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Post-combustion CO_2 capture by aqueous ammonia: A state-of-the-art review

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ABSTRACT

CO_2 emission by fossil fuel combustion has been considered as a leading contribution to the increasing atmospheric CO_2 concentration and the global greenhouse effect. As a chemical absorption method and technology to control CO_2 from post-combustion flue gas, CO_2 capture by aqueous ammonia is paid more and more attention for its advantages of high efficiency, low investment and convenient operation. In this paper, the advances in fundamental research on post-combustion CO_2 capture by aqueous ammonia, focusing on the process chemistry, effect of reaction parameters on absorption efficiency, absorption process intensification and simultaneous capture with other pollutants, were critically summarized and reviewed. In addition, future potential in research and development of CO_2 absorption by aqueous ammonia were also briefly prospected and discussed.

Contents

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