

## Mineralization of Carbon Dioxide Captured by Various Alkanolamines in Single Process

Murnandari Arti<sup>1,2</sup>, 윤민혜<sup>2</sup>, 정순관<sup>2,†</sup>, 강지민<sup>2</sup>

<sup>1</sup>UST; <sup>2</sup>한국에너지기술연구원

(jeongsk@kier.re.kr<sup>†</sup>)

Absorption and desorption of CO<sub>2</sub> from flue gas have been done in large points of pollution such as power plant or industrial process by Amine scrubbing process. This process gained its popularity because of the maturity. However, such method has the disadvantage in energy requirement hence substitute method becomes an interest globally. Mineralization of carbon dioxide to calcium carbonate is beneficial to the industry because of its moderate parameter condition. Moreover, calcium carbonate is stable and required in the industrial process. In this work, alkanolamine effects in mineralization are evaluated in term of calcium carbonate production. The combination of absorption of CO<sub>2</sub> and mineralization as desorption method is investigated as a novel process of utilizing CO<sub>2</sub>. Working capacity of each amine is evaluated in order to find out the effectiveness of single process absorption and mineralization over thermal treatment.