Studies on the Optimization of Methanol Process including Steam CO_2 reforming

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Most of methanol was produced from synthesis gas prepared by the gasification of coal or bio-mass and the reforming of natural gas in fuels industry. To achieve better fuel efficiency and satisfy the strong regulation of environment, the optimization of the process and catalytic reactor system are important. However, using methanol as alternative fuel is too expensive to commercialize. Therefore it has been interested to find solution which reduces the cost of methanol. One of the solutions is to utilize the stranded gas as feed stocks for the production of methanol.
It was found that the methanol synthesis process using steam carbon dioxide reforming (SCR) was a desirable process based on the optimization of the efficient recycle process and the design of distillation column using the commercial simulation tools.