

عنوان مقاله:

Application of carbon nanotubes as efficient support to oCMo HDS catalyst

محل انتشار:

اولین کنفرانس ملی کاربرد نانوتکنولوژی در صنایع نفت و پتروشیمی (سال: 1391)

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خلاصه مقاله:

The effect of the carbon nanotube (CNT) and alumina as supports for Co-Mo catalyst in HDS process has been studied. TPR results reveal that the active species on Co-Mo/CNT are more easily reduced than those in Co-MC/ γ -Al₂O₃, indicating that the CNT supports favors the reduction of active species. Catalyst activity test showed that the sulfur content in products for the CNT supported Co-Mo catalyst is lower than that for the alumina supported Co-Mo catalyst if the reaction was carried out above 583 K. The HDS experiments clearly show that Co Mo/CNT catalysts are more active than Co-MC/ γ -Al₂O₃, and that the hydrogenolysis/hydrogenation selectivity of Co-Mo/CNT catalyst is much higher than Co-MC/ γ -Al₂O₃. It is suggested that a possible relation might exist between the TPR property and HDS activity of catalysts. Of all the carbon nanotube supported catalysts, the maximum promoter effect of Co atom on molybdenum atom is Co/Mo atomic ratio of 0.7 and the 0.7 Co-Mo/CNT catalysts show the highest activity, whereas the catalysts with Co/Mo ratio of 0.35 have the highest selectivity

کلمات کلیدی:

CNT; Co-Mo; HDS; TPR

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