

Title (en)

A BIOFUEL CELL USING WASTEWATER AND ACTIVE SLUDGE FOR WASTEWATER TREATMENT

Title (de)

ABWASSER UND KLÄRSCHLAMM NUTZENDE BIOTREIBSTOFFZELLE

Title (fr)

PILE A BIOCOMBUSTIBLE FAISANT INTERVENIR DES EAUX USEES COMME COMBUSTIBLE ET BOUE ACTIVE DESTINEE AU TRAITEMENT DES EAUX USEES

Publication

EP 1232123 A1 20020821 (EN)

Application

EP 00911467 A 20000317

Priority

- KR 0000228 W 20000317
- KR 19990027168 A 19990707

Abstract (en)

[origin: WO0104061A1] The present invention provides a biofuel cell using wastewater as a fuel. Electrochemically active microorganisms present in wastewater and active sludge used in the present invention oxidize organic substances present in wastewater. Electrons generated from the oxidation are discharged outside of the microorganism cell and transferred directly to the electrode, thereby allowing electric current to be generated while allowing wastewater to be purified. The biofuel cell using the electrochemically active bacteria according to the present invention allows an electric energy of up to 0.22 mA to be generated, and also enables COD of the wastewater used as a fuel to be decreased from 1900 ppm to 55 ppm. Moreover, an efficiency of the biofuel cell is varied depending on the kind and concentration of wastewater.

IPC 1-7

C02F 3/00; **H01M 8/16**

IPC 8 full level

C12N 1/20 (2006.01); **C02F 3/00** (2006.01); **C02F 3/12** (2006.01); **C02F 3/28** (2006.01); **C02F 3/30** (2006.01); **C02F 11/00** (2006.01); **H01M 8/16** (2006.01); **C02F 1/461** (2006.01)

CPC (source: EP KR)

C02F 3/00 (2013.01 - EP KR); **C02F 3/30** (2013.01 - EP); **C02F 11/00** (2013.01 - EP); **H01M 8/16** (2013.01 - EP); **C02F 3/005** (2013.01 - EP); **C02F 2103/32** (2013.01 - EP); **C02F 2201/46115** (2013.01 - EP); **Y02E 60/50** (2013.01 - EP); **Y02W 10/10** (2015.05 - EP)

Citation (search report)

See references of WO 0104061A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

WO 0104061 A1 20010118; AU 3333500 A 20010130; CA 2378558 A1 20010118; CN 1164509 C 20040901; CN 1364146 A 20020814; EP 1232123 A1 20020821; JP 2004517437 A 20040610; KR 100332932 B1 20020420; KR 20010009031 A 20010205

DOCDB simple family (application)

KR 0000228 W 20000317; AU 3333500 A 20000317; CA 2378558 A 20000317; CN 00810805 A 20000317; EP 00911467 A 20000317; JP 2001509681 A 20000317; KR 19990027168 A 19990707