Title (en)

SYSTEM FOR ELECTROCATALYTIC CONVERSION OF CARBON OXIDES TO MULTICARBON PRODUCTS USING A STATIONARY CATHOLYTE LAYER AND RELATED PROCESS

Title (de)

SYSTEM ZUR ELEKTROKATALYTISCHEN UMWANDLUNG VON KOHLENSTOFFOXIDEN IN MEHRKOHLENSTOFFPRODUKTE UNTER VERWENDUNG EINER STATIONÄREN KATHOLYTSCHICHT UND ZUGEHÖRIGES VERFAHREN

Title (fr)

SYSTÈME DE CONVERSION ÉLECTROCATALYTIQUE D'OXYDES DE CARBONE EN PRODUITS MULTICARBONÉS À L'AIDE D'UNE COUCHE DE CATHOLYTE FIXE ET PROCÉDÉ ASSOCIÉ

Publication

EP 4355932 A1 20240424 (EN)

Application

EP 22735366 A 20220610

Priority

- US 202163210675 P 20210615
- EP 2022065823 W 20220610

Abstract (en)

[origin: WO2022263316A1] An electroreduction system for converting carbon oxides selected from CO, CO2 or any mixture thereof into multicarbon (C2+) products, the system comprising a cathodic compartment having a reactant inlet and comprising a cathode, the cathode comprising a catalyst layer that is contactable with a catholyte solution; an anodic compartment having a product outlet to release the C2+ products, the anodic compartment comprising an anode and being configured to accommodate a flowing anolyte solution; and a bipolar membrane being positioned between the cathodic compartment and the anodic compartment, the bipolar membrane comprising an interfacial layer defined between a cation-exchange layer and a anion-exchange layer; wherein the cathodic compartment is configured to accommodate a stationary catholyte layer between the catalyst layer of the cathode and the CEL, the stationary catholyte layer comprising the catholyte solution..

IPC 8 full level

C25B 3/03 (2021.01); **C25B 3/07** (2021.01); **C25B 3/25** (2021.01); **C25B 3/26** (2021.01); **C25B 9/19** (2021.01); **C25B 13/02** (2006.01); **C25B 13/08** (2006.01); **C25B 15/08** (2006.01)

CPC (source: EP US)

C25B 3/03 (2021.01 - EP US); **C25B 3/07** (2021.01 - EP); **C25B 3/25** (2021.01 - EP); **C25B 3/26** (2021.01 - EP US); **C25B 9/19** (2021.01 - EP); **C25B 9/21** (2021.01 - US); **C25B 11/032** (2021.01 - US); **C25B 13/02** (2013.01 - EP); **C25B 13/08** (2013.01 - EP US); **C25B 15/027** (2021.01 - US); **C25B 15/031** (2021.01 - US); **C25B 15/08** (2013.01 - EP)

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

WO 2022263316 A1 20221222; CA 3219519 A1 20221222; EP 4355932 A1 20240424; US 2024271294 A1 20240815

DOCDB simple family (application)

EP 2022065823 W 20220610; CA 3219519 A 20220610; EP 22735366 A 20220610; US 202218567238 A 20220610