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Nota di contenuto	BIOPHYSICO-CHEMICAL PROCESSES OF HEAVY METALS AND METALLOIDS IN SOIL ENVIRONMENTS; CONTENTS; CONTRIBUTORS; PREFACE; SERIES PREFACE; ABOUT THE EDITORS; PART I FUNDAMENTALS OF BIOTIC AND ABIOTIC INTERACTIONS OF METALS AND METALLOIDS WITH SOIL COMPONENTS; 1 Impacts of Physicochemical-Biological Interactions on Metal and Metalloid Transformations in Soils: An Overview; 2 Transformation and Mobilization of Metals, Metalloids, and Radionuclides by Microorganisms; 3 Kinetics and Mechanisms of Sorption-Desorption in Soils: A Multiscale Assessment 4 Spectroscopic Techniques for Studying Metal-Humic Complexes in Soil 5 Factors Affecting the Sorption-Desorption of Trace Elements in

Soil Environments; 6 Modeling Adsorption of Metals and Metalloids by Soil Components; PART II TRANSFORMATIONS AND DYNAMICS OF METALS AND METALLOIDS AS INFLUENCED BY SOIL-ROOT-MICROBE INTERACTIONS; 7 Biogeochemistry of Metals and Metalloids at the Soil-Root Interface; 8 Biogeochemical Processes Controlling the Cycling of Arsenic in Soils and Sediments; 9 Microbial Oxidation and Reduction of Iron in the Root Zone and Influences on Metal Mobility
10 The Complexity of Aqueous Complexation: The Case of Aluminum- and Iron(III)-CitratePART III SPECIATION, MOBILITY, AND BIOAVAILABILITY OF METALS AND METALLOIDS AND RESTORATION OF CONTAMINATED SOILS; 11 Chemical Speciation and Bioavailability of Trace Metals; 12 Fractionation and Mobility of Trace Elements in Soils and Sediments; 13 Sources and Mobility of Metallic Radionuclides in Soil Systems; 14 Remediation of Metal-Contaminated Soils: An Overview; 15 Phosphate-Induced Lead Immobilization in Contaminated Soils: Mechanisms, Assessment, and Field Applications; INDEX

Sommario/riassunto

Written by a multidisciplinary group of soil and environmental scientists, *Biophysico-Chemical Processes of Heavy Metals and Metalloids in Soil Environments* provides the scientific community with a critical qualitative and quantitative review of the fundamentals of the processes of pollutants in soil environments. The book covers pollutants' speciation, mobility, bioavailability and toxicity, and impacts on development of innovative restoration strategies. In addition, the development of innovative remediation strategies for polluted soils is covered.
