

Catalytic Filter Media Synthesis of Noble Metals Doped on Alumina Nanofibers

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Abstract

Noble metals (Pd, Pt, and Rh) doped on the alumina ceramic nanofibers are synthesized by electrospinning polymer – metal organic mixtures. For reducing diesel gas emissions, these metals can be used as a catalyst for oxidation of CO and decomposition of NO simultaneously. The most common method of supporting the noble metal particles is by wet impregnation on alumina microspheres. We predict that the filter made from these nanofibers will have good performance. The reason for better performance is the high-surface area obtained from the nanofibers. This paper will discuss the recent developments to make ceramic nanofiber filter media and catalytic reactions.