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(54) Title: CATALYST COMBINATION AND TWO-STEP HYDROPROCESSING METHOD FOR HEAVY HYDROCARBON OIL

(57) Abstract: A method is disclosed for hydroprocessing a heavy hydrocarbon oil, comprising a first hydroprocessing step of bringing a heavy hydrocarbon oil into contact with a Catalyst (1) with a certain specific surface area and pore size distribution in the presence of hydrogen in a first reaction zone containing the Catalyst (1), and a second hydroprocessing step of bringing the hydroprocessed oil obtained from the first reaction zone into contact with a Catalyst (2) with a certain specific surface area and pore size distribution in the presence of hydrogen in a second reaction zone containing the Catalyst (2). The method is an improvement in decreasing or inhibiting the sediment formation, while highly hydroprocessing a heavy hydrocarbon oil containing a large amount of impurities such as sulfur, micro carbon residue (MCR), metals, nitrogen and asphaltene, especially a heavy oil containing a large amount of heavy vacuum residue, to adequately remove the impurities.



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