Sustainable Separation Engineering

Explore an insightful collection of resources exploring conventional and emerging materials and techniques for separations

In Sustainable Separation Engineering: Materials, Techniques and Process Development, a team of distinguished chemical engineers delivers a comprehensive discussion of the latest trends in sustainable separation engineering. Designed to facilitate understanding and knowledge transfer between materials scientists and chemical engineers, the book is beneficial for scientists, practitioners, technologists, and industrial managers.

Written from a sustainability perspective, the status and need for more emphasis on sustainable separations in the chemical engineering curriculum is highlighted. The accomplished editors have included contributions that explore a variety of conventional and emerging materials and techniques for efficient separations, as well as the prospects for the use of artificial intelligence in separation science and technology.

Case studies round out the included material, discussing a broad range of separation applications, like battery recycling, carbon sequestration, and biofuel production. This edited volume also provides:

- Thorough introductions to green materials for sustainable separations, as well as advanced materials for sustainable oil and water separation
- Comprehensive explorations of the recycling of lithium batteries and ionic liquids for sustainable separation processes
• Practical discussions of carbon sequestration, the recycling of polymer materials, and AI for the development of separation materials and processes

• In-depth examinations of membranes for sustainable separations, green extraction processes, and adsorption processes for sustainable separations

Perfect for academic and industrial researchers interested in the green and sustainable aspects of separation science, *Sustainable Separation Engineering: Materials, Techniques and Process Development* is an indispensable resource for chemical engineers, materials scientists, polymer scientists, and renewable energy professionals.

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**ABOUT THE AUTHOR**

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