Special Issue

Catalytic Applications of Clay Minerals and Hydrotalcites

Message from the Guest Editors

Clay minerals are inexpensive and available materials with a wide range of applications (adsorbent, ion exchanger, support, catalyst, paper coating, ceramic, and pharmaceutical, among others). Considering their low cost and high availability, clay minerals display a relatively high specific surface area in such a way that they have a great potential to be used as catalytic supports, since they can disperse expensive active phases as noble metals on the porous structure of their surface. In addition, the low cost of these supports allows their implementation on an industrial scale more easily than other supports, which are only feasible for the laboratory scale. Hydrotalcites (considered as anionic or basic clays) are also inexpensive materials with a great potential to be used as catalysts, since their textural properties could also be modified easily through the insertion of anions in their interlayer spacing. In the same way, these hydrotalcites, formed by layered double hydroxides, can lead to their respective mixed oxides after thermal treatment. These mixed oxides are considered basic catalysts with a high surface area, so they can also be used as catalytic support.

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