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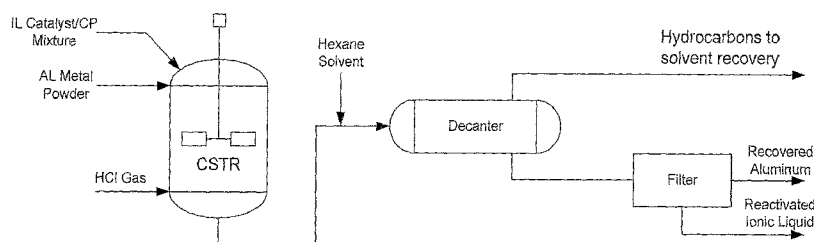
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(54) Title: REGENERATION OF IONIC LIQUID CATALYST BY HYDROGENATION USING METAL AND ACID



(57) Abstract: A used acidic ionic liquid catalyst, which has been deactivated by conjunct polymers, is regenerated by combining the used catalyst, a metal and a Brønsted acid to hydrogenate the conjunct polymer. Regenerating a used acidic ionic liquid catalyst, which has been deactivated by conjunct polymers, includes: combining the used ionic liquid catalyst, a metal and HCl in a reaction zone under hydrogenation conditions to hydrogenate a portion of the conjunct polymer; removing reaction product from the reaction zone; mixing the removed reaction product with a hydrocarbon solvent in which the hydrogenated conjunct polymers are soluble; allowing the mixture to separate into a lighter phase which contains the hydrogenated conjunct polymers, and a heavier phase which contains a regenerated ionic liquid catalyst; and recovering at least a portion of the heavier phase is also disclosed.

WO 2007/073440 A1