

Title (en)

PROCESS FOR THE SELECTIVE ELECTROCHEMICAL CONVERSION OF CO₂ INTO C₂ HYDROCARBONS

Title (de)

VERFAHREN ZUR SELEKTIVEN ELEKTROCHEMISCHEN UMWANDLUNG VON CO₂ IN C₂-KOHLENWASSERSTOFFE

Title (fr)

PROCÉDÉ POUR LA CONVERSION ÉLECTROCHIMIQUE SÉLECTIVE DE CO₂ EN HYDROCARBURES EN C₂

Publication

EP 2686464 B1 20181114 (EN)

Application

EP 12715237 A 20120315

Priority

- PT 10556611 A 20110315
- PT 2012000008 W 20120315

Abstract (en)

[origin: WO2012125053A2] A process for the selective electrochemical conversion of carbon dioxide into hydrocarbons, namely C₂ hydrocarbons is presented. The process is carried out in an electrochemical cell where the cathode is a modified electrode with copper electrodeposits in order to improve the catalytic activity and selectivity of the system. The formation of a mixture of C₂ hydrocarbons (C₂H₄ and C₂H₆) without methane is successfully obtained on specific higher surface area electrodeposits. Additionally, ethylene is selectively produced in detriment of ethane. The ex-situ copper electrodeposit leads to the steadiness of carbon dioxide reduction process, i.e., the stability of hydrocarbons production due to the weak deactivation of the cathode.

IPC 8 full level

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CPC (source: EP)

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