

## Application of ceria-zirconia prepared by continuous hydrothermal synthesis in supercritical water as support of Rh catalyst for catalytic reduction of NO by CO

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Ceria-zirconia mixed oxide has the oxygen storage/release capacity (OSC) and is widely used as a promoter, for example in the three-way catalyst. However, ceria-zirconia mixed oxide has potential applications as catalyst support due to its high surface area, thermal stability, and OSC. Continuous hydrothermal synthesis in supercritical water (supercritical synthesis) was used as a new synthesis method to obtain ceria-zirconia mixed oxide with higher thermal stability and better OSC, compared to the conventional co-precipitation method. In this work, Rh was impregnated on ceria-zirconia mixed oxides prepared by supercritical synthesis and co-precipitation method. The activity of Rh-loaded ceria-zirconia for catalytic reduction of NO by CO and their characteristics and thermal stability were investigated through physicochemical characterizations with TPR, N<sub>2</sub> adsorption, O<sub>2</sub>-uptake, XRD, SEM, AES, H<sub>2</sub> and CO chemisorption.