

Synthesis of Mesoporous Mordenite by using Soft Template

김영기, 박상언*
인하대학교
(separk@inha.ac.kr*)

Mordenite has been used as catalysts for important reactions such as alkylation, and the production of diisopropyl naphthalene [1] due to its high thermal and acid stability. However, the pore of mordenite is still too small for large molecules to enter and will cause the diffusion problem. [2] And coking will easily block micropores of mordenite, and reduce the yields and life time of catalysts in catalytic reactions.

Many efforts have been devoted to overcome these problems. Among them, the inclusion of mesopores into mordenite crystals has been considered as most important method. In our previous work microwave synthesis has many advantages for reduce crystallization time and energy. In this work, we synthesized mesoporous mordenite by using soft template under the microwave irradiation. The introduction of mesopores into the mordenite crystals enhanced catalytic activities due to the reduction of diffusion path which will let the reactants easily access to the active site of Mordenite.

[1] P.K. Bajpai, Zeolites 6 (1986) 2.

[2] G.D. Lei, B.T. Carvill, W.M.H. Sachtler, Appl. Catal. A 42 (1996) 347.