

Mixed Amine Grafted to Silica for CO₂ Capture

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(3-Aminopropyl)trimethoxysilane (1NS) and N-(3-Trimethoxysilylpropyl)diethylenetriamine (3NS) are commonly used amino organosilanes in amine-grafted silica adsorbents for CO₂ capture. In this study, 1NS and 3NS was mixed at varying ratio to investigate potential enhancement of the desirable qualities of the individual amines. Thermogravimetric analysis (TGA) and in-situ IR were used to characterize the adsorbents. The mixed amine showed enhanced grafting efficiency and CO₂ capture capacity than the corresponding individual amines.