

Abstract

The present invention relates to a heavy oil catalytic cracking catalyst having a high yield of light oil and preparation methods thereof. The catalyst comprises 2 to 50% by weight of a magnesium-modified ultra-stable rare earth type Y molecular sieve, 0.5 to 30% by weight of one or more other molecular sieves, 0.5 to 70% by weight of clay, 1.0 to 65% by weight of high-temperature-resistant inorganic oxides, and 0.01 to 12.5% by weight of rare earth oxide. The magnesium-modified ultra-stable rare earth type Y molecular sieve is obtained by the following manner: the raw material, a NaY molecular sieve, is subjected to a rare earth exchange, a dispersing pre-exchange, a magnesium salt exchange modification, an ammonium salt exchange for sodium reduction, a second exchange and a second calcination. The catalyst provided in the present invention is characteristic in its high conversion capacity of heavy oil and a high yield of light oil.