

Title (en)

NOVEL CASCADE PROCESS FOR COOLING AND LIQUEFYING HYDROGEN IN LARGE-SCALE

Title (de)

NEUARTIGES KASKADENVERFAHREN ZUR KÜHLUNG UND VERFLÜSSIGUNG VON WASSERSTOFF IN GROSSEM UMFANG

Title (fr)

NOUVEAU PROCÉDÉ EN CASCADE DE REFROIDISSEMENT ET DE LIQUÉFACTION D'HYDROGÈNE À GRANDE ÉCHELLE

Publication

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Application

EP 15003068 A 20151027

Priority

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Abstract (en)

The present invention relates to a method for liquefying hydrogen in large-scale comprising the steps of: providing a feed gas stream comprising hydrogen, precooling the feed gas stream to an intermediate temperature yielding a precooled feed gas stream, cooling the precooled feed gas stream to a temperature of below the critical temperature of hydrogen yielding a liquid product stream comprising hydrogen. According to the invention, the precooled feed gas stream is cooled to a first temperature in a first cooling step by a first closed cooling cycle with a first refrigerant stream consisting of or comprising neon and/or hydrogen, and that the cooled feed gas stream is further cooled from the first temperature to temperature below the critical temperature of hydrogen in a second cooling step by a second closed cooling cycle with a second refrigerant stream comprising or consisting of hydrogen and/or helium

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