

## RESEARCH PAPERS

有无静态混合器时的机械搅拌气升式环流反应器传递特性研究

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**摘要** The mechanically stirred internal loop airlift reactors equipped with or without static mixers are devised for intensification of gas-liquid mass transfer rate. The influences of superficial gas velocity, agitation or static mixers on gas hold-up, mixing time, liquid circulating velocity and volumetric mass transfer coefficient have been investigated with tap water and carboxymethyl cellulose (CMC) aqueous solution. The experimental results indicate that mechanical agitation is more efficacious than static mixer in highly viscous media for improving mass transfer in airlift reactors. The empirical correlation of volumetric mass transfer coefficient with apparent viscosity, and energy consumption for mechanical agitation and aeration is developed.

**关键词** [airlift loop reactor](#) [static mixer](#) [stirrer](#) [hydrodynamics](#) [mass transfer](#)

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### **Transfer Characteristics in Mechanically Stirred Airlift Loop Reactors with or without Static Mixers**

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**Key words** [airlift loop reactor](#); [static mixer](#); [stirrer](#); [hydrodynamics](#); [mass transfer](#)

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