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(21) International Application Number: PCT/EP98/06649 (22) International Filing Date: 12 October 1998 (12.10.98) (71) Applicant: SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V. [NL/NL]; Carel van Bylandtlaan 30, NL-2596 HR The Hague (NL). (72) Inventors: BLACKBOURN, Robert, Lawrence; 16410 Battlecreek Drive, Houston, TX 77095 (US). MULLIN, Stephen, Blake; 18318 Autumn Trails, Katy, TX 77449 (US). POWELL, Joseph, Broun; 10506 Normont Drive, Houston, TX 77070 (US). WEIDER, Paul, Richard; 15014 Tramore, Houston, TX 77083 (US).		(81) Designated States: CA, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>
(54) Title: PROCESS FOR REMOVING A COBALT OR RHODIUM CARBONYL COMPOUND FROM AN AQUEOUS 3-HYDROXYPROPANAL SOLUTION (57) Abstract Cobalt or rhodium carbonyl compounds are removed from an aqueous solution of 3-hydroxypropanal by a process comprising the steps of: (a) contacting the 3-hydroxypropanal solution with oxygen under acidic conditions at a temperature within the range of about 5 to about 45 °C to produce an oxidation product mixture comprising an aqueous solution of 3-hydroxypropanal, one or more water-soluble cobalt or rhodium species, and byproduct carbon monoxide; (b) removing byproduct carbon monoxide from the oxidation product mixture as it is generated; and (c) passing the oxidation product mixture in contact with an acidic ion exchange resin maintained at a temperature less than about 45 °C and removing at least a portion of the soluble metal compounds from the oxidation product mixture. Such a process is useful in, for example, the manufacture of 1,3-propanediol from ethylene oxide via an intermediate 3-hydroxypropanal solution containing residual carbon dioxide and insoluble cobalt or rhodium catalyst compounds.		