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Autore	Zito Ralph
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Nota di contenuto	Electrochemical Water Processing; Contents; Preface; Acknowledgements; Introduction; 1. Water Contaminants and Their Removal; 1.1 Introduction; 1.2 Technology, History, and Background; 1.3 Application Areas: Electrochemical Technology Water Processing; 2. Basic Electrochemical and Physical Principles; 2.1 Introduction; 2.2 Acidity and Alkalinity, pH; 2.3 Activity and Activity Coefficients; 2.4 Equilibrium and Dissociation Constants; 2.4.1 Degree or Percentage Dissociation; 2.5 Electrode, or Half Cell Potential; 2.6 Chemical Potential Definition; 2.7 Concentration Potential 2.8 Equivalent Conductance2.9 Free Energy and Equilibrium; 2.10 Dissociation Constants; 2.11 Ionic Conductance and Mobility; 2.12 Osmotic Pressure; 2.13 Diffusion (Flick's Law); 3. Systems Description: General Outlines of Basic Approaches; 3.1 Electrodialysis; 3.1.1 Performance Characteristics; 3.1.2 General Purpose Processor; 3.1.3 Additional Details for Appropriate Application - Desalinator for Small Boats; 3.2 pH Control: Analytic Development; 3.2.1 Introduction; 3.2.2 Some Technical Background; 3.2.3 Sample Processes for pH Control;

Sommario/riassunto

Even though most of the Earth's surface is covered with water, most of it is not directly usable for human consumption or applications. As the population increases and our general style of living standards increase, the importance useable water is becoming acute. This book addresses this issue with approaches to treating water sources that require removal of unwanted or dissolved substances. In particular, it covers various methods for removing dissolved ionic materials. There are numerous methods for accomplishing this end, and the book reviews most of them in some depth.