

Title (en)
THERMOCHEMICAL ENERGY STORAGE DEVICE

Title (de)
THERMOCHEMISCHER ENERGIESPEICHER

Title (fr)
ACCUMULATEUR D'ÉNERGIE THERMOCHIMIQUE

Publication
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Application
EP 22708270 A 20220126

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Abstract (en)
[origin: WO2022159998A1] The invention relates to a method for a reversible thermochemical storage and release of energy, wherein orthoboric acid is converted into boroxide, metaboric acid, or boroxide and metaboric acid by means of a water splitting process in order to store energy, and boroxide, metaboric acid, or boroxide and metaboric acid are converted into orthoboric acid by reacting with water in order to release energy. The reactions are carried out in a suspension medium, wherein orthoboric acid is provided in a suspended manner in the suspension medium in order to reversibly store energy of boric acid, and an energy source is used to bring the suspension medium with boric acid to a temperature at which the water splitting process is carried out; and boroxide and/or metaboric acid is provided in a suspended manner in the suspension medium for a reversible thermochemical release of energy. The suspension medium with boroxide and/or metaboric acid is reacted with water so that the reaction into orthoboric acid is carried out, and the heat resulting in the process is discharged to a heat load.

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C09K 5/16 (2006.01)

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