

Influenced of Organic Species on the Characteristics of Mo-V Oxide

Abstract

This study investigates on the effect of organic species on the characteristics of molybdenum-vanadium mixed oxide catalysts. The MoV precursors were prepared by homogeneous precipitation method using urea hydrolysis. The oxides were later treated with three organic species namely polyvinyl alcohol (PVA), malic acid (MA) and adipic acid (AA). The solutions were refluxed in a prescribed time. The solid obtained were calcined and subsequently denoted as MoV(PVA), MoV(MA) and MoV(AA). Interesting results in which high surface area values (SBET) were obtained in the range between 10 to 20 m² g⁻¹. XRD reckoned the samples are in highly crystalline form. H₂-Temperature programmed reduction analysis showed that the total number of oxygen removed are 1.4 x 10²² atoms g⁻¹, 3.3 x 10²² atoms g⁻¹ and 1.8 x 10²² atoms g⁻¹ for MoV(PVA), MoV(MA) and MoV(AA) respectively.

Keyword: Mo-V oxides, homogeneous precipitation, organic species, H₂-TPR