

ABSTRACT

The object of the present invention is to provide a production method of an α -olefin low polymer, wherein a low polymer of an α -olefin is obtained in high yield. The present invention relates to that when an inert gas is allowed to exist in a gas phase part of a reactor 10 in the proportion of from 0.010 to 50.00% by volume, and an α -olefin is subjected to low polymerization reaction in a solvent in the presence of a chromium series catalyst comprising a chromium compound (a), at least one nitrogen-containing compound (b) selected from the group consisting of an amine, an amide and an imide, and an aluminum-containing compound (c), an unreacted α -olefin and the solvent separated from a reaction liquid are circulated into the reactor 10, and where the proportion of the inert gas in the gas phase exceeds 50.00% by volume, the inert gas is discharged outside the reaction system from a gas phase part of the reactor 10 and/or a circulation piping 21 of an unreacted α -olefin.