

عنوان مقاله:

Adsorptive Desulfurization and Denitrogenation of Model Fuel

محل انتشار:

دومین کنفرانس بین المللی یافته های نوین پژوهشی در شیمی و مهندسی شیمی (سال: 1395)

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خلاصه مقاله:

Adsorption of heterocyclic sulfur and nitrogen compounds by aluminosilicate mesostructure (MSU-S) and its modified form with copper oxide were studied using model fuel. The results of characteristic tests (XRD, N₂ adsorption-desorption, FTIR and SEM) CuO impregnation leaves a negative effect on mesoporous structure, crystalline phase, and particle shape along with a high positive impact on surface acidity and π -complexation. CuO modification causes about 144.22% and 117.31% increase in adsorption loadings of DBT and BT. For nitrogen compounds adsorption with model fuel, adsorption loadings of quinoline and carbazole increase of 24.49% and 12.73%, respectively. The pseudo-second order model can best fit the kinetics data and Data fitting for carbazole, DBT and BT is achieved better by the Langmuir model than Freundlich model and the data of quinoline are fitted very well to the Freundlich model for CuO-MSU-S.

کلمات کلیدی:

Desulfurization, Denitrogenation, MSU-S, Copper oxide, aluminosilicate

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