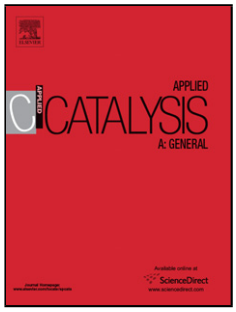

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Gas phase synthesis of isopropyl chloride from isopropanol and HCl over alumina and flexible 3-D carbon foam supported catalysts

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Abstract

Isopropyl chloride synthesis from isopropanol and HCl in gas phase over $ZnCl_2$ catalysts supported on Al_2O_3 as well as flexible carbon foam was studied in a continuous reactor. The series of catalytic materials were synthesised and characterised by BET, XPS, SEM, TEM, XRD and NH_3-TPD methods. Catalytic activity tests (product selectivity and conversion of reactants) were performed for all materials and optimal reaction conditions (temperature and feedstock flow rates) were found. The results indicate that the highest yield of isopropyl chloride was obtained over 5 wt. % $ZnCl_2$ on commercial Al_2O_3 (No. II) (95.3 %). Determination of product mixture compositions and by-product identification were done