

**Waste  
Treatment  
in the  
Process  
Industries**

*edited by*  
*Lawrence K. Wang*  
*Yung-Tse Hung*  
*Howard H. Lo*  
*Constantine Yapijakis*



Taylor & Francis  
Taylor & Francis Group



# Contents

<i>Preface</i>	v
<i>Contributors</i>	ix
1. Implementation of Industrial Ecology for Industrial Hazardous Waste Management <i>Lawrence K. Wang and Donald B. Aulenbach</i>	1
2. Bioassay of Industrial and Waste Pollutants <i>Svetlana Yu. Selivanovskaya, Venera Z. Latypova, Nadezda Yu. Stepanova, and Yung-Tse Hung</i>	15
3. In-Plant Management and Disposal of Industrial Hazardous Substances <i>Lawrence K. Wang</i>	63
4. Application of Biotechnology for Industrial Waste Treatment <i>Joo-Hwa Tay, Stephen Tiong-Lee Tay, Volodymyr Ivanov, and Yung-Tse Hung</i>	133
5. Treatment of Pharmaceutical Wastes <i>Sudhir Kumar Gupta, Sunil Kumar Gupta, and Yung-Tse Hung</i>	167
6. Treatment of Oilfield and Refinery Wastes <i>Joseph M. Wong and Yung-Tse Hung</i>	235
7. Treatment of Soap and Detergent Industry Wastes <i>Constantine Yapijakis and Lawrence K. Wang</i>	307
8. Treatment of Textile Wastes <i>Thomas Bechtold, Eduard Burtscher, and Yung-Tse Hung</i>	363
9. Treatment of Phosphate Industry Wastes <i>Constantine Yapijakis and Lawrence K. Wang</i>	399
10. Treatment of Pulp and Paper Mill Wastes <i>Suresh Sumathi and Yung-Tse Hung</i>	453
11. Treatment of Pesticide Industry Wastes <i>Joseph M. Wong</i>	499
	vii

12. Treatment of Rubber Industry Wastes <i>Jerry R. Taricska, Lawrence K. Wang, Yung-Tse Hung, Joo-Hwa Tay, and Kathleen Hung Li</i>	545
13. Treatment of Power Industry Wastes <i>Lawrence K. Wang</i>	581
<i>Index</i>	623