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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Handbook of Battery Materials; Contents; Preface; List of Contributors; Part I Fundamentals and General Aspects of Electrochemical Energy Storage; 1 Thermodynamics and Mechanistics; 1.1 Electrochemical Power Sources; 1.2 Electrochemical Fundamentals; 1.2.1 Electrochemical Cell; 1.2.2 Electrochemical Series of Metals; 1.2.3 Discharging; 1.2.4 Charging; 1.3 Thermodynamics; 1.3.1 Electrode Processes at Equilibrium; 1.3.2 Reaction Free Energy G and Equilibrium Cell Voltage 00; 1.3.3 Concentration Dependence of the Equilibrium Cell Voltage 1.3.4 Temperature Dependence of the Equilibrium Cell Voltage 1.3.5 Pressure Dependence of the Equilibrium Cell Voltage; 1.3.6 Overpotential of Half Cells and Internal Resistance; 1.4 Criteria for the Judgment of Batteries; 1.4.1 Terminal Voltage; 1.4.2 Current-Voltage Diagram; 1.4.3 Discharge Characteristic; 1.4.4 Characteristic Line of Charge; 1.4.5 Overcharge Reactions; 1.4.6 Coulometric Efficiency and Energy Efficiency; 1.4.7 Cycle Life and Shelf Life; 1.4.8 Specific Energy

and Energy Density; 1.4.9 Safety; 1.4.10 Costs per Stored Watt Hour; References; 2 Practical Batteries
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3.2.5 Romanechite, Todorokite, and Related Compounds 3.3 Layer Structures; 3.3.1 Mn_5O_8 and Similar Compounds; 3.3.2 Lithiophorite; 3.3.3 Chalcophanite; 3.3.4 -MnO_2 Materials; 3.3.5 10 Å Phyllo-manganates of the Buserite Type; 3.4 Reduced Manganese Oxides; 3.4.1 Compounds of Composition MnOOH ; 3.4.1.1 Manganite (-MnOOH); 3.4.1.2 Groutite (-MnOOH); 3.4.1.3 -MnOOH ; 3.4.1.4 Feitknechtite -MnOOH ; 3.4.2 Spinel-Type Compounds Mn_3O_4 and $\text{-Mn}_2\text{O}_3$; 3.4.3 Pyrochroite, Mn(OH)_2 ; 3.5 Conclusion; References; Further Reading; 4 Electrochemistry of Manganese Oxides; 4.1 Introduction
4.2 Electrochemical Properties of EMD

Sommario/riassunto

A one-stop resource for both researchers and development engineers, this comprehensive handbook serves as a daily reference, replacing heaps of individual papers. This second edition features twenty percent more content with new chapters on battery characterization, process technology, failure mechanisms and method development, plus updated information on classic batteries as well as entirely new results on advanced approaches. The authors, from such leading institutions as the US National Labs and from companies such as Panasonic and Sanyo, present a balanced view on battery research an
