V_2O_5-TiO_2 Xerogel Prepared by Non-hydrolytic Sol-Gel Method for the Selective Oxidation of H_2S

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Vanadia-titania xerogel catalysts with V2O5 contents varying form 6 to 18 wt% were prepared by nonhyrolytic sol-gel method. The catalysts were then characterized by X-ray diffraction, BET, micro-FT-Raman spectroscopy. In this study, we examined the selective oxidation of hydrogen sulfide using V2O5-TiO2 xerogel catalysts. These catalysts showed very high conversion of H2S without harmful emission of SO2. The conversion of H2S was over 92% at 220-300℃ with the reactant composition of H2S/O2/H2O/He = 5/2.5/20/72.5 and GHSV = 30,000 h-1.