

Photoreduction of nitrogen and water on montmorillonite clays loaded with hydrous ferric oxide

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(Received September 18, 1990; in revised form January 15, 1991)

Abstract

Montmorillonite clays with interlamellar cations replaced by oligomeric hydrous ferric oxides convert nitrogen to NH_3 and H_2O to hydrogen with higher efficiencies than hydrous ferric oxide alone. The enhanced activity is attributed to the larger surface area presented by the clay and to the retardation of NH_3 photo-oxidation.