"Pure and modified nickel and cobalt molybdates as catalysts for the oxidative dehydrogenation of propane"

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Abstract
This work deals with the search for new molybdate-type catalyst formulations for the activation of light alkanes and their conversion to alkenes. In the first part, we showed that it is possible to stabilize the beta-phase of NiMoO4 (as pure phase) by incorporating a certain amount of Co in its lattice. The sol-gel method was also applied to the synthesis of solid solutions of NiMoO4 and CoMoO4. The main difference between the bulk and silica-dispersed Ni-Co-Mo catalysts prepared by citrate or sol-gel methods as well as impregnation, is related to the fact that it is possible to stabilize the beta-Ni1-xCoxMoO4 phase throughout the whole composition range in the dispersed catalysts. Moreover, the catalytic data emphasize the advantage of using mixed Ni-Co molybdates in comparison with simple Ni or Co molybdates and also the fact that a higher activity is reached when these active phases are dispersed in a silica matrix. In the second part, we reported on the synthesis, characterization ...

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Référence bibliographique

Maione, Andrea. Pure and modified nickel and cobalt molybdates as catalysts for the oxidative dehydrogenation of propane. Prom.: Devillers Michel
Publications:

Solid solutions of Ni and Co molybdates in silica-dispersed and bulk catalysts prepared by sol-gel and citrate methods

Rationalization of the role played by bismuth and lanthanides in modified Ni-Co molybdates as catalysts for partial and total oxidation of propane

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Bulk and supported solid solutions of Ni-Co molybdates on various inorganic supports: comparison between sol-gel and impregnated catalysts and their catalytic activity in propane oxydehydrogenation.

Rationalization of the role played by bismuth and lanthanides in modified Ni-Co molybdates as catalysts for partial and total oxidation of propane.
A. Maione, P. Ruiz, M. Devillers (poster) Presented at the 7th European Workshop Meeting on Selective Oxidation (Innsbruck, Austria, August 2003)

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