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(57) Abstract

Hydrotalcite-like materials are stable in the crystalline oxide structure and essentially reversible in anion exchange. A novel process of sulfur oxide sorption is provided utilizing these hydrotalcite materials as contact solids. Large crystalline sheet materials having increased sorption of SO_x are provided by incorporation of certain organic acid anionic species to modify the hydrotalcite/brucite structure. Typical industrial applications include sulfur removal from fluid catalyst cracking process, cold-side combustion gas sulfur abatement and cleaner coal gasification.