

Title (en)

Process for the production of solid, liquid and gaseous combustibles from organic materials.

Title (de)

Verfahren zur Gewinnung von festen, flüssigen und gasförmigen Brennstoffen aus organischem Material.

Title (fr)

Procédé de préparation de combustibles solides, liquides et gazeux à partir de matériaux organiques.

Publication

EP 0052334 A2 19820526 (DE)

Application

EP 81109604 A 19811110

Priority

DE 3042964 A 19801114

Abstract (en)

[origin: EP0052334B1] 1. A process for producing solid, liquid and gaseous fuels from organic material in granular or powder form at elevated temperatures and under exclusion of air, whereby the gases and vapors escaping during the heating are conducted through suitable gas and liquid separators, the conversion temperature is maintained until the development of gases and vapors has substantially ceased and the solid conversion residue and the separated gases and liquids are isolated, characterized in that carbohydrates, lipides, proteines ; vegetable, bacteriae, algae masses ; fresh sludge, sewage sludge and fermentation sludge from waste water purifying plants or the organic components of private or industrial garbage are used as organic material and that this material is heated at a rate of 5 to 30 degrees C per minute up to a conversion temperature of 200 to 400 degrees C.

Abstract (de)

Es wird ein Verfahren zur Gewinnung von festen, flüssigen und gasförmigen Brennstoffen beschrieben, bei dem Biomassen mikrobiellen, pflanzlichen oder tierischen Ursprungs, organisches Material enthaltende Sedimente oder Müll unter Luftausschluß langsam auf eine Konvertierungstemperatur von 200 bis 600 °C erhitzt werden. Dabei entstehen gasförmige Reaktionsprodukte, Kohlenwasserstoffe und Kohle.

IPC 1-7

C10G 1/02; **C10L 5/00**; **C10L 9/08**

IPC 8 full level

C10B 53/00 (2006.01); **C10G 1/00** (2006.01); **C10G 1/02** (2006.01); **C10J 3/00** (2006.01); **C10L 5/00** (2006.01); **C10L 9/08** (2006.01)

CPC (source: EP US)

C10B 53/00 (2013.01 - EP US); **C10G 1/02** (2013.01 - EP US); **C10L 9/08** (2013.01 - EP US)

Cited by

DE4118001C1; EP0325662A1; DE19950062A1; EP0157339A3; JPH0641545A; EP0204354A1; DE102004021583B4; DE3340971A1; EP0330070A1; DE19631201C2; US4781796A; EP0075060A3; DE10144290C1; DE19608308C2; EP2693060A1; DE102009033216A1; US6615751B1; US8518219B2

Designated contracting state (EPC)

AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)

EP 0052334 A2 19820526; **EP 0052334 A3 19821110**; **EP 0052334 B1 19860716**; **EP 0052334 B2 19940511**; AT E20759 T1 19860815; CA 1182062 A 19850205; DE 3042964 A1 19820701; DE 3174939 D1 19860821; JP H0461037 B2 19920929; JP S57111380 A 19820710; US 5114541 A 19920519

DOCDB simple family (application)

EP 81109604 A 19811110; AT 81109604 T 19811110; CA 390057 A 19811113; DE 3042964 A 19801114; DE 3174939 T 19811110; JP 18297081 A 19811113; US 69889791 A 19910513