

عنوان مقاله:

Carbon vs. Alumina as a Support for Co-Mo Catalysts Reactivity towards HDS of Thiophene

محل انتشار:

دومین کنگره بین المللی علوم و فناوری نانو (سال: 1387)

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خلاصه مقاله:

Because of air pollution regulations, it is projected that sulfur content of fuels must be decreased from 50 to 10 ppm in diesel fuels by 2009 (Directive 2003/17/EC), therefore developing of innovative methods for sulfur content reductions is important [1]. Recently, catalytic hydrodesulphurization of gas oil has drawn much attention because of tolerable sulfur concentration in diesel fuel is being lowered significantly due to environmental concerns [2]. Catalysts based on sulfided transition metals (e.g. Co and Mo) are of great industrial importance because of their widely use in petroleum refining hydroprocessing applications (hydrodesulfurization and hydrodenitrogenation). The most used candidates as supports are carbon and alumina due to their ability and process compatibility [2-4]. In this regards alumina could provide high dispersion of active metal phase and good mechanical properties and carbon has ability of high surface area with controlled pore volume and pore size, reduced coking activity and controllable surface functionality [1, 2]. The present paper comprises the potential of these two supports for Co-Mo catalysts in hydrodesulfurization of thiophene. Sonochemistry and impregnation methods are employed for synthesis of HDS catalysts to treat thiophene in fuel feed. Thiophene is one of the most refractory sulfur compounds found in petroleum products

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