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## First electrochemistry of herbicide pethoxamid and its quantification using electroanalytical approach from mixed commercial product



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### ABSTRACT

This work presents a new approach for the detection of relatively new herbicide pethoxamid (POA), a first electrochemical behavior and determination based on its oxidation on boron-doped diamond electrode in Britton–Robinson buffer solution at pH 4. Square wave voltammetric technique was used for quantification of POA at anodic potential of 1.35 V vs reference Ag/AgCl electrode. The proposed electroanalytical method is operational in the linear working range from 3 to 100 μM of POA with a limit of detection of 1.37 μM. The developed analytical procedure was successfully tested for determination of this herbicide in standard/spiked river water samples and commercial herbicide Successor T SE/spiked river water samples, offering a simple, fast and inexpensive alternative way of pesticide determining to chromatographic methods employed for this purpose.

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