

**OPTIMISED SEPARATION TECHNIQUE FOR WORK-UP OF HOMOGENEOUSLY
CATALYSED HYDROFORMYLATION MIXTURES**

ABSTRACT

The invention relates to a method for producing alcohols by homogeneously catalysed hydroformylation of olefins to aldehydes and subsequent hydration of the aldehydes. The invention further relates to a system for carrying out the method. The main focus is on the separation technique for work-up of the hydroformylation mixture. The problem addressed by the invention is that specifying a work-up method for hydroformylation mixtures that utilises the specific advantages of known separation technologies but at the same time largely avoids the specific disadvantages of said separation technologies. The most important objective is to create a catalyst separation system that is as complete and at the same time conservative as possible and that operates in a technically reliable manner and entails low investment and operating costs. The method should be unrestrictedly suitable for processing the reaction output from oxo systems in "world scale" format. The problem is solved by combining membrane separation units and a thermal separation unit, the thermal separation unit being operated in such a manner that 80% to 98% of the mass introduced with the product stream into the thermal separation unit exits the thermal separation unit again as a head product.

Fig. 1