

Process design and analysis of calcium formate synthesis process

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Carbon dioxide is one of the major components of the greenhouse gas and the research of CO₂ capture and utilizing technology is getting important. In this study, we suggest the design of calcium formate synthesis process starting from CO₂ hydrogenation using triethylamine and Ru-based heterogeneous catalyst with hydrogen from bio-gas reforming process. The capacity of process is about 100 kton_{Ca(HCOO)₂}/yr. The process is designed by commercial software and it is analyzed economically and environmentally based on 0.5% of amine loss assumption.