

### Kinetics of reaction of CO<sub>2</sub> with Hydrazine

김정환, 김희용, 황성준, 이광순\*  
서강대학교  
(kslee@sogang.ac.kr\*)

The absorbents of aqueous CO<sub>2</sub> capture process are often amine solutions like MEA or piperazine derivatives. The problem of existing amines solutions is a lot of regeneration heat that is needed when solution loaded CO<sub>2</sub> is unloaded. So in order to reduce regeneration heat, a lot of novel amines are studied these days. Among them, I studied kinetics of reaction of Hydrazine(N<sub>2</sub>H<sub>4</sub>) with CO<sub>2</sub>. I conducted Wetted wall column (WWC) experiment which can show how fast CO<sub>2</sub> is absorbed into Hydrazine Solutions. As a result of the WWC experiment, the rate of CO<sub>2</sub> absorption in Hydrazine solution is about twice as fast as that of MEA solution. With the data from WWC experiment, the rate constants of each rate equations were found for the reaction mechanism of CO<sub>2</sub> absorption in Hydrazine by using Aspen plus.