

## عنوان مقاله:

Power-law kinetics of hydrodesulfurization on the commercial CoMo/Al<sub>2</sub>O<sub>3</sub> Catalyst of Tabriz Refinery

## محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

تعداد صفحات اصل مقاله: 10

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## خلاصه مقاله:

The identification of sulfur components in the heavy naphtha feed to the unit was performed using GC-MS. The major sulfur-containing species was found to be 2-Ethyl-4-Methylthiophene. The kinetics of the hydrogenolysis of on a commercial CoMo/Al<sub>2</sub>O<sub>3</sub> catalyst was studied in an industrial fixed bed reactor. This reaction carried out in gas phase. The experimental data obtained from unfiner unit of Tabriz refinery. The reaction order of a component was calculated by fitting the reaction rate to the partial pressure of this component using the power-law rate equation. The surface reaction between 2-Ethyl-4-Methylthiophene and adsorbed hydrogen were found to be the rate-determining step. The results indicates that the power-rate equation is a very good model for modeling of hydrotreating process. Since the industrial data spans over a three-year period, catalyst deactivation during operation was also studied. According to the modeling results, it is clear that the main causes of deactivation of these catalysts were found to be .deep coke formation, metal deposit and conversion of active sites into inactive sites

## کلمات کلیدی:

Hydrogenolysis, 2-Ethyl-4-Methylthiophene, power-rate law equation, catalyst deactivation

## لینک ثابت مقاله در پایگاه سیویلیکا:

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