



Microporous and Mesoporous Materials for Catalytic Applications

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Message from the Guest Editor

Microporous and mesoporous materials, due to their unique properties (uniform pores, channel systems, shape selectivity and high thermal stability), have found applications as catalytic materials in several oil refinery processes, in the production of petrochemicals, fine chemicals, pharmaceuticals, drug molecules and specialty chemicals. Furthermore, possibilities to design catalytic active metal sites with well-defined size, dispersion and location in microporous and mesoporous materials have attracted the interest of researchers in academia and industry. The Brønsted and Lewis acid sites in microporous and mesoporous materials can be varied by changing the silica to alumina ratio, which gives the possibilities to tailor the acid sites with given amounts and strengths. Metal-modified and acidic microporous and mesoporous materials after deactivation in reaction are easily regenerated and reused, thus making them highly efficient and cost-effective catalytic materials.

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