ABSTRACT

A method for controlling a hydroformylation reaction for producing an aldehyde by subjecting an olefin, a feed oxo gas containing hydrogen and carbon monoxide, and a recycled gas withdrawn from a reactor and returned to the reactor, to a hydroformylation reaction in the reactor in the presence of a catalyst, which comprises:

setting out a target value for the partial pressure of carbon monoxide in the reaction system to control the hydroformylation reaction;

detecting the partial pressure of carbon monoxide corresponding to the target value; and

comparing the detected partial pressure of carbon monoxide with the target value to adjust a flow rate of a discharged gas from the reactor; or

comparing the detected partial pressure of carbon monoxide with the target value to adjust a flow rate of the feed oxo gas.

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