

Title (en)

PRODUCTION OF HYDROGEN GAS FROM SULFUR-CONTAINING COMPOUNDS

Title (de)

HERSTELLUNG VON WASSERSTOFFGAS AUS SCHWEFELHALTIGEN VERBINDUNGEN

Title (fr)

PRODUCTION D'HYDROGÈNE GAZEUX À PARTIR DE COMPOSÉS CONTENANT DU SOUFRE

Publication

EP 2167423 A1 20100331 (EN)

Application

EP 08768528 A 20080617

Priority

- US 2008007524 W 20080617
- US 96163907 P 20070723

Abstract (en)

[origin: WO2009014584A1] The described invention is a process for producing hydrogen gas comprising (a) combusting sulfur (S) or hydrogen sulfide (H₂S) with oxygen (O₂) to obtain sulfur dioxide (SO₂) and water (H₂O), plus heat; (b) adding water to the product of (a) to obtain a sulfurous acid solution (H₂SO₃ and H₂O); (c) applying electrical current to the sulfurous acid solution of (b) to obtain sulfuric acid (H₂SO₄) and hydrogen gas (H₂); and, (d) using gas-liquid separation to separate the sulfuric acid from the hydrogen gas to obtain separated components of the sulfuric acid and the hydrogen gas; and, wherein the heat generated in (a) is used to generate at least a portion of the electricity for the electrical current of (c).

IPC 8 full level

C01B 17/48 (2006.01); **C01B 17/50** (2006.01); **C01B 17/54** (2006.01); **C25B 1/02** (2006.01); **C25B 1/22** (2006.01)

CPC (source: EP US)

C01B 17/508 (2013.01 - EP US); **C01B 17/54** (2013.01 - EP US); **C01B 17/74** (2013.01 - EP US); **C25B 1/02** (2013.01 - EP US); **C25B 1/22** (2013.01 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

WO 2009014584 A1 20090129; AU 2008279815 A1 20090129; CA 2689461 A1 20090129; EP 2167423 A1 20100331; EP 2167423 A4 20111109; US 2010230296 A1 20100916

DOCDB simple family (application)

US 2008007524 W 20080617; AU 2008279815 A 20080617; CA 2689461 A 20080617; EP 08768528 A 20080617; US 59985708 A 20080617