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| Note generali | <P>Chapter 1: Synthesis of Zinc, Copper, Cadmium and Iron Sulphides and Their Sorption Properties. </P><P>Chapter 2: Formation and Sorption Properties of Iron Oxides and Manganese Oxyhydroxide. </P><P>Final Remarks</P><P>References</P><P>Index</P> |
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| Nota di contenuto | Cover -- Half Title -- Title Page -- Copyright Page -- Table of Contents -- Authors -- Acknowledgments -- Abbreviations and Nomenclature -- Introduction -- 1. Synthesis of Zinc, Copper, Cadmium, and Iron Sulfides and Their Sorption Properties -- 1.1 Methodology of Synthesis -- 1.1.1 Overview and Classification of Synthesis Methods -- 1.1.1.1 High-Temperature Methods -- 1.1.1.2 Solvothermal Decomposition Method -- 1.1.2 Methodology and Equipment -- 1.1.3 Procedures and Reactions -- Acknowledgment -- 1.2 Precipitation with Sodium Sulfide -- 1.3 Particles Precipitation Out of Thiourea Solutions -- 1.3.1 Effect of Chemical Composition of the Reagent Environment on the Particle Formation of Zinc, Copper, and |

Cadmium Sulfides -- 1.3.1.1 pH effect -- 1.3.1.2 Concentration Effect -- 1.3.1.3 Effect of the Anion Nature -- 1.3.2 Impact of the Organic Additives -- 1.4 Effect of Microwave Activation on the Zinc, Cadmium, and Copper Sulfide Particles Formation -- 1.4.1 Effect of pH and Thiourea Concentration Combined with Microwave Activation -- 1.4.2 Temperature Effect -- 1.5 Effect of Metal Ion Doping on the Zinc Sulfide Particles Formation -- 1.6 Iron Sulfide FeS Formation -- 1.7 Sorption Properties of the Metal Sulfide -- 1.7.1 pH Impact on the Metal Sulfide Extraction Efficiency and Particles Stability -- 1.7.2 Impact of Specific Surface on the Sorption Capacity of Particles -- 1.7.3 Sorption Properties of Zinc Sulfide Particles Doped with Copper, Manganese, and Cerium -- 1.8 Conclusions on the Sorption Efficiency of Metal Sulfides -- 2. Formation and Sorption Properties of Iron Oxides and Manganese Oxyhydroxide -- 2.1 Synthesis of Iron Oxide -- 2.1.1 Synthesis of the Hematite Particles -Fe[sub(2)]O[sub(3)] -- 2.1.2 Formation of Maghemite -Fe[sub(2)]O[sub(3)] Particles.
2.1.3 Peculiarities of the Fe[sub(3)]O[sub(4)] Particle Formation from the Aqueous Solutions -- 2.2 Synthesis of Manganese Dioxide and Oxyhydroxide -- 2.2.1 Synthesis of Manganese Oxyhydroxide in Alkaline Solutions -- 2.2.2 Synthesis of Manganese Dioxide -- 2.3 Sorption Characteristics of Iron Oxides and Manganese Dioxide and Oxyhydroxide -- 2.3.1 Iron Oxides -- 2.3.2 Manganese Oxyhydroxide and Dioxide -- 2.4 Conclusions -- Final Remarks -- References -- Index.

Sommario/riassunto

Synthetic Sorbent Materials Based on Metal Sulphides and Oxides focuses on development of inorganic nanomaterials for removal of metallic species from the aqueous environment. General synthetic methods to prepare such materials are lacking. This book investigates problems of controlled synthesis of these materials and the effect of their morphological characteristics on their sorption capacity. Synthesizes experimental data on the synthesis of micro- and nanoparticles of zinc, copper, and cadmium sulfides, iron oxides, and manganese oxyhydroxide. Discusses controlled synthesis of zinc, cadmium, and copper sulfide particles and their sorption properties. Describes production of iron oxides (hematite and magnetite) and manganese oxyhydroxide particles. Features numerous SEM images of the obtained nanostructures and original graphs of various characteristics. Offers practical recommendations. This book is of interest to researchers and scientists working with inorganic synthesis and properties of sorption materials.