

A CONTINUOUS PROCESS FOR THE CARBONYLATION OF ETHYLENEAbstract

A continuous process for the production of an alkyl ester product is described. The process comprises the steps of carbonylating ethylene with carbon monoxide in the presence of C₁₋₆ alkanol co-reactant to form the alkyl ester product. The carbonylation takes place in the presence of a catalyst system comprising; a. a bidentate ligand, b. a catalytic metal selected from a group 8, 9 or 10 metal or a compound thereof, and c. a sulphonic acid capable of forming an acid alkyl ester with the C₁₋₆ alkanol. The process includes the step of separating the alkyl ester product from a carbonylated crude product stream by treatment effective to vaporise the alkyl ester product in a single stage flash distillation column and provide a purified alkyl ester product stream separated from the bidentate ligand and catalytic metal. The distillation column includes further separation means effective to provide further separation of the product.

Figure 1