



“Gheorghe Asachi” Technical University of Iasi, Romania



Air pollution

SnO₂-CeO₂ OXIDATION CATALYSTS

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Abstract

The aim of this work was to obtain ceria-based catalysts with improved oxidation properties by adding tin dioxide (5, 10 and 20 wt %) and using the co-precipitation method of preparation. The samples were characterized by BET, ESEM, and DRIFT spectroscopy. The activity of SnO₂-CeO₂ catalytic systems in CO oxidation was studied between room temperature to 673 K. It was found that the increase of SnO₂ content obviously increases the low temperature CO conversion. However, at 673 K all the samples reach almost the same conversion of around 98-99%. The surface acidity was studied by NH₃ adsorption in order to better understand the mechanism of CO transformation to CO₂.

Key words: CO oxidation, morphology, NH₃ pulse chemisorptions, SnO₂-CeO₂ co-precipitated catalyst

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