

ABSTRACT

The present invention provides a process in which, in producing lower olefins comprising ethylene and propylene as main components by catalytically cracking hydrocarbons containing olefins having 4 to 12 carbon atoms by use of a zeolite catalyst, the production of by-products such as hydrogen, saturated hydrocarbon, aromatic hydrocarbon and cokes is controlled, the extent of the long-term deterioration of the catalyst is small, and ethylene and propylene are produced selectively and with high productivity, even when the raw material containing a relatively large amount of the diene compound is used.

The process of the present invention is a process for producing olefins lower than the raw materials by catalytically cracking a hydrocarbon raw material including olefin by use of a catalyst, which is a process for producing ethylene and propylene which comprises catalytically cracking by use of a catalyst a hydrocarbon raw material which contains at least one kind of olefin having 4 to 12 carbon atoms and 10 to 70 wt% of at least one kind of saturated hydrocarbon having 1 to 12 carbon atoms at a raw material feed rate per unit weight of catalyst (WHSV) of 32 to 256 hr^{-1} at a reaction temperature of 400 to 580°C under a reaction pressure of 0.05 to 2 MPa in the presence of a catalyst containing an MFI type zeolite catalyst.