

CONTENTS

<b>1. ADSORPTION THEORY, CONCEPTS, AND MODELS</b>	<b>1</b>
Introduction	1
Adsorption Principles	3
Adsorption Equilibria	9
Adsorption Rates	18
Reactor Systems	23
Adsorber Modeling and Design	26
Summary	32
References	32
<b>2. EXPERIMENTAL DESIGN AND TESTING OF ADSORPTION AND ADSORBATES</b>	<b>37</b>
Introduction	37
Adsorption Principles	37
Adsorbent Choices	41
Experiment Implementation and Interpretation	53
Application Testing	68
Appendix	82
<b>3. CONCEPTUAL DESIGN OF ADSORPTION SYSTEMS</b>	<b>91</b>
Introduction	91
Adsorption Mode	99
Regeneration Mode	129
Backwashing	143
Integration of the Adsorption Process	145
Engineering Considerations	151
References	164
<b>4. INDUSTRIAL WASTEWATER CONTROL AND RECOVERY OF ORGANIC CHEMICALS BY ADSORPTION</b>	<b>167</b>
Introduction	167
Description of Polymeric Adsorbents	168
Pesticides	183
Organic Chemicals	194
Economics	210
References	210
Glossary	213
Index	215