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Production of 100 Kg/Day Zeolite a Using Locally Fabricated Crystallizer from Nigeria Ahoko Kaolin

Authors : M. S. Haruna, A. R. Agava, N. J. Sani, A. S. Kovo

Abstract : The recent effort for cheaper raw material for the production of Zeolite A that is economically beneficial necessitated the reason for this work. The studies explore the use of locally fabricated crystallizer for the production of zeolite A using Nigeria Ahoko Kaolin as the main raw material. To achieve this intention, a systematic chemical engineering approach for the design of processes was adopted. Firstly a unique simplified flowsheet was developed, and then material and energy balance was conducted and finally followed by a detail design of the crystallizer. The summary of the result of the design showed that the optimum design parameters of 0.45 m and 1.125 were obtained for the diameter and height, respectively. The fabricated crystallizer was successfully tested for the production of Zeolite A, which is the expectation of this work.

Keywords : Zeolite A, design, crystallizer, Ahoko, Kaolin
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