

ABSTRACT OF THE DISCLOSURE

The present invention intends to provide a method of producing a polyolefin composition having a narrow composition distribution and having narrow molecular weight distribution, and is characterized in that when at least two olefins are copolymerized in the presence of a transition metal compound catalyst using at least two gas phase fluidized bed reactors, a saturated aliphatic hydrocarbon is allowed to exist in each reactor in a concentration from 0.1 to 30 mol%, and the ratio of the concentration (C_2) of a saturated aliphatic hydrocarbon in a reactor of a second stage to the concentration (C_1) of a saturated aliphatic hydrocarbon in a reactor of a first stage (C_2/C_1) is 0.13 or more. Further, the present invention intends to provide a method of producing a polyolefin composition by multi-stage polymerization, which can prevent sheeting in the reactor and can give a polyolefin composition stably with high productivity, and is characterized in that a saturated aliphatic hydrocarbon is allowed to exist in a transport line for transporting a polymer particle extracted from a fluidized bed reactor in the previous stage to a fluidized bed reactor in the subsequent stage at a concentration from 0.1 to 30 mol%.