

Preparation of aldehydes and/or alcohols or amines

Abstract

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A process for the preparation of aldehydes and/or alcohols or amines by reacting olefins in the liquid phase with carbon monoxide and hydrogen, a part of these gases being dispersed in the form of gas bubbles in the reaction liquid and another part
10 being dissolved in the reaction liquid, in the presence or absence of a primary or secondary amine and in the presence of a cobalt carbonyl, rhodium carbonyl, palladium carbonyl or ruthenium carbonyl complex dissolved homogeneously in the reaction liquid and having a phosphorus-, arsenic-, antimony- or
15 nitrogen-containing ligand, at elevated temperatures and at 1 to 100 bar, wherein the reaction is carried out in a vertically arranged, tubular reactor comprising a reactor body and at least one circulation line, a part of the reaction liquid is fed continuously via the circulation line to at least one nozzle
20 which is mounted in the upper part of the reactor body and is coordinated with a guide member, open at the top and bottom and bounded by parallel walls, in the interior of the reactor and with a baffle present below the lower opening of the guide member, and a downward-directed liquid stream containing
25 dispersed gas bubbles is produced by means of this nozzle in this guide member and, after leaving the guide member, is deflected into a stream flowing upward in the space between the wall of the guide member and the wall of the reactor body and is sucked into the guide member at the upper end of the guide member by the jet
30 of the nozzle coordinated with the guide member.

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