

## A feasibility study of the solvent regeneration using the deacidizing method in the absorption CO<sub>2</sub> capture process

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Chemical absorption is the most popular technology to capture CO<sub>2</sub>. In general chemical absorption process, the solvent such as amines is used in the absorber and the solvent is regenerated through the stripper. In the recent proposed process, the absorption part is same to previous process but, solvent regeneration part is changed to reduce energy cost. Instead of distillation, the regeneration part consists of desorption process to remove CO<sub>2</sub> from solvent adding an acid and separation process to reduce the acid from recycling solvent. A problem in the proposed process is that the acid makes the efficiency of absorption process worse although the acid has influence on getting better to save energy in desorption process. This work is focused on finding appropriate compositions to form LLE phase in the stream after the desorption process and the minimum amount of the acid in the recycling stream.