

Absorption Characteristics of New Multipurpose Amines for Acidic Gases

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In recent years, the removal of acidic gases (NO_x, SO₂, and CO₂) has been investigated for industrial purposes because of the global warming and environmental problems. However, it is hard to develop one multi-functional absorbent for removing acidic gases due to several reasons: different reaction properties and mechanisms, etc.

This study is developing for an absorbent which absorbs acidic gases at the same time. Among several candidates, KIER-C3, C5, H1, H2, and G1 were selected and tested in with CO₂ and SO₂ gases and compared to known absorbent such as MEA, AMP, and MDEA. Each candidate 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 in CO₂ and SO₂ 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.