

Zeolite synthesis in the tetramethylammonium-tetraethylammonium mixed-organic additive system

김광수, 김석한, 박종문, 홍석봉*
포항공과대학교 환경공학부
(sbhong@postech.ac.kr*)

The synthesis of zeolites UZM-5, UZM-9, offretite, and beta in the tetramethylammonium-tetraethylammonium two-organic component system, with or without some inorganic ions present, is described. Under the synthesis conditions studied here, the phase selectivity of the crystallization was found to depend on the crystallization temperature and the type of inorganic cations replacing a small portion of tetramethylammonium ions in the gel, as well as on the homogeneous mixing of synthesis mixtures at the crystallization temperature. The materials obtained are characterized by using different techniques including X-ray powder diffraction, elemental and thermal analyses, scanning electron microscopy, and multinuclear MAS NMR spectroscopies.