

## Crystal Growing of NaX Zeolite by Continous Crystallization Method

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The problem with zeolite crystals synthesized by conventional method is that they are extremely small of two to eight microns, To better define the structure of zeolite, scientist need to grow crystal that are 100 to 1000 times larger. In this work, NaX zeolite crystals of a uniform particle size of 50 $\mu$ m were grown by continuous crystallization method from seed crystals(20~30 $\mu$ m) in a 0.5g mother liquor having a composition 3.5Na<sub>2</sub>O : Al<sub>2</sub>O<sub>3</sub> : 2.1SiO<sub>2</sub> : 1000H<sub>2</sub>O. In order to investigate the crystal growing by continuous method, the mother solution with various H<sub>2</sub>O content supplied after 7 days, 5days, 3days and 1 day, respectively. The seeding resulted in an increase in the fraction of large crystals compared with unseeded batches and successfully led to an uniform NaX zeolite crystal. It was postulated that the seeding in the synthesis mixture leaded out increase of surface area for physical contact reaction and directed growth of seed crystal without the nucleation in the synthesis gel.