

Title (en)
TORREFACTION PROCESS

Title (de)
RÖSTVERFAHREN

Title (fr)
PROCÉDÉ DE TORRÉFACTION

Publication
EP 2563885 A1 20130306 (EN)

Application
EP 11730389 A 20110428

Priority
• GB 201007192 A 20100429
• GB 2011000660 W 20110428

Abstract (en)
[origin: GB2479924A] The present invention relates to a process for the torrefaction of a biomass feedstock for the production of a biofuel, the process comprising: torrefaction of a biomass feedstock in a toroidal bed reactor 1, wherein the toroidal bed reactor comprises a reaction chamber 3 with a substantially circumferentially directed flow of fluid E generated therein to cause the biomass feedstock to circulate rapidly about an axis of the reaction chamber in a toroidal band, and to heat the biomass feedstock, wherein the fluid comprises gas or gases introduced into the reaction chamber and wherein the chamber is maintained under an oxygen-depleted atmosphere. The chamber may comprise a plurality of outwardly radiating inclined fluid inlets 9 at or adjacent the base of the chamber and wherein fluid is directed through the fluid inlets to generate the circumferentially directed flow of fluid within the chamber.

IPC 8 full level
B01J 8/00 (2006.01); **C10B 49/02** (2006.01); **C10B 53/02** (2006.01); **C10L 5/44** (2006.01); **F26B 1/00** (2006.01); **F26B 25/00** (2006.01)

CPC (source: EP GB US)
C10B 49/08 (2013.01 - EP US); **C10B 49/12** (2013.01 - EP US); **C10B 53/02** (2013.01 - EP GB US); **C10L 5/08** (2013.01 - US); **C10L 5/363** (2013.01 - EP US); **C10L 5/366** (2013.01 - EP US); **C10L 5/44** (2013.01 - EP US); **C10L 5/447** (2013.01 - US); **C10L 9/083** (2013.01 - EP US); **F26B 17/107** (2013.01 - EP US); **F26B 2200/02** (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 2011135305A1

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

DOCDB simple family (publication)
GB 201007192 D0 20100609; **GB 2479924 A 20111102**; BR 112012027769 A2 20170808; CA 2797438 A1 20111103; EP 2563885 A1 20130306; RU 2012148762 A 20140610; US 2013104450 A1 20130502; WO 2011135305 A1 20111103

DOCDB simple family (application)
GB 201007192 A 20100429; BR 112012027769 A 20110428; CA 2797438 A 20110428; EP 11730389 A 20110428; GB 2011000660 W 20110428; RU 2012148762 A 20110428; US 201113695156 A 20110428