

Preparation of aldehydes

Abstract

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In a process for preparing aldehydes or aldehydes and alcohols by hydroformylation of olefins in the presence of a catalyst complex which is homogeneously dissolved in the reaction mixture and comprises a metal of group VIIIa of the Periodic Table of the
10 Elements and as ligand a phosphorus-free, polydentate nitrogen compound capable of complex formation, at from 50 to 100°C and pressures of from 20 to 1000 bar, and recycling of the catalyst complex to the hydroformylation reaction,

- 15 a) the ligands used are modified polyamines which are essentially insoluble in water, are capable of complex formation, have a mean molecular weight of greater than 1000 dalton and contain at least 10 nitrogen atoms,
- 20 b) after the hydroformylation reaction is complete and the aldehydes and alcohols have been separated or partially separated from the reaction mixture by distillation, the catalyst complex and excess ligand remaining in the distillation bottoms are completely or partially recycled to
25 the hydroformylation and
- c) at least part of the high boilers are bled off, continuously or at least batchwise, from the bottoms from the distillation of the reaction mixture.

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