

Study for FCC naphtha hydrodesulfurization with a trimetallic catalyst

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Abstract The paper presents the preparation method and the experimental results obtained from testing of a trimetallic catalytic system (Co/Mo/Mg/Al₂O₃) in a micropilot unit regarding selective hydrodesulfurization of FCC naphtha.

The trimetallic catalytic system (Co:Mo:Mg/Al₂O₃= 2.6:14:1) in usual reaction conditions for hydrodesulfurization process (temperature=320°C, pressure=20 barg, LHSV=2 h⁻¹, H₂/feedstock ratio= 150 NI/l) ensures a desulfurization degree of 85-90.4% with a Δ (RON+MON)/2 loss of 1.5 octane units.

A new catalyst was developed for selective desulfurization of FCC naphtha in order to meet the new ecological specifications referring to a max. 10% wt. olefins content and 50 ppm sulphur in reformulated gasoline.

Keywords: hydrodesulfurization, FCC, catalyst.
