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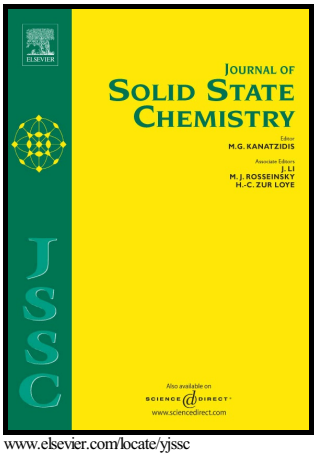

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Nano Sheets, Needles And Grains-like CuO/γ-Al_2O_3 Catalysts' Performance In Carbon Monoxide Oxidation

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Abstract

This research deals with the preparation, characterization and shape dependent performance of copper oxide nanomaterials (CuO NMs) in simple carbon monoxide (CO) oxidation catalysis. Uniform and high purity rice grains-like, needle-like and sheet-like CuO NMs were achieved by adopting different experimental conditions. The shape selective CuO NMs were physically mixed and re-pelletized with γ-Al_2O_3 thus 1 wt.% CuO/γ-Al_2O_3 catalyst was prepared. The catalysts exhibited good surface area (186-190 $m^2 g^{-1}$), crystallinity, thermal stability and metal dispersion. The performance of various shape CuO/γ-Al_2O_3 catalysts in CO