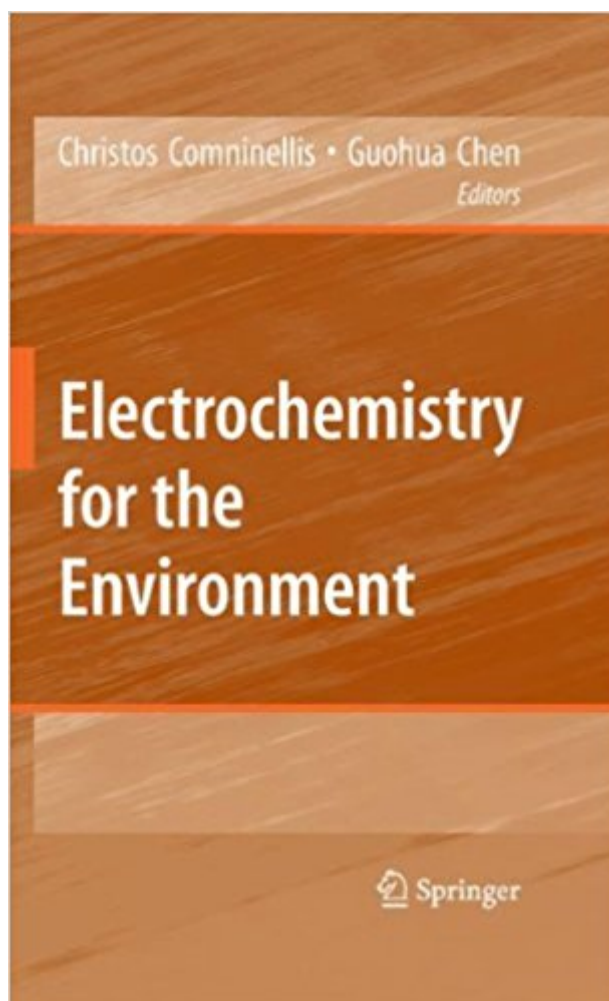


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# Electrochemistry For The Environment



## Synopsis

Wastewater treatment technology is undergoing a profound transformation due to the fundamental changes in regulations governing the discharge and disposal of hazardous pollutants. Established design procedures and criteria, which have served the industry well for decades, can no longer meet the ever-increasing demand. Toxicity reduction requirements dictate in the development of new technologies for the treatment of these toxic pollutants in a safe and cost-effective manner. Foremost among these technologies are electrochemical processes. While electrochemical technologies have been known and utilized for the treatment of wastewater containing heavy metal cations, the application of these processes is only just a beginning to be developed for the oxidation of recalcitrant organic pollutants. In fact, only recently the electrochemical oxidation process has been recognized as an advanced oxidation process (AOP). This is due to the development of boron-doped diamond (BDD) anodes on which the oxidation of organic pollutants is mediated via the formation of active hydroxyl radicals.

## Book Information

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From the reviews: "A book focussing on electrochemical approaches to the protection of the environment is timely and to be welcomed. The nineteen chapters in this book are all written by authors with broad experience of their topics. All chapters are extensively referenced. I have no doubt that this book will be valuable to scientists and engineers presently working in the field or seeking to enter it." (Derek Pletcher, Journal

of Applied Electrochemistry, Vol. 40, 2010)

Wastewater treatment technology is undergoing a profound transformation due to far-reaching changes in regulations governing the discharge and disposal of hazardous pollutants. Electrochemistry for the Environment first lays down the fundamentals of environmental electrochemistry, introducing the basic techniques in selecting electrode materials and fabricating them, followed by the theoretical analysis of the electrochemical processes and the green electrochemical operation. Then it discusses the electrochemical technologies in water/wastewater treatment using BDD before moving on to an examination of the established wastewater treatment technologies such as electro-coagulation, -flotation, and -oxidation. Additionally, emerging technologies such as electrophotooxidation, electrodisinfection, and electrochemical technologies in sludge and soil treatment are analyzed. This book is an excellent reference for electrochemists, chemical engineers, environmental engineers, civil engineers, and also for those in industry evaluating and implementing new technologies.

very useful for many issues regarding electrochemistry, not only environmental ones

Nice product!

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