Handbook of Pyrrolidone and Caprolactam Based Materials: Synthesis, Characterization and Industrial Applications, 6 Volume Set
Osama M. Musa (Editor)

DESCRIPTION

HANDBOOK OF PYRROLIDONE AND CAPROLACTAM BASED MATERIALS

Brings together, for the first time, a comprehensive review of all aspects of pyrrolidone- and caprolactam-based materials

This comprehensive, six-volume set describes the broad technical universe of #- and #- lactams, reviewing in-depth the chemistry of the small lactam-based molecules, uncovering their unique properties and showing how they have enabled a myriad of commercially important applications. From synthesis, through production and into applications, this extensive work targets significant and recent trends in #- and #-lactam science and technology and addresses all key aspects of pyrrolidone- and caprolactam-based materials to produce a definitive overview of the field.

*Handbook of Pyrrolidone and Caprolactam Based Materials* provides a detailed and modern portrait of the impact of pyrrolidone- and caprolactam-based materials on the world, as well as potential future possibilities.

- Volume One presents the chemistry of small lactam-based molecules and uncovers their unique properties.

- Volume Two covers polymeric materials, including polyvinyl pyrrolidone and polyvinyl caprolactam, and reviews homopolymerization, copolymerization, controlled radical polymerization and acrylate based pyrrolidone polymerizations.

- Volume Three examines the physical chemistry and molecular interactions of pyrrolidone and caprolactam based materials.

- Volume Four expands upon the characterization theme from the third volume, and includes detailed discussions of nuclear magnetic resonance (NMR) and Fourier transform-infrared (FT-IR) spectroscopy, thermal and mechanical properties, and imaging techniques.

- Volume Five explores pharmaceutical applications in both ingredients and materials, as well as the antimicrobial properties and applications of pyrrolidone and caprolactam-based materials, and their toxicology.
Volume Six covers personal and home care, skin care, transdermal applications and wound care, oral care, adhesion related applications and digital applications such as inkjet technology.

*Handbook of Pyrrolidone and Caprolactam Based Materials* will appeal to industrial scientists and engineers interested in polymer development and manufacturing. It will also benefit academic researchers working in the fields of chemistry, materials science, and chemical and process engineering.

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**ABOUT THE AUTHOR**

*Osama M. Musa*, PhD, is Senior Vice President and Chief Technology Officer for Ashland Inc. During his tenure at Ashland, he has led Research and Development efforts across all business segments and technical platforms, including consumer markets focused on pharmaceutical, nutraceutical, skin, hair, oral, and home care; nutrition; and agricultural and industrial markets focused on coatings, adhesives, and performance additives for energy, construction, and lithium ion batteries.

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