

Effect of metal cation in MgO containing nitrate salt on CO₂ adsorption

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A variety of CO₂ capture technologies have been developed to reduce CO₂ responsible for global warming. In this study, various combination of metal salt in group I and II were impregnated onto MgO for CO₂ capture at 573 – 673 K. The obtained sorbents have been characterized with XRD, SEM and nitrogen adsorption-desorption method. The CO₂ adsorption ability of NaNO₃ impregnated MgO was found to have a high adsorption up to 30wt%, but its adsorption capacity was not stable and declined with the repeated capture-generation cycles. While NaNO₃ and Ba(NO₃)₂ impregnated into MgO showed the stable adsorption capacity in the cyclic measurement.