

Novel nanostructured potassium-based dry sorbents for high CO₂ capture efficiency

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Nanostructured potassium-based sorbents with different supports such as zirconia and titanium oxide (sorbents designated as N-KZrU30 and N-KTiU30) were prepared by ultra-sonication method to improve the CO₂ capture capacity. N-KZrU30 and N-KTiU30 sorbents possess some significant features like higher specific surface area and fine dispersed materials with nanosized scale range. Thus, N-KZrU30 and N-KTiU30 sorbents was anticipated to show excellent characteristics such as larger amount of CO₂ absorption, higher CO₂ absorption rate and fast regeneration ability.