

Title (en)  
RECOVERY AND RECYCLE OF CATALYST COMPONENTS USED IN PALLADIUM-CATALYZED PREPARATION OF ARYL CARBOXYLIC ACIDS

Title (de)  
RÜCKGEWINNUNG UND WIEDERVERWERTUNG VON KATALYSATORBESTANDTEILEN AUS DER PALLADIUM-KATALYSIERTEN  
HERSTELLUNG VON ARYL CARBONSÄUREN

Title (fr)  
RECUPERATION ET RECYCLAGE DE COMPOSANTS CATALYTIQUES UTILISES DANS LA PREPARATION, CATALYSEE PAR PALLADIUM,  
D'ACIDES ARYL CARBOXYLIQUES

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Application  
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Priority  
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Abstract (en)  
[origin: WO9919289A1] Arylcarboxylic acids, especially polycyclic arylcarboxylic acids, are separated from residual catalyst components by use of a phase separation process. This avoids need for use of reduced pressure distillation with its attendant high investment and operating costs. Also, the phase separation process provides an active organic-soluble catalyst residue for reuse via recycle without need for catalyst regeneration. Thus, arylolefin is reacted with carbonmonoxide and water in the presence of palladium catalyst and organophosphine ligand, to form a reaction mass comprising (a) arylcarboxylic acid, and (b) residual catalyst species. The reaction mass is treated with aqueous inorganic base to form (i) an aqueous phase containing dissolved water-soluble salt of the arylcarboxylic acid, and (ii) an organic phase containing dissolved residual catalyst species. The phases are separated, and at least a portion of separated phase (ii) is recycled for use in performing additional reaction. Oftentimes in addition to phases (i) and (ii), a solids phase containing a portion of the palladium catalyst values exists, and preferably, these solids are recovered (e.g., by filtration) and if not sufficiently catalytically active for recycle, at least a portion is converted into an active palladium catalyst component for use in subsequent reaction. The phase separation thus enables separation of catalyst residues in organic solution form and as solids, while concurrently isolating the desired product in water solution form.

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IPC 8 full level  
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