

Abstract

Disclosed is a process for preparing an oxygen-containing organic compound through a hydroformylation reaction, which includes: 1) in the presence of a hydroformylation catalyst and at a first reaction temperature, contacting an organic compound having 2-60 carbon atoms and at least one carbon-carbon double bond with a syngas to perform the hydroformylation reaction to obtain a reaction mass containing the oxygen-containing organic compound and heavy matter, and the first reaction temperature is 60-150 °C; and 2) in the presence of syngas and at a second reaction temperature, the reaction mass obtained in step 1) is continued to react, to decompose the heavy matter contained therein, resulting in a reaction product with a decrease in the content of the heavy substances and an increase in the content of the oxygen-containing organic compound, wherein the second reaction temperature is higher than the first reaction temperature by 20-100 °C. The process permit to achieve a reduced alkane selectivity and an improved alcohol selectivity; and permit to reduce the content of heavy matter in the product, significantly reduce the amount of discarded materials, reduce waste liquid discharge, is beneficial to environmental protection, and has industrialization prospects.

No Figure