

PREPARATION, MODIFICATION AND MORPHOLOGY OF ALUMINA AS ADSORBENTS

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Abstract

Alumina was prepared by a conventional precipitation method according to DeBore method. The prepared alumina was crushed and sieved using an automatic mechanical sieve, the portion from 60-80 mesh was selected and acid washed by 6 mol hydrochloric acid. The acid washed alumina was calcined at temperature 500 °C and hydrothermally treated at 220°C. The morphologies of prepared and modified alumina samples as solid adsorbents was studied via scanning electron microscope and depend on the precursor used in their preparation, calcinations temperature and the condition of the hydrothermal treatment. The SEM image of alumina shows particle shape, structure and reduction of particle size variation after heating at 1000°C, and the SEM of hydrothermal treatment shows a decrease also in the particle size forming aggregates composed of loosely packed plates.

Keywords; Alumina, morphology, calcination, hydrothermal treatmentsilylation, and

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