

Use of Supported Ionic Liquid Phase (SILP) Catalyst Systems in the Hydroformylation of Olefin-Containing Mixtures to give Aldehyde Mixtures with a High Proportion of 2-Unbranched Aldehydes

5

Abstract

The present invention provides a composition comprising: a) an inert porous support material, b) an ionic liquid, c) a metal selected from group 9 of the Periodic Table of the Elements, d) a phosphorus-containing
10 organic ligand, e) at least one organic amine. The present invention further provides a process for hydroformylating olefin-containing hydrocarbon mixtures to aldehydes with addition of the inventive composition as a catalytically active composition, wherein: a) the water content of the olefin-containing hydrocarbon mixture is adjusted to not
15 more than 20 ppm, b) the content of polyunsaturated compounds in the olefin-containing hydrocarbon mixture is adjusted to not more than 3000 ppm, c) a molar ratio of organic amines according to claims 10-13 to phosphorus-containing organic ligands according to claims 8-9 of at least 4:1 is established, d) a molar ratio of phosphorus-containing organic
20 ligands according to claims 8-9 to rhodium of at least 10:1 is established.

(Figure 1)