Title (en)

REDUCTION METHOD AND ELECTROLYSIS SYSTEM FOR ELECTROCHEMICAL CARBON DIOXIDE UTILIZATION

Title (de)

REDUKTIONSVERFAHREN UND ELEKTROLYSESYSTEM ZUR ELEKTROCHEMISCHEN KOHLENSTOFFDIOXID-VERWERTUNG

Title (fr)

PROCÉDÉ DE RÉDUCTION ET SYSTÈME D'ÉLECTROLYSE PERMETTANT LE RECYCLAGE ÉLECTROCHIMIQUE DU DIOXYDE DE CARBONE

Publication

EP 3234225 A1 20171025 (DE)

Application

EP 16704413 A 20160205

Priority

- DE 102015202258 A 20150209
- EP 2016052516 W 20160205

Abstract (en)

[origin: WO2016128323A1] Disclosed are a reduction method and an electrolysis system for electrochemical carbon dioxide utilization. In this method, carbon dioxide (CO2) is conducted through a cathode chamber (CR) and contacted with a cathode (C), at least one first material is provided in or introduced into the cathode chamber (CR), by means of which the reduction reaction of carbon dioxide (CO2) to give at least one hydrocarbon compound or to give carbon monoxide (CO) can be catalysed, and at least one second material is introduced into the cathode chamber (CR), by means of which the reduction reaction can be co-catalysed, by virtue of said second material promoting a charge transfer from the cathode (C) to the first material. Preferably, catalyst and co-catalyst react to give a hydrido complex.

IPC 8 full level

C25B 3/13 (2021.01); **C25B 3/25** (2021.01)

CPC (source: CN EP US)

C25B 1/00 (2013.01 - CN EP US); **C25B 1/55** (2021.01 - CN EP US); **C25B 3/25** (2021.01 - CN EP US); **C25B 11/077** (2021.01 - EP US); Y02P 20/133 (2015.11 - EP US)

Citation (search report)

See references of WO 2016128323A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2016128323 A1 20160818; CN 107208284 A 20170926; DE 102015202258 A1 20160825; EP 3234225 A1 20171025; JP 2018510262 A 20180412; US 2018023198 A1 20180125; ZA 201705252 B 20190626

DOCDB simple family (application)

EP 2016052516 W 20160205; CN 201680009432 A 20160205; DE 102015202258 A 20150209; EP 16704413 A 20160205; JP 2017541254 A 20160205; US 201615549778 A 20160205; ZA 201705252 A 20170803