

CoMo/c-Al₂O₃-CuY catalysts are prepared by physically mixing CoMo/c-Al₂O₃ catalyst with Cu-exchanged Y zeolite. The CuY zeolite is prepared by the solid state ion exchange technique. The thiophene hydrodesulfurization is performed in a fixed bed reactor at high temperature and atmospheric pressure. The results show that the presence of CuY zeolite particles in CoMo/Al₂O₃ catalyst can have a noticeable effect on both the conversion and product selectivities. An increasing zeolite loading in catalyst results in a decrease of the thiophene HDS activity. This decrease is probably caused by the formation of heavy compounds and the deactivation of the zeolite at high temperatures