Title (en)

PROCESS AND CATALYST FOR CARBONYLATING OLEFINS

Title (de)

VERFAHREN UND KATALYSATOR ZUR CARBONYLIERUNG VON OLEFINEN

Title (fr)

PROCEDE ET CATALYSEUR DE CARBONILATION D'OLEFINES

Publication

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Application

EP 98914616 A 19980407

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Abstract (en)

[origin: WO9845038A1] Disclosed is an improved catalyst system and process for preparing aliphatic carbonyl compounds such as aliphatic carboxylic acids, alkyl esters of aliphatic carboxylic acids and anhydrides of aliphatic carboxylic acids by carbonylating olefins in the presence of a catalyst system comprising (1) a first component selected from at least one Group 6 metal, i.e., chromium, molybdenum, and/or tungsten and (2) a second component selected from at least one of certain halides and tertiary and quaternary compounds of a Group 15 element, i.e., nitrogen, phosphorus and/or arsenic, and (3) as a third component, a polar, aprotic solvent. The process employing the improved catalyst system is carried out under carbonylating conditions of pressure and temperature discussed herein. The process constitutes an improvement over known processes since it can be carried out at moderate carbonylation conditions without the necessity of using an expensive noble metal catalyst, volatile, toxic materials such as nickel tetracarbonyl, formic acid or a formate ester. Further, the addition of a polar, aprotic solvent to the catalyst system significantly increases, or accelerates, the rate at which the carbonylation takes place.

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