

Title (en)

LAVES PHASE-RELATED BCC METAL HYDRIDE ALLOYS AND ACTIVATION THEREOF FOR ELECTROCHEMICAL APPLICATIONS

Title (de)

LAVES-PHASEN-ASSOZIIERTE BCC-METALLHYDRIDLEGIERUNGEN SOWIE AKTIVIERUNG DERSELBEN FÜR ELEKTROCHEMISCHE ANWENDUNGEN

Title (fr)

ALLIAGES D'HYDRURES MÉTALLIQUES BCC DU TYPE PHASE DE LAVES ET LEUR ACTIVATION POUR APPLICATIONS ÉLECTROCHIMIQUES

Publication

EP 3172785 A4 20180228 (EN)

Application

EP 15825302 A 20150717

Priority

- US 201414340959 A 20140725
- US 201414340913 A 20140725
- US 2015040892 W 20150717

Abstract (en)

[origin: WO2016014356A1] Laves phase-related BCC metal hydride alloys historically have limited electrochemical capabilities. Provided are a new examples of these alloys useful as electrode active materials. Also provided are processes of activating such alloys. Alloys include a composition defined by Formula I: $Ti_wV_xCr_yM_z$ (I) where $w+x+y+z = 1$, $0.1 < w < 0.6$, $0.1 < x < 0.6$, $0.01 < y < 0.6$ and M is selected from the group consisting of B, Al, Si, Sn and one or more transition metals that achieve discharge capacities of 350 mAh/g or greater for cycles of 10 or more.

IPC 8 full level

H01M 4/38 (2006.01); **C22C 14/00** (2006.01); **C22C 27/02** (2006.01); **H01M 10/24** (2006.01)

CPC (source: EP KR)

C22C 14/00 (2013.01 - EP KR); **C22C 27/025** (2013.01 - EP KR); **C22C 30/00** (2013.01 - EP KR); **H01M 4/383** (2013.01 - EP KR); **H01M 10/345** (2013.01 - KR); **C22C 19/05** (2013.01 - EP); **H01M 10/345** (2013.01 - EP); **Y02E 60/10** (2013.01 - EP); **Y02E 60/32** (2013.01 - KR)

Citation (search report)

- [X] US 2014193722 A1 20140710 - YOUNG KWO [US], et al
- [X] YOUNG K ET AL: "Structural, hydrogen storage, and electrochemical properties of Laves phase-related body-centered-cubic solid solution metal hydride alloys", INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, ELSEVIER SCIENCE PUBLISHERS B.V., BARKING, GB, vol. 39, no. 36, 16 February 2014 (2014-02-16), pages 21489 - 21499, XP029096559, ISSN: 0360-3199, DOI: 10.1016/J.IJHYDENE.2014.01.134
- See references of WO 2016014356A1

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

DOCDB simple family (publication)

WO 2016014356 A1 20160128; CN 106575749 A 20170419; EP 3172785 A1 20170531; EP 3172785 A4 20180228; JP 2017528596 A 20170928; KR 20170036018 A 20170331

DOCDB simple family (application)

US 2015040892 W 20150717; CN 201580041124 A 20150717; EP 15825302 A 20150717; JP 2017504187 A 20150717; KR 20177005045 A 20150717