**A Novel Method for Preparation of Rhenium Catalyst for Ammonia Synthesis**

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**Abstract**

 Alumina-supported Cs[Re(SCN)6] precursor has been prepared for ammonia synthesis. Cs[Re(SCN)6] has been synthesized from the reaction of ReCl5 with molten NH4SCN. The complex has been characterized by elemental analysis and various spectral techniques such as FT-IR and UV-Vis. The complex was supported on γ-Al2O3 by use column chromatography. Cs[Re(SCN)6]/Al2O3 was calcined at 600oC for 6h. Characterization of both precursor and calcined catalyst were carried out using XRD, XRF, BET specific surface area and thermal analysis methods (TGA/DSC).

*Keywords*: Rhenium catalyst; Ammonia synthesis; Precursor; XRD, BET