



Highly effective oxide catalyst for the detoxification of oil mill wastewaters by the wet air oxidation process

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ABSTRACT

The performance of a model MnCeO_x catalyst (Mn_{at}/Ce_{at} 1) in the catalytic wet air oxidation of p-cumaric acid and a "real" Olive oil mill wastewater (OMW) has been thoroughly assessed. Experimental results in the temperature range of 383–433 K and pressure range of 1.0–1.5 MPa document a high purification efficiency of the MnCeO_x system toward both p-cumaric acid and OMW, along with a high mineralization activity leading to CO₂ selectivity values of 60 and 50% (433 K) for p-cumaric acid and OMW, respectively. Stability tests indicate a high resistance of the catalyst against deactivation phenomena by fouling.

Keywords: Mineralization; Purification; p-cumaric acid; Olive mill wastewater; Abatement

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