

K계 TiO₂ 이산화탄소 흡수제의 이산화탄소 흡수능에 대한 구조 특성

채호진, 이수출, 권용목, 유천용, 박정제, 남현석, 임은지,
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The K₂CO₃-based sorbents developed in this study were prepared by the typical impregnation method of TiO₂ with K₂CO₃. The CO₂ absorption and regeneration characteristics of K₂CO₃-based dry sorbents were measured in a fixed bed reactor during absorption and regeneration cycles at low temperature conditions (CO₂ absorption at 60°C and regeneration at 200°C).

The CO₂ absorption properties of potassium-based TiO₂ sorbents prepared by calcining at various temperatures from 300°C to 700°C under N₂ and air were investigated in a fixed bed reactor at 60°C. The CO₂ capture capacity of the sorbent was changed dramatically depending on the structure of the sorbent, which was affected by calcination atmosphere, as well as calcination temperature.

These results were discussed through the structure effect of the fresh sorbents by XRD patterns.