

Title (en)

HYDROGEN GENERATION SYSTEMS AND METHODS UTILIZING SODIUM SILICIDE AND SODIUM SILICA GEL MATERIALS

Title (de)

WASSERSTOFFERZEUGUNGSSYSTEME UND -VERFAHREN MIT NATRIUMSILICID UND NATRIUM-SILICIUM-GELMATERIALIEN

Title (fr)

SYSTÈMES DE PRODUCTION D'HYDROGÈNE ET PROCÉDÉS UTILISANT DES MATIÈRES À BASE DE SILICIURE DE SODIUM ET DE GEL DE SILICE SODIQUE

Publication

EP 2812105 A4 20150909 (EN)

Application

EP 13746171 A 20130207

Priority

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- US 2013025079 W 20130207

Abstract (en)

[origin: WO2013119766A1] Systems, devices, and methods combine thermally stable reactant materials and aqueous solutions to generate hydrogen and a non-toxic liquid by-product. The reactant materials can sodium silicide or sodium silica gel. The hydrogen generation devices are used in fuels cells and other industrial applications. One system combines cooling, pumping, water storage, and other devices to sense and control reactions between reactant materials and aqueous solutions to generate hydrogen. Springs and other pressurization mechanisms pressurize and deliver an aqueous solution to the reaction. A check valve and other pressure regulation mechanisms regulate the pressure of the aqueous solution delivered to the reactant fuel material in the reactor based upon characteristics of the pressurization mechanisms and can regulate the pressure of the delivered aqueous solution as a steady decay associated with the pressurization force. The pressure regulation mechanism can also prevent hydrogen gas from deflecting the pressure regulation mechanism.

IPC 8 full level

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CPC (source: CN EP)

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Citation (search report)

- No further relevant documents disclosed
- See references of WO 2013119766A1

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DOCDB simple family (publication)

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