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Supercritical Fluids Technologies as a Basis for Development of Innovative Materials

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Message from the Guest Editor

Supercritical fluid technologies are increasingly used for the synthesis and directed modification (functionalization) of microporous materials and polymer composites.

To create efficient functionalization technologies, a number of processes are used in supercritical fluids, in which the decisive role is played by such unique properties of the SCF as the controlled density of the medium, high rates of heat and mass transfer and, at the same time, high dissolving power and zero surface tension. With all the variety of microporous materials, there are several common physical and chemical processes that determine the course of all the main stages of the process of pore formation and the functionalization of the material, and, hence, the properties of the target product; these are, first of all, the formation of xerogels, supercritical drying and the sorption of the active pharmaceutical ingredient.

The goal of this Special Issue is to discuss the possibility to create a unified concept for describing such processes and methods for obtaining composites in SCF fluids.

Keywords:

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Message from the Editor-in-Chief

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