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Autore	Worch Eckhard <1951->
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Nota di contenuto	Front matter -- Contents -- Preface -- 1 Introduction -- 2 Adsorbents and adsorbent characterization -- 3 Adsorption equilibrium I: General aspects and single-solute adsorption -- 4 Adsorption equilibrium II: Multisolute adsorption -- 5 Adsorption kinetics -- 6 Adsorption dynamics in fixed-bed adsorbers -- 7 Fixed-bed adsorber design -- 8 Desorption and reactivation -- 9 Geosorption processes in water treatment -- 10 Appendix -- Nomenclature -- References -- Index
Sommario/riassunto	Adsorption processes have played a central role in water treatment for many years but their importance is on the rise with the continuous discoveries of new micropollutants in the water cycle (pharmaceuticals for example). In addition to the classical application in drinking water treatment, other application fields are attracting increasing interest, such as wastewater treatment, groundwater remediation, treatment of landfill leachate, and so on. Based on the author's long-term experience in adsorption research, the scientific monograph treats the theoretical fundamentals of adsorption technology for water treatment

from a practical perspective. It presents all the basics needed for experimental adsorption studies as well as for process modelling and adsorber design.Topics discussed in the monograph include: introduction into basic concepts and practical applications of adsorption processes; adsorbents and their characterisation, single and multi-solute adsorption equilibria, adsorption kinetics, adsorption dynamics in fixed-bed adsorbers and fixed-bed adsorber design, regeneration and reactivation of adsorbents, introduction into geosorption processes in bank filtration and groundwater recharge. According to the increasing importance of micropollutants in the water cycle, particular attention is paid to their competitive adsorption in presence of background organic matter. Clear illustrations, extensive literature references and a useful index make this work indispensable for both scientists and technicians involved in water treatment.