

Title (en)

METHODS AND APPARATUS FOR PRODUCING SYNGAS AND ALCOHOLS

Title (de)

VERFAHREN UND VORRICHTUNG ZUR HERSTELLUNG VON SYNGAS UND ALKOHOLEN

Title (fr)

PROCÉDÉS ET APPAREIL POUR LA PRODUCTION DE GAZ DE SYNTHÈSE ET D'ALCOOLS

Publication

**EP 2231827 A2 20100929 (EN)**

Application

**EP 08861343 A 20081114**

Priority

- US 2008083509 W 20081114
- US 1441207 P 20071217
- US 1441507 P 20071217
- US 1441007 P 20071217
- US 1440807 P 20071217
- US 26996808 A 20081113
- US 27001708 A 20081113

Abstract (en)

[origin: US2009151251A1] The present invention features methods and apparatus for the pyrolysis or torrefaction of a carbon-containing feedstock before it is converted to syngas. In some embodiments, biomass is first pretreated by torrefaction and/or pyrolysis, followed by devolatilization and/or steam reforming to produce syngas. Various mixtures of such pretreated biomass, combined with fresh biomass, can be employed to produce syngas. The syngas can be converted to alcohols, such as ethanol, or to other products.

IPC 8 full level

**C10J 3/02** (2006.01); **C10G 5/00** (2006.01); **C10J 3/20** (2006.01)

CPC (source: EP US)

**C07C 29/1516** (2013.01 - EP US); **C10J 3/66** (2013.01 - EP US); **C10L 9/083** (2013.01 - EP US); **C10J 2300/0916** (2013.01 - EP US); **C10J 2300/092** (2013.01 - EP US); **C10J 2300/16** (2013.01 - EP US); **C10J 2300/1665** (2013.01 - EP US); **C10J 2300/1668** (2013.01 - EP US); **Y02E 50/10** (2013.01 - EP US); **Y02E 50/30** (2013.01 - EP US); **Y02P 20/145** (2015.11 - EP US)

Citation (search report)

See references of WO 2009079127A2

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)

**US 2009151251 A1 20090618**; CA 2707770 A1 20090625; CN 101896580 A 20101124; EP 2231827 A2 20100929; US 2009151253 A1 20090618; WO 2009079127 A2 20090625; WO 2009079127 A3 20090903

DOCDB simple family (application)

**US 26996808 A 20081113**; CA 2707770 A 20081114; CN 200880120565 A 20081114; EP 08861343 A 20081114; US 2008083509 W 20081114; US 27001708 A 20081113