

Book Review

Electrochemical Processes for Clean Technology

by K. Scott, ISBN 0-85404-506-6, published by the Royal Society of Chemistry, UK, 1995, £59.50, xiv + 308 pp.

This book presents the science and engineering of industrial electrochemical methods aiming at waste minimisation or treatment, thus constituting a clean technology approach. The main topics covered are electrochemical membrane separations, treatment of process streams and effluents (metal recovery and removal of chemicals) and electrochemical synthesis. The book emphasises how these processes can often be complimentary to other techniques within an overall industrial process and discusses the economics of the electrochemical alternatives.

In the coverage of electrochemical membrane separations, apart from well established processes such as electrodialysis, other (often underestimated) techniques such as electro-osmosis and electrofiltration are mentioned and referenced. The discussion of removal of chemicals from process streams and effluents is extremely well organised, extensive and updated, as is the chapter on electrosynthesis. The only appar-

ent omission from the clean technology point of view is, perhaps, the absence of a chapter devoted to fuel cells.

The first part (approximately one third) of the book introduces the reader to the principles of electrochemistry and cell design in a self-contained and effective way. The logic behind the specific processes described throughout the rest of the book is presented based on these principles.

The book is easy to read, with many illustrations and figures but rather few photographs. In general, this is a high quality edition and at a reasonable price.

Summarising, this is a very useful book for postgraduate chemists and chemical engineers as well as for academics and industrialists, serving as both an introduction and a survey of electrochemical clean technology. Its main advantage is that it provides a wealth of information on a variety of specific industrial processes and it does so in a well structured way and in a uniform style.

Sotiris Sotiropoulos
Department of Chemical Engineering
University of Nottingham, UK