

### Regenerable hydrotalcite-based sorbents for CO<sub>2</sub> capture in pre-combustion process

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Hydrotalcite (HT)-based sorbents were prepared by the impregnation method with alkali metal. Their carbon dioxide (CO<sub>2</sub>) sorption properties were investigated in a typical fixed-bed reactor at intermediate temperature (200~400 °C) and high pressure (20 atm). The CO<sub>2</sub> capture capacities of the HT-based sorbents showed about 8~9 wt% at 200 °C and 20 atm. Although the CO<sub>2</sub> capture capacities of the HT-based sorbents were decreased during multiple cycles, those of sorbents were maintained after 2 cycle. In this study, we will discuss sorption properties and mechanism of the HT-based sorbents using XRD, BET, TG/DTA and TPD.