Title (en)

Method for operating an oxygen-consuming electrode

Title (de)

Verfahren zum Betrieb einer Sauerstoffverzehrelektrode

Title (fr)

Procédé destiné au fonctionnement d'une électrode catalytique consommant de l'oxygène

Publication

EP 2495353 A2 20120905 (DE)

Application

EP 12157043 A 20120227

Priority

DE 102011005133 A 20110304

Abstract (en)

Operating oxygen consuming electrode as cathode for electrolysis of alkali chlorides or hydrochloric acid, in an electrochemical cell, comprises at least partially heating oxygen containing process gas that is supplied to electrode, using a heat source of electrolysis, preferably by heat exchange with a process stream obtained by electrolysis or with a process stream that is reprocessed subsequent to electrolysis, before contacting with the oxygen consuming electrode, to a temperature that is not > the temperature of cathode chamber in the cell or to less than 50[deg] C, preferably less than 10[deg] C.

Abstract (de)

Es wird ein Verfahren zur Vorwärmung und Konditionierung von Sauerstoff-haltigem Prozessgas in elektrochemischen Prozessen mit einer Sauerstoffverzehrkathode beschrieben, insbesondere für den Einsatz in der Chloralkali-Elektrolyse.

IPC 8 full level

C25B 1/24 (2006.01); **C25B 15/08** (2006.01)

CPC (source: EP US)

C25B 1/26 (2013.01 - EP US); **C25B 1/46** (2013.01 - EP US); **C25B 15/02** (2013.01 - EP US)

Citation (applicant)

- EP 1033419 B1 20060111 - TOAGOSEI CO LTD [JP], et al
- DE 19622744 C1 19970731 - BAYER AG [DE]
- WO 2008006909 A2 20080117 - UHDENORA SPA [IT], et al
- DE 10149779 A1 20030410 - BAYER AG [DE]
- DE 10342148 A1 20050407 - BAYER MATERIALSCIENCE AG [DE]
- DE 10159372 A1 20030612 - BAYER AG [DE]
- MOUSSALLEM ET AL.: "Chlor-Alkali Electrolysis with Oxygen Depolarized Cathodes: History, Present Status and Future Prospects", J. APPL. ELECTROCHEM., vol. 38, 2008, pages 1177 - 1194, XP019606285
- JOURNAL OF APPLIED ELECTROCHEMISTRY, vol. 38, no. 9, 2008, pages 1177 - 1194
- "Ullmann's Encyclopedia of Industrial Chemistry", WILEY-VCH VERLAG GMBH & CO KG
- LIPP ET AL., J. APPL. ELECTROCHEM., vol. 35, 2005, pages 1015
- "Ullmann's Encyclopedia of Industrial Chemistry", WILEY-VCH VERLAG GMBH&CO KG, article "Chlorine"
- "Ullmann's Encyclopedia of Industrial Chemistry", WILEY-VCH VERLAG GMBH&CO KG, article "Sodium Hydroxide"

Cited by

EP4339338A3; WO2022043290A1

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2495353 A2 20120905; **EP 2495353 A3 20140625**; **EP 2495353 B1 20180627**; CN 102653871 A 20120905; CN 102653871 B 20171024; DE 102011005133 A1 20120906; JP 2012184507 A 20120927; JP 6231732 B2 20171115; US 2012222965 A1 20120906; US 9422631 B2 20160823

DOCDB simple family (application)

EP 12157043 A 20120227; CN 201210052929 A 20120302; DE 102011005133 A 20110304; JP 2012046587 A 20120302; US 201213406600 A 20120228