

Title (en)

PROCESS, USE OF AN INDICATOR MATERIAL AND APPARATUS FOR DETERMINING A CONDITION OF A HYDROGEN CARRIER MATERIAL

Title (de)

VERFAHREN, VERWENDUNG EINES INDIKATORMATERIALS UND ANLAGE ZUM BESTIMMEN EINES ZUSTANDS EINES WASSERSTOFFTRÄGERMATERIALS

Title (fr)

PROCÉDÉ, UTILISATION D'UN MATÉRIAU INDICATEUR ET APPAREIL POUR DÉTERMINER UN ÉTAT D'UN MATÉRIAU DE SUPPORT D'HYDROGÈNE

Publication

**EP 4326668 A1 20240228 (DE)**

Application

**EP 22723082 A 20220414**

Priority

- DE 102021203886 A 20210419
- EP 2022060064 W 20220414

Abstract (en)

[origin: WO2022223446A1] A process for determining a condition of a hydrogen carrier material comprises using the hydrogen carrier material in a cyclic storage process, wherein each storage cycle comprises loading the hydrogen carrier material with hydrogen, liberating hydrogen from the hydrogen carrier material and producing a mixture by adding a defined amount ( $\Delta c_{T,i}$ ;  $\Delta c_{NP,i}$ ) of an indicator material to the hydrogen carrier material. It further comprises determining a proportion (cT; cNP) of the indicator material in the mixture and determining a number of storage cycles for the hydrogen carrier material on the basis of the determined proportion (cT) of the indicator material and/or a degradation of the hydrogen carrier material on the basis of the determined proportion (cNP) of the indicator material as a condition of the hydrogen carrier material.

IPC 8 full level

**C01B 3/00** (2006.01); **G01N 21/00** (2006.01); **G01N 24/00** (2006.01); **G01N 30/02** (2006.01)

CPC (source: EP US)

**C01B 3/0015** (2013.01 - EP US); **G01N 30/88** (2013.01 - EP); **G01N 31/10** (2013.01 - US); **G01N 31/22** (2013.01 - US); **G01N 31/22** (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)

**DE 102021203886 A1 20221020**; EP 4326668 A1 20240228; US 2024210367 A1 20240627; WO 2022223446 A1 20221027

DOCDB simple family (application)

**DE 102021203886 A 20210419**; EP 2022060064 W 20220414; EP 22723082 A 20220414; US 202218555976 A 20220414