

## Ni/SiO<sub>2</sub> Catalysts with Different Ni Particle Size for Dry Reforming of Methane with High Activity and Durability

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Recently, a demand for alternative energy resource has increased due to lack of fossil fuel and greenhouse effect caused by the gases such as CO<sub>2</sub> and CH<sub>4</sub>. Not only to reduce greenhouse gas but also generate valuable chemical compounds (e.g. syn-gas), dry reforming of methane (DRM) reaction has been studied actively. Among various metal catalysts, Ni catalysts show high activity for this reaction with a low cost, but have poorer stability than precious metal catalyst because of its deactivation via particle sintering and coke formation.

In this study, we prepared supported Ni catalysts with various particle sizes minimizing agglomeration and checked size effect of Ni particle for this reaction. Characterization of catalysts and estimation of dry reforming of methane reaction activities were also carried out. The synthesized catalysts were characterized by (HR)TEM, XRD, ICP, etc.