

## Mechanisms Of Hydrodesulfurization And Hydrodenitrogenation Short Reviews

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#### **Mechanisms Of Hydrodesulfurization And Hydrodenitrogenation**

Deep hydrodesulfurization (HDS) technology must be implemented to attain this low level of sulfur. Nitrogen-containing compounds are harmful in deep HDS, as they inhibit the HDS of sulfur-containing compounds through competitive adsorption , , , . This was less of a problem in the past, because the amount of nitrogen-containing molecules in desulfurized naphtha and gas oil was still much smaller than that of the remaining sulfur-containing molecules.

#### **Mechanisms of hydrodesulfurization and hydrodenitrogenation**

The hydrodesulfurization of dibenzothiophene and the hydrodenitrogenation of quinoline were investigated both individually and simultaneously as a mixture over an unsupported synthetic MoS<sub>2</sub> catalyst.

#### **Mechanisms of hydrodesulfurization and ...**

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#### **Mechanisms of hydrodenitrogenation and ...**

Many proposed HDS mechanisms invoke the action of the surrounding sulfur atoms, [41,42] and/or multiple metal centers, [43, 44] in MoS<sub>2</sub> to facilitate the hydrodesulfurization of thiophene. Such ...

#### **Organometallic Modeling of the Hydrodesulfurization and ...**

Hydrodesulfurization and Hydrodenitrogenation Hydrodesulfurization (HDS) and hydrodenitrogenation (HDN) are the processes by which sulfur and nitrogen-containing impurities are removed from crude petroleum feedstocks and fuels, and thereby comprise the largest volume and most important industrial catalytic application of transition metals.

#### **HDS & HDN - Columbia University**

Hydrodesulfurization (HDS) and hydrodenitrogenation (HDN) are large-scale commercial processes that occur when petroleum feedstocks are treated with hydrogen (H<sub>2</sub>) at moderately high pressures and temperatures. During the reactions, the organosulfur and organonitrogen molecules liberate H<sub>2</sub>S and NH<sub>3</sub>. The process results in the production of hydrocarbon fuels with low levels of sulfur and nitrogen.

#### **Hydrodesulfurization & Hydrodenitrogenation - Angelici ...**

The fields of hydrodesulfurization (HDS) and hydrodenitrogenation (HDN) continue to attract the attention of researchers in the various disciplines

connected to these fascinating problems that represent two of the key outstanding chemical challenges for the petroleum refining industry in view of their very strong environmental and commercial implications.

### **Organometallic Modeling of the Hydrodesulfurization and ...**

The simultaneous hydrodenitrogenation (HDN) of alkylamines and hydrodesulfurization (HDS) of alkanethiols, with the NH<sub>2</sub> and SH groups attached to primary, secondary, and tertiary carbon atoms, were studied at 270–320 °C and 3 MPa over sulfided NiMo/Al<sub>2</sub>O<sub>3</sub>, CoMo/Al<sub>2</sub>O<sub>3</sub>, and Mo/Al<sub>2</sub>O<sub>3</sub> catalysts.

### **Mechanisms of hydrodenitrogenation of alkylamines and ...**

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### **Hydrodesulfurization and Hydrodenitrogenation - GBV**

not discussed, but the mechanisms of hydrodesulfurization and inhibition are summarized. Catalyst deactivation and reactor design are also briefly reviewed. New approaches to achieve deep hydrodesulfurization are pro-posed. Keywords Hydrotreating, Hydrodesulfurization, Hydrodenitrogenation, Diesel fuel, Gasoline