CATALYSIS ON POROUS MATERIALS

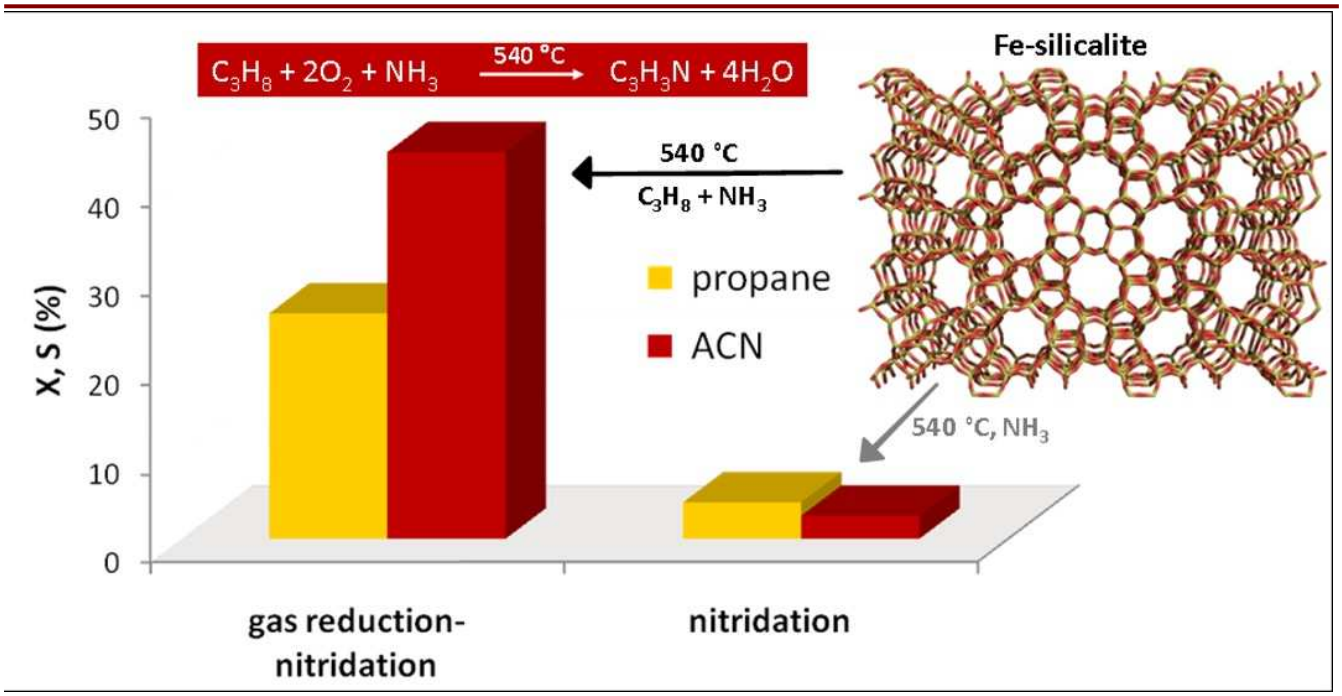
CATALYSIS TODAY

IF= 2.993

Effect of the pretreatment of Fe-silicalite on its activity in the ammoxidation of propane

R. Bulánek, K. Raabová, E. Baďurová

Catal. Today, 2012, 179 (1), pp 73-77



Abstract: The catalytic performance of Fe-silicalite activated by gas reduction-nitridation (GRN) was studied in the direct ammoxidation of propane with molecular oxygen as the only oxidizing agent. It has been demonstrated that the presence of the reducing agent, propane, is indispensable in order to obtain active catalyst. Relatively mild conditions of the pretreatment, temperature 540 °C, short time of the activation (5 h) and small flow of ammonia with propane resulted in the active and selective catalyst (44% selectivity to acrylonitrile at 25% conversion of propane). Pretreated catalyst reached interesting results also in the term of productivity. Moreover it was found out, that once nitrided catalyst does not deactivate and during the time on stream the selectivity to acrylonitrile does not decline.