characterizations were performed for GCE/MWCNTs.
- The linear range, detection and quantification limits of the propham were determined.
- The analytical procedure was used for the determination of the propham in the river.

Abstract

This paper reports on ours study on the electrochemical oxidation of the herbicide propham (*Pro*) on glassy carbon electrode modified with multi-walled carbon nanotubes (GCE/MWCNTs). This is a first report on this topic. We studied the effect of the supporting electrolyte, pH, frequency, amplitude, step potential, as well as the accumulation potential and accumulation time to select the optimum experimental conditions in square-wave voltammetry (SWV) and square-wave adsorptive stripping voltammetry (SWAdSV) determination. The best signal at about +1.33 V for SWV and +1.49 V for SWAdSV versus Ag/AgCl reference electrode was recorded in 0.5 mol L^{-1} sulphuric acid. The