

Special Issue on
Advances in Electrochemical Analysis and Treatment of Agrochemicals

CALL FOR PAPERS

Steady progress within conductor and semiconductor (nano) materials science ensured important advances on the electrochemical analysis and treatment of agrochemicals and their metabolites in the environment. Given the low resistance to charge transfer, electrochemical surfaces based on metallic amalgams, oxides, and particles; carbon derivatives; doped structures; biomolecules; inorganic complexes; ionic liquids; conductive polymers, among others are quite sensitive to detect many pesticides and their by-products at very low concentrations ($\mu\text{g L}^{-1}$ – ng L^{-1}), allowing the sensing of them in complex matrices. The fast spread of these contaminants on undesirable concentrations for the environment has also attracted many researchers in the quest for innovative solutions to treat them in water, soil, and air. In this perspective, active and inactive anodes with diversified architectures have also inspired new alternatives towards the pesticides mineralization based on electrochemical advanced oxidation processes: bandgap widening of some metallic semiconductors, substoichiometric and doped metal oxides, noble metal-coated surfaces, and zeolites; for instance, it has led to discovery of new and efficient mechanistic pathways for the full mineralization of these pollutants and contaminated effluents by them.

The purpose of this special issue is to publish high-quality research articles and reviews that seek to address advances, trends, and challenges on the electrochemical analysis and treatment of agrochemicals and their metabolites in environmental matrices, allowing finding out more desirable alternatives for the monitoring and controlled release of these compounds.

Potential topics include but are not limited to the following:

- Development and application of (bio)sensors for the agrochemicals quantification
- Electroanalysis of agrochemicals and by-products in environmental samples
- Advanced (nano)materials for electrochemical application in agriculture field
- Application of electrochemical advanced oxidation processes for the suitable treatment of pesticides residues
- Electrocatalysis of redox processes with agrochemicals and their derivatives
- Improvements with chemical and electrochemical combined processes
- Novel technologies/methods/protocols with oxidation reactors

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jchem/agricultural.chemistry/aeat/>.

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First Round of Reviews

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