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APLICATIONS OF ACID-BASE TITRATION IN DETERMINATION OF SURFACE CHARGE FOR ALUMINA

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Abstract

The presence of alumina in the natural aquatic environments increases its applications in drinking and wastewater purification, in ceramics due to the interactions with organic and inorganic ions. The chemistry of alumina reactions in water is complex. The adsorption ability of alumina might be influenced by surface characteristics of the adsorbent (surface properties, density and pore volume, pore distribution, porosity, pH_{PZC}) as well as by the ionic strength, the pH of the solution, and the physiochemical properties of adsorbents.

The aim of the study is to evaluate the point of zero charge (pH_{PZC}) for alumina using the potentiometric “acid-base” titration and $NaNO_3$ like electrolyte solution. The pH_{PZC} for alumina was found to be 7.2, in a good correlation with the results obtained by other researchers.

Key words: alumina, surface charge, point of zero charge, acid-base titration method

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