Title (en)

METHOD FOR PRODUCING HIGHLY PURE HYDROGEN BY COUPLING PYROLYSIS OF HYDROCARBONS WITH ELECTROCHEMICAL HYDROGEN SEPARATION

Title (de)

VERFAHREN ZUR HERSTELLUNG VON HOCHREINEM WASSERSTOFF DURCH KOPPLUNG EINER PYROLYSE VON KOHLENWASSERSTOFFEN MIT EINER ELEKTROCHEMISCHEN WASSERSTOFFABTRENNUNG

Title (fr)

PROCÉDÉ DE PRODUCTION D'HYDROGÈNE DE HAUTE PURETÉ PAR COUPLAGE DE PYROLYSE D'HYDROCARBURES À UNE SÉPARATION ÉLECTROCHIMIQUE D'HYDROGÈNE

Publication

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Application

EP 20789174 A 20201015

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Abstract (en)

[origin: WO2021078614A1] The present invention relates to a method for producing hydrogen, which method is characterized in that: in a first stage, hydrocarbons are decomposed into solid carbon and a hydrogen-containing gaseous product mixture; the hydrogen-containing gaseous product mixture, which has a composition, with respect to the main components CH4, N2 and H2, of 20 to 95 vol% H2 and 80 to 5 vol% CH4 and/or N2, is removed from the first stage at a temperature of 50 to 300 °C and is fed, at a temperature that differs from this exit temperature by at most 100 °C, into an electrochemical separation process; and in this second stage, the hydrogen-containing product mixture is separated, in the electrochemical separation process at a temperature of 50 to 200 °C, into hydrogen having a purity of > 99.99 % and a remaining residual gas mixture.

IPC 8 full level

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Citation (search report)

See references of WO 2021078614A1

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