Microplastic Pollutants in Biotic Systems: Environmental Impact and Remediation Techniques

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571

Email: curran@proceedings.com Web: www.proceedings.com



The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48n1984. | ISBN 9798331305000 (pod)

Copyright © 2024 American Chemical Society

All Rights Reserved. Reprographic copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Act is allowed for internal use only, provided that a per-chapter fee of \$40.25 plus \$0.75 per page is paid to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA. Republication or reproduction for sale of pages in this book is permitted only under license from ACS. Direct these and other permission requests to ACS Copyright Office, Publications Division, 1155 16th Street, N.W., Washington, DC 20036.

The citation of trade names and/or names of manufacturers in this publication is not to be construed as an endorsement or as approval by ACS of the commercial products or services referenced herein; nor should the mere reference herein to any drawing, specification, chemical process, or other data be regarded as a license or as a conveyance of any right or permission to the holder, reader, or any other person or corporation, to manufacture, reproduce, use, or sell any patented invention or copyrighted work that may in any way be related thereto. Registered names, trademarks, etc., used in this publication, even without specific indication thereof, are not to be considered unprotected by law.

PRINTED IN THE UNITED STATES OF AMERICA

Contents

Pre	efaceix
1.	Separation, Identification, and Quantification of Microplastics in Environmental Samples
	Gopa Nandikes, Om Banerjee, Manaswini Mirthipati, Anitha Bhargavi, Hephzi Jones, and Pankaj Pathak
2.	Sampling and Processing of Microplastics from Water
3.	Exploring Microplastics: Occurrence, Ecological Implications, and Environmental Dynamics in Biotic Systems
	Tariq Mehmood, Muhammad Azher Hassan, Anam Ashraf, Ariette Schierz, Muhammad Fahad Sardar, Licheng Peng, Fasih Ullah Haider, Sadia Rehman, and Shakeel Ahmad
4.	Unravelling the Waves: Navigating Microplastics Pollution in the Marine Realm and Crafting Remedial Solutions
5.	Microplastics Pollutants—Potential Impact on Ecosystems
6.	Micro- and Nanosized Plastic: An Alarming Threat to One's Health
7.	Impacts and Mitigation Strategies of Microplastic Pollution
8.	New-Age Bioremediation Strategies to Combat Microplastic Pollution in the Environment
9.	Microplastics Controlling Approaches: Removal Reaction Pathways, Kinetics, and Toxicity Evaluation of the Products

10. Microplastics: From Pollution to Solutions - Understanding Impacts, Detection	
Methods, and Remediation Strategies	239
Asma Bari, Zoha Khairoowala, Saif Ullah Khan, and Izharul Haq Farooqi	
11. Mitigation Strategies and Policies for Microplastics Pollution in Biotic Systems	279
Tooraj Massahi, Hooshyar Hossini, Kimya Parnoon, Monireh Nouri, Sepideh Naseri,	and
Dariush Massahi	
Editors' Biographies	287
Indexes	
Author Index	291
Subject Index	293