# Synthesis, characterization and activity in cyclohexene epoxidation of V2O5-TiO2 anatase xerogel

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**Résumé**
The system of V2O5-TiO2 catalysts with V2O5 contents from 5 to 20 wt% were prepared by the sol-gel route and calcined at 500 A degrees C. The mixed oxide series presented the crystalline structure of TiO2 anatase phase. BET analysis showed a medium surface area decreasing from 73 to 19 m(2) g(-1) when V2O5 content rose from 5 to 20 wt%. The results of pyridine adsorption followed by FT-IR indicate that the catalysts display identical surface acid densities, independently of the V2O5 content, and both Bronsted and Lewis acid sites are present on their surfaces. The V2O5 system presents an activity and selectivity during the cyclohexene oxidation reaction. The presence of V2O5 increases the catalyst efficiency and leads to a selectivity change from cyclohexenol (blank test) to epoxide, with a maximum for 15 wt% V2O5. The conversion of cyclohexene was 46 % while the selectivity to epoxide was higher (75 %).

**Langue**
Anglais