

TREATMENT AND DISPOSAL OF SOLID AND HAZARDOUS WASTES

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About the Book:

Interest in solid and hazardous waste management is relatively recent, i.e., in the last three decades, and is driven by regulations in most countries. It began with industrial hazardous waste followed by municipal solid waste, and subsequently by many other categories of waste.

This book presents numerous examples and case studies of innovative tools, treatment methods and applications in this growing area of research and development.

It describes in detail laboratory methods of measuring the biodegradation of specific organic fractions, like floral waste, and also discusses the treatment of yard and food waste by anaerobic digestion and landfill leachate using constructed wetlands. Case studies are provided that show how remote sensing (RS) and GIS were used to develop an integrated solid waste management plan for a city and to evaluate the environmental impacts of stone quarrying activities.

The book also features chapters discussing the implications of natural radioactivity in beach placers and their impact on groundwater and other parts of the environment, as well as the twelve principles of green chemistry and their application in the reuse and recycling of solid waste. Moreover, it includes examples of waste to energy, like refuse derived fuel and biofuel generation and an evaluation of their potential, and covers topics such as life cycle assessment as a tool for developing integrated solid waste management systems and an overview of municipal solid waste management rules, illustrating the importance of technological inputs in the development of regulatory frameworks.

Written by leading practitioners and scholars in the field, the book enables readers to understand and apply these principles and practices in their endeavours.

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