

Effective CO₂ Capturing Using Modified Amine-Based Solution

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The increasing accumulation of CO₂ in the atmosphere has resulted in global warming effects and serious environmental problems; therefore, the development of efficient methods for capturing CO₂ from gas stream is critically important. Although the amine-based solution, in particular aqueous monoethanolamine (MEA), is still employed in conventional absorber-stripper tower for its effectiveness, there are several drawbacks exist such as volatility, corrosiveness, degradation, and intensive energy consumption for regeneration of absorbent. To develop the more effective, robust, and environmentally friendly CO₂ absorbent, we have introduced various modified amine solutions and investigated their CO₂ absorption performance.