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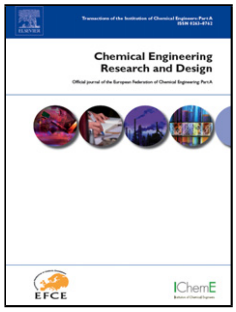

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Removal of phosphate and nitrate over a modified carbon residue from biomass gasification

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Abstract

Carbon residue is a by-product from the biomass gasification process in which heat and power are generated. In this study, carbon residue was chemically activated and the effect of this activation process on the adsorption properties was investigated. A chemically activated carbon residue was used as an adsorbent for the removal of phosphate and nitrate in an aqueous solution. The general idea is that the carbon residue could first be used as a low cost adsorbent for phosphate and nitrate ions removal e.g. from wastewaters, and after that it could be used as a nitrogen and phosphorus rich forest fertiliser.