

Title (en)

Rhodium recovery from hydroformylation still heel with triaryl phosphate ligand.

Title (de)

Rückgewinnung von Rhodium aus Hydroformylierungs-destillationsrückständen mit einem Triarylphosphit-ligand.

Title (fr)

Récupération du rhodium à partir des résidus de distillation d'hydroformylation avec un ligand triaryle phosphite.

Publication

EP 0000665 A1 19790207 (EN)

Application

EP 78300204 A 19780726

Priority

US 82004677 A 19770728

Abstract (en)

A process for recovering rhodium present in a still heel from the hydroformylation of an unsaturated hydrocarbon wherein rhodium and a triaryl phosphite ligand were used by a process comprising a) pretreating the still heel with a compatible organic solvent, at least 5 ml of water per 100 g of still heel, oxygen gas or a precursor thereof and sufficient base to produce a pH of 2 to 7 in the reaction mixture after rhodium precipitation; b) heating to a temperature of from 0 DEG to 80 DEG C to oxidize the triaryl phosphite ligand to the corresponding phosphate compound; c) heating the mixture from b) for from about 15 minutes to about 120 minutes at about 115 DEG C to about 175 DEG C to precipitate the rhodium and optionally purifying the rhodium from c) by d) separating the rhodium precipitate; e) washing the rhodium precipitate with a solvent-acid solution at a pH of 3 to 4; f) treating the rhodium precipitate with an alkaline reducing solution to reduce the trivalent rhodium impurity to zero valent rhodium; g) quenching the rhodium with glacial acetic acid; h) separating the rhodium; i) washing the rhodium with an acid solution at a pH of 3 to 4; j) drying the rhodium in an inert atmosphere at from 250 DEG to 400 DEG C; and k) oxidizing the rhodium at a temperature of from 300 DEG to 900 DEG C to convert the rhodium to Rn_2O_3 .

IPC 1-7

B01J 31/40; C07C 45/12; C22B 11/04

IPC 8 full level

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Citation (search report)

- [D] US 3998622 A 19761221 - BALMAT JEAN LOUIS
- US 3547964 A 19701215 - OLIVIER KENNETH L

Cited by

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