

TITLE: PROCESS FOR PURIFYING HYDROXIDE COMPOUNDS

ABSTRACT

In one embodiment, the invention relates to a process for purifying solutions containing a hydroxide compound, including the steps of: (A) providing an electrochemical cell containing an anode, a cathode, a cation selective membrane and a bipolar membrane, the bipolar membrane having an anion selective side facing the anode and a cation selective side facing the cathode, wherein the cation selective membrane is positioned between the anode and the bipolar membrane, and the bipolar membrane is positioned between the cation selective membrane and the cathode, thereby defining a feed compartment between the cation selective membrane and the anode, a recovery compartment between the bipolar membrane and the cation selective membrane, and a water compartment between the bipolar membrane and the cathode; (B) charging a solution of an ionic compound at a first concentration to the water compartment, and water to the recovery compartment; (C) charging a solution containing the hydroxide compound at a second concentration to the feed compartment; (D) passing a current through the electrochemical cell to produce the hydroxide compound at a third concentration in the recovery compartment; and (E) recovering the hydroxide compound from the recovery compartment.

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