

Effect of Co^{2+} co-cation on the NH_3 -SCR activity of Cu-SSZ-13.

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Cu-SSZ-13 has been successfully commercialized in the aftertreatment system for reducing emitted NO_x by the selective catalytic reduction with NH₃ (NH₃-SCR). However, as global regulations on NO_x emission are getting more stringent, the development of catalysts with higher NO_x abatement ability is becoming more important. Here, we investigate the effect of Co²⁺ co-cation on the SCR reactivity of Cu-SSZ-13. Based on the characterization methods, we revealed that introducing Co²⁺ co-cation change the location of Cu ion species in the Cu-SSZ-13 catalysts. It leads to change in the properties of Cu ion, and as a result, the cobalt introduced Cu-SSZ-13 catalysts demonstrated a higher SCR reactivity than conventional Cu-SSZ-13 catalyst.