

Characteristics of Multipurpose Amines for Acidic Gases in Absorption System

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Recently, the absorption process of acidic gases (NO_x , SO_2 , and CO_2) has been highlighted for industrial purposes because of the global warming and environmental problems. However, it is hard to develop one multi-functional absorbent for absorbing acidic gases due to several reasons: different reaction properties and mechanisms, etc.

This study is searching for an absorbent which absorbs acidic gases at the same time. Several chemicals of candidates were tested in this study: hindered amine series, amino acid series, cyclic amine series, and piperazine series. Each amine series was compared by suitable chemical structure and calculated basicity which seems to be an important role of absorbing acidic gases. Absorption equilibrium data of these candidates were measured using the differences of partial pressure and cyclic process of the best candidate was collected. Also, corrosion and degradation experiments will be carried out.