

## Oxidative Desulfurization of 4, 6 dimethyl Dibenzothiophene and Light Cycle Oil over Supported Molybdenum Oxide Catalysts

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Alumina, silica-alumina and magnesia-alumina supported unpromoted and bismuth promoted 15wt% molybdenum oxide catalysts were prepared and characterized by XRD, surface area and oxygen chemisorption. The catalysts were evaluated for the oxidative desulfurization (ODS) of 4, 6 dimethyl dibenzothiophene to the corresponding sulfone using tert-butyl hydroperoxide as oxidant. Among all the catalysts examined, Bi-Mo/Siral1 exhibited the best catalytic property. The catalyst also showed high conversion with appreciable stability until 300h during ODS of Light Cycle Oil (LCO) in batch and fixed bed reactors. The performance of the catalysts was discussed in terms of molybdenum oxide dispersion and acidity of the support.