

Title (en)
PRESSURIZED HIGH TEMPERATURE POLYMERIZATION PROCESS

Title (de)
HOCHDRUCK-HOCHTEMPERATUR-POLYMERISATIONSVERFAHREN

Title (fr)
PROCESSUS DE POLYMERISATION HAUTE TEMPERATURE SOUS PRESSION

Publication
EP 1639019 A1 20060329 (EN)

Application
EP 04777656 A 20040701

Priority
• US 2004021684 W 20040701
• US 61249503 A 20030702
• US 61727003 A 20030710

Abstract (en)
[origin: WO2005003185A1] The present invention is directed to a novel high temperature polymerization process operating at high pressures for producing a polymer. The process includes conveying hybrid reactor mixtures, which include one or more hybrid reactor monomers and one or more hybrid reactor initiators to one or more hybrid reactors. The hybrid reactors are maintained at effective hybrid polymerization temperatures and sub-reflux polymerization gage pressures to cause polymerization of a portion of the hybrid reactor monomers into the polymer. The process further includes conveying hybrid reactor contents from the hybrid reactors to one or more batch reactors maintained at effective batch polymerization temperatures and reflux polymerization pressures to cause polymerization of a remaining portion of the hybrid reactor monomers into the polymer. The hybrid reactors are smaller in volume than the batch reactors. By utilizing the hybrid/batch reactor combination, the process of the present invention can be operated under safe working conditions. The process of the present invention also allows control of the polydispersity and molecular weight of the resulting polymers. As a result, the polymers made therefrom can be used as binders in compositions, such as coating compositions used in the automotive refinish and OEM applications having desired coating properties. The present invention is also directed to a polymerization system used in the process of the present invention.

IPC 1-7
C08F 2/00; **C08F 2/26**; **B32B 27/04**

IPC 8 full level
C08F 2/00 (2006.01); **B32B 27/04** (2006.01); **C08F 2/26** (2006.01); **C08F 8/30** (2006.01); **C08G 18/62** (2006.01); **C08L 33/14** (2006.01); **C09D 133/08** (2006.01); **C09D 133/14** (2006.01); **C08L 67/00** (2006.01)

IPC 8 main group level
C09D (2006.01)

CPC (source: EP KR)
B01J 19/0013 (2013.01 - EP); **B01J 19/1862** (2013.01 - EP); **C08F 2/00** (2013.01 - EP KR); **C08F 2/01** (2013.01 - KR); **C08F 8/30** (2013.01 - KR); **C08G 18/6283** (2013.01 - EP); **C08L 33/14** (2013.01 - KR); **C09D 133/08** (2013.01 - EP); **B01J 2219/00029** (2013.01 - EP); **B01J 2219/0004** (2013.01 - EP); **B01J 2219/00063** (2013.01 - EP); **B01J 2219/00065** (2013.01 - EP); **B01J 2219/00094** (2013.01 - EP); **B01J 2219/00123** (2013.01 - EP); **B01J 2219/0013** (2013.01 - EP); **B01J 2219/00162** (2013.01 - EP); **B01J 2219/00182** (2013.01 - EP); **B01J 2219/0286** (2013.01 - EP); **C08L 67/00** (2013.01 - EP)

Designated contracting state (EPC)
BE DE ES FR GB

DOCDB simple family (publication)
WO 2005003185 A1 20050113; AU 2004253971 A1 20050113; AU 2004254267 A1 20050113; BR PI0411635 A 20060829; BR PI0411680 A 20060808; CA 2526696 A1 20050113; CA 2527084 A1 20050113; EP 1639019 A1 20060329; EP 1639019 A4 20081112; EP 1639048 A2 20060329; EP 1639048 A4 20060705; EP 1639048 B1 20121114; JP 2007523962 A 20070823; JP 2007527451 A 20070927; KR 20060027829 A 20060328; KR 20060038405 A 20060503; MX PA05013523 A 20060309; MX PA05013541 A 20060309; WO 2005003243 A2 20050113; WO 2005003243 A3 20051103

DOCDB simple family (application)
US 2004021684 W 20040701; AU 2004253971 A 20040701; AU 2004254267 A 20040701; BR PI0411635 A 20040701; BR PI0411680 A 20040701; CA 2526696 A 20040701; CA 2527084 A 20040701; EP 04756709 A 20040701; EP 04777656 A 20040701; JP 2006518857 A 20040701; JP 2006518858 A 20040701; KR 20057025289 A 20051229; KR 20057025385 A 20051230; MX PA05013523 A 20040701; MX PA05013541 A 20040701; US 2004021685 W 20040701