

Title (en)

METHOD FOR PRODUCING ALKALI METAL ALCOHOLATES IN AN ELECTROLYTIC CELL

Title (de)

VERFAHREN ZUR HERSTELLUNG VON ALKALIMETALLALKOHOLATEN IN EINER ELEKTROLYSEZELLE

Title (fr)

PROCÉDÉ DE PRODUCTION D'ALCOOLATES DE MÉTAL ALCALIN DANS UNE CELLULE D'ÉLECTROLYSE

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Application

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Abstract (en)

[origin: WO2023016897A1] The present invention relates to a method for producing an alkali metal alcoholate solution L1 in an electrolytic cell E. The electrolytic cell E comprises at least one cathode chamber KK, at least one anode chamber KA and at least one central chamber KM located therebetween. The interior IKK of the cathode chamber KK is separated from the interior IKM of the central chamber KM by a partition W comprising at least one cation-conducting solid electrolyte ceramic FA, for example NaSICON. The interior IKM of the central chamber KM is separated from the interior IKA of the anode chamber KA by a diffusion barrier D, for example a membrane that is selective for cations or anions or a non-ion-specific partition. The part OEA of the top side OE delimiting the interior IKA of the anode chamber KA is a plane, of which the normal NOEA forms an angle $0^\circ < \varphi_{EA} < 45^\circ$ to the gravity vector Vs. Furthermore, the outlet AKA is then arranged on the top half of OEA. Alternatively or additionally, preferably additionally, the part OEK of the top side OE delimiting the interior IKK of the cathode chamber KK is a plane, of which the normal NOEK forms an angle $0^\circ < \varphi_{EK} < 45^\circ$ to the gravity vector Vs, and the outlet AKK is then arranged on the top half of OEK. This arrangement of the respective top sides and outlets results in the formation of gas cushions in the anode chamber or in the cathode chamber being prevented. These gas cushions are undesirable since they reduce the size of the exchange surfaces available for electrolysis, which in turn results in increased cell resistance.

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