



Ni-Based Catalysts: Synthesis and Applications

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Message from the Guest Editors

Catalytic technologies are the key factor in the development of many areas of the chemical industry. Currently, Ni-based catalysts are of considerable interest, showing their activity in various processes associated with hydrogenation/dehydrogenation, hydrogenolysis with C–C bond cleavage or with removal of heteroatoms (desulfurization, deoxygenation, denitrogenation etc.), reforming of different feedstock types, and others. In some catalytic reactions, they are known to be a more accessible alternative to noble metal-based catalysts.

The use of various approaches (incipient wetness impregnation, co-impregnation, sol–gel, etc.) to synthesis of nickel-based catalysts makes it possible to obtain the systems with different active component contents, Ni:modifier ratios, as well as active component distribution over support surface. This opens up tremendous opportunities to govern their activity and selectivity. Also important is that the relative availability of nickel uncovers wide possibilities for the use of such catalysts in various processes from an economic viewpoint.

