

Abstract**Production of n-pentanal from low-butene feedstock mixtures**

The invention is concerned with the issue of how to produce n-pentanal by hydroformylation from feedstock mixtures comprising a small proportion of n-butene and a large proportion of n-butane.

5 Specifically, solutions for further optimizing established processes for hydroformylation of such low-butene mixtures in terms of material utilization are sought. The present invention has for its object to enhance the material utilization of the feedstock mixture in the production of n-pentanal from feedstock mixtures having a small proportion of n-butene and a large proportion of n-butane. The process shall be capable of economic operation on an industrial scale. In particular an existing oxo
10 plant shall be honed to achieve better raw material utilization. This object is achieved by a combination of a hydroformylation and a dehydrogenation, wherein said combination has the special feature that the dehydrogenation is arranged after the hydroformylation in the downstream direction and is thus markedly smaller than conventional dehydrogenations provided upstream. A skillful product removal effectively removes contaminants formed in the process.

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Figure 1 relating to abstract