A review on the oil-soluble dispersed catalyst for slurry-phase hydrocracking of heavy oil

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Abstract

Nowadays, unconventional-oil becomes a potential candidate for satisfying the world's energy demands due to the scarcity of other energy sources. However, it contains many impurities, such as heavy metal, sulfur-compounds, and nitrogen-compounds, and leads to quick deactivation of catalyst, high coke formation, and large pressure drop during the operation of a fixed bed or E-bed. Slurry phase hydrocracking (SHC) with the presence of oil-dispersed catalyst has been proven to be the best solution to overcome those problems. In oil-dispersed, the metal precursor, dispersion ability, and additive strongly affect the catalyst performance, and are all reviewed in this paper.

Graphical abstract

Keywords
Slurry-phase hydrocracking; Oil-dispersed catalyst; Heavy oil process

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