Title (en)

PYROLYSIS OF POLYCARBONATE-CONTAINING MATERIAL IN ORDER TO RECOVER RAW MATERIALS

Title (de)

PYROLYSE VON POLYCARBONAT-HALTIGEM MATERIAL ZUR WIEDERGEWINNUNG VON ROHSTOFFEN

Title (fr)

PYROLYSE D'UN MATÉRIAU CONTENANT DU POLYCARBONATE POUR RÉCUPÉRER DES MATIÈRES PREMIÈRES

Publication

EP 4294892 A1 20231227 (DE)

Application

EP 21843741 A 20211222

Priority

- EP 21157529 A 20210217
- EP 2021087331 W 20211222

Abstract (en)

[origin: WO2022174963A1] The invention relates to a method for pyrolysis of polycarbonate-containing material in order to recover raw materials. The method comprises at least the following steps: (a) introducing material intended for the pyrolysis, at least comprising material that contains a mixture of a polycarbonate-containing compound and a polystyrene-containing compound, into a reactor; (b) decomposing, at a temperature of 300 °C to 700 °C, at least the material intended for pyrolysis introduced into the reactor in step (a) and obtaining a product that is present in the gaseous phase as the pyrolysate and of pyrolysis residues that are present in a non-gaseous phase, (i) the amount of oxygen gas in the reactor during decomposition being not more than 2.0 vol.% relative to the entire volume of the gases present in the reactor, and (ii) the pyrolysate being removed from the reactor during decomposition, and (iii) the pyrolysis residues being removed from the reactor; (c) cooling the removed pyrolysate to a temperature of less than 300 °C while obtaining a pyrolysis product, selected from pyrolysis condensate, pyrolysis sublimate or a mixture thereof; and (d) optionally processing the pyrolysis product. When carrying out this method in a correspondingly designed device, raw materials for producing polycarbonate-containing composite materials, in particular bisphenol-A and styrene, can be recovered from these composite materials.

IPC 8 full level

C10B 53/07 (2006.01); **C08J 11/12** (2006.01)

CPC (source: EP KR)

C08G 64/24 (2013.01 - KR); **C08G 64/307** (2013.01 - KR); **C08J 11/12** (2013.01 - EP KR); **C10B 53/07** (2013.01 - EP KR); C08J 2325/06 (2013.01 - EP KR); C08J 2369/00 (2013.01 - EP KR); Y02W 30/62 (2015.05 - KR)

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

EP 4047073 A1 20220824; CN 116848217 A 20231003; EP 4294892 A1 20231227; JP 2024507200 A 20240216; KR 20230146533 A 20231019; WO 2022174963 A1 20220825

DOCDB simple family (application)

EP 21157529 A 20210217; CN 202180093366 A 20211222; EP 2021087331 W 20211222; EP 21843741 A 20211222; JP 2023549821 A 20211222; KR 20237027671 A 20211222