

The Effect Of Crystallization Time And Temperature On Hydrothermal Synthesis Of Zeolite NaX From Bongawan Kaolin

ABSTRACT

Hydrothermally synthesised zeolite NaX was produced by using kaolin procured from Kg. Gading, Bongawan. The kaolin was treated using sodium hexametaphosphate and calcined at 800oC to form metakaolin. Treated kaolin and prepared metakaolin were characterized using X-ray Fluorescence (XRF) and X-ray Diffraction (XRD). Reaction mixture was obtained by mixing metakaolin, sodium hydroxide and sodium silicate. The reaction mixture underwent aging for 15 hours before they were crystallized at various crystallization times (0 - 48 hours) and temperatures (80 – 130oC). The effect of crystallization time and temperature was studied using SEM and XRD. Optimum time and temperature for the synthesis was found to be 8 hours at 100 oC, respectively.