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Toxicity and Biodegradation Testing

Edited by

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Preface

This book is designed to present a broad compendium of biodegradation and toxicological research. The concept for this book is to provide academic and industry researchers with an introduction to the current state of biodegradation studies and toxicological assessment. Chapters provide both legacy and up-to-date approaches to practical methodologies throughout the book, which were successfully applied to address real issues. This book also provides an overview of the role and applications of analytical biodegradation quantification as it applies to the environmental sciences, particularly in the range of by-products that are usually linked to toxicology, and the test organisms most often used in toxicity testing.

While the book is primarily focused toward the environmental sciences researcher, the range of techniques demonstrated in the book also provides an introduction to biodegradation and toxicology methods for researchers outside of this field. Chapters deal with a critical discussion of laboratory scale experiments, as well as full scale in situ and ex situ apparatus, with each chapter containing both a discursive section along with a detailed methods section. The topics of the book include scientific and technical feasibility studies, contaminant impacts evaluation, study design and analytical techniques, key methodologies required to prepare the biodegradation and toxicology protocols, as well as the handling of microbial communities related to such processes.

This book has been designed to serve as a comprehensive biotechnology textbook. The authors thank all those who have contributed significantly in understanding the different aspects of environmental sciences and submitted their chapters. We hope that our book will prove of equally high value to advanced undergraduate and graduate students, research scholars, and professionals.

Rio Claro, São Paulo, Brazil

*Ederio Dino Bidoia
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Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>ix</i>
1 Biodegradation of Selected Endocrine Disrupting Compounds	1
<i>Tomasz Grześkowiak, Beata Czarczyńska-Goślińska, and Agnieszka Zgoła-Grześkowiak</i>	
2 Biodegradation and Inhibitory Effects of Antibiotics on Biological Wastewater Treatment Systems	29
<i>Zeynep Cetecioglu and Merve Atasoy</i>	
3 Alternative Approaches to Determine the Efficiency of Biomixtures Used for Pesticide Degradation in Biopurification Systems	57
<i>Carlos E. Rodríguez-Rodríguez, Victor Castro-Gutiérrez, and Verónica Lizano-Fallas</i>	
4 Bioremediation of Methomyl by <i>Escherichia coli</i>	75
<i>Amritha G. Kulkarni and Basappa B. Kaliwal</i>	
5 <i>Burkholderia</i> Sp. Strain BBK_9: A Potent Agent for Propiconazole Degradation	87
<i>Praveen P. Satapute and Basappa B. Kaliwal</i>	
6 Application of Cell Immobilization in Slurry-Phase Bioremediation: Phenanthrene Biodegradation and Detoxification	105
<i>Ali Partovinia and Fereshteh Naeimpoor</i>	
7 Calorimetry and Soil Biodegradation: Experimental Procedures and Thermodynamic Models	123
<i>Nieves Barros Pena</i>	
8 Improved Model for Biodegradability of Organic Compounds: The Correlation Contributions of Rings	147
<i>Andrey A. Toropov and Alla P. Toropova</i>	
9 Biological Testing and Toxicity Bioassays in Biodegradation: Toward Better Process Control	185
<i>Maha M. Ismail, Mariam Hassan, and Tamer M. Essam</i>	
10 An Overview of Methods to Detect Biodegradation Limiting Conditions	207
<i>Jaqueline Matos Cruz, Renato Nallin Montagnolli, Elis Marina Turini Claro, Gabriela Mercuri Quitério, José Rubens Moraes Júnior, Paulo Renato Matos Lopes, and Ederio Dino Bidoia</i>	
11 Bioassays Used to Assess the Efficacy of Biodegradation	215
<i>Dânia E.C. Mazzeo, Matheus M. Roberto, Laís R.D. Sommaggio, and Maria A. Marin-Morales</i>	

12	New Approach of Dye Removal in Textile Effluent: A Cost-Effective Management for Cleanup of Toxic Dyes in Textile Effluent by Water Hyacinth	241
	<i>Sanmuga Priya Ekambaram, Senthamil Selvan Perumal, Durgalakshmi Rajendran, Dhevash Samivel, and Mohammad Navas Khan</i>	
13	Biodegradation of Dyes Intermediates and HPLC Method for Their Estimation	269
	<i>Rana Rashad Mahmood Khan, Saira Saeed, and Ahmad Adnan</i>	
14	Biodegradation Behavior of Textiles Impregnated with Ag and TiO ₂ Nanoparticles in Soil	281
	<i>Maja Radetić and Zoran Šaponjić</i>	
15	Evaluation of the Toxicity of Azo Dyes by <i>Allium cepa</i> and Study to Remove These Compounds in Aqueous Solution by <i>Saccharomyces cerevisiae</i>	297
	<i>Érica Janaina Rodrigues de Almeida, Guilherme Dilarri, and Carlos Renato Corso</i>	
16	Ecotoxicological Characterization of Surfactants and Mixtures of Them	311
	<i>Francisco Ríos, Alejandro Fernández-Arteaga, Manuela Lechuga, and Mercedes Fernández-Serrano</i>	
17	Whole Effluent Toxicity Assessment of Industrial Effluents.....	331
	<i>Takashi Kusui, Yasuyuki Itatsu, and Jun Jin</i>	
18	A Review on Biodegradation and Toxicity Methods: Risk Assessment, Standards, and Analyses	349
	<i>Abdullah M. El Mahdi and Hamidi A. Aziz</i>	
	<i>Index</i>	389

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