

RESEARCH PAPERS

MDEA与哌嗪、二乙醇胺混合溶液吸收二氧化碳速率研究

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**摘要** Absorption rate of CO<sub>2</sub> into aqueous solution of N-methyldiethanolamine (MDEA) blended with di-ethanolamine (DEA) and piperazine (PZ) was studied and a kinetic model was established. It is shown that homogeneous activation mechanism could explain this absorption process. The absorption rate coefficients of carbon dioxide into MDEA aqueous solution blended with DEA, PZ or DEA+PZ were compared with each other. The results demonstrated that the different activation effect of DEA, PZ and DEA+PZ on the carbon dioxide absorption comes from the difference in CO<sub>2</sub> combination rate, transport of PZ and DEA to MDEA and the regeneration rate of PZ and DEA.

**关键词** [absorption](#) [kinetics](#) [N-methyldiethanolamine](#) [piperazine](#) [diethanolamine](#)

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**Absorption Rate of CO<sub>2</sub> into MDEA Aqueous Solution Blended with Piperazine and Diethanolamine**

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**Abstract** Absorption rate of CO<sub>2</sub> into aqueous solution of N-methyldiethanolamine (MDEA) blended with di-ethanolamine (DEA) and piperazine (PZ) was studied and a kinetic model was established. It is shown that homogeneous activation mechanism could explain this absorption process. The absorption rate coefficients of carbon dioxide into MDEA aqueous solution blended with DEA, PZ or DEA+PZ were compared with each other. The results demonstrated that the different activation effect of DEA, PZ and DEA+PZ on the carbon dioxide absorption comes from the difference in CO<sub>2</sub> combination rate, transport of PZ and DEA to MDEA and the regeneration rate of PZ and DEA.

**Key words** [absorption](#); [kinetics](#); [N-methyldiethanolamine](#); [piperazine](#); [diethanolamine](#)

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