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Multicycle CO₂ Capture Activity and Fluidizability of Al-based Synthesized CaO Sorbents

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Abstract

CaO-based materials have been identified as promising sorbents for highly efficient pre-combustion and post-combustion CO₂ capture in fluidized beds operated at high temperatures by means of the Calcium Looping (CaL) process. However, Ca-based sorbents suffer from a decline of the capture capacity over multiple sorption/desorption cycles, mainly due to sintering, and from a markedly heterogeneous fluidization behavior due to the strength of interparticle attractive forces as compared to particle weight. The present study is focused on the development

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