

ABSTRACT

A hydrocracking catalyst has a carrier that has particles of a compound oxide and a binder present between these particles, and at least one metal component selected from Group 6, Group 9 or Group 10 of the Periodic Table supported on the carrier. The catalyst has a median pore diameter of 40 to 100 Å and the volume of pores whose pore diameter falls within a range of 40 to 100 Å is at least 0.1 mL/g. Moreover, the volume of pores of the catalyst whose pore diameter falls within a range of 0.05 to 5 µm is 0.05 to 0.5 mL/g, and the volume of pores whose pore diameter is 0.5 to 10 µm is less than 0.05 mL/g. This catalyst is mechanically strong enough for practical use and has a high conversion rate and middle distillate selectivity in hydrocracking of hydrocarbon oils, particularly vacuum gas oil.



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