Mechanochemical-treated Cr-promoted Vanadyl Pyrophosphate Catalyst for n-Butane Oxidation to Maleic Anhydride

Abstract

Cr-promoted vanadium phosphate (VPO) catalyst was synthesized by mechanotreating VOHPO40.5H2O in cyclohexane for 2 hr using a high energy planetary ball miller followed by calcination in a flow of n-butane/air mixture at 673 K. The physico-chemical properties of the sample were investigated by several characterization techniques such as BET, XRD, redox titration, SEM, and TPR. The data were compared to the unmilled material. BET surface area measurement of the milled catalyst showed that it possesses higher surface area (13.2 m2 g

Keyword: butane oxidation, maleic anhydride, mechanochemical, vanadium phosphate