

Title (en)  
FILLER FOR PAPERMAKING PROCESS

Title (de)  
FÜLLER FÜR DAS PAPIERHERSTELLUNGSVERFAHREN

Title (fr)  
FILTRE POUR PROCÉDÉ DE FABRICATION DU PAPIER

Publication  
**EP 2037041 B1 20160928 (EN)**

Application  
**EP 08172278 A 20041220**

Priority  
• EP 04809143 A 20041220  
• EP 03445149 A 20031222  
• EP 08172278 A 20041220

Abstract (en)  
[origin: WO2005061793A1] The present invention relates to a filler comprising calcium salt and cellulose derivative having a degree of substitution of net ionic groups up to about 0.65, wherein the filler is substantially free from fibres or fibrils of cellulose or lignocellulose. The invention also relates to a filler comprising calcium salt and a cellulose derivative having a degree of substitution of net ionic groups up to about 0.65, wherein the cellulose derivative contains cationic groups. The invention further relates to a method of producing a filler which comprises mixing a calcium salt-containing material with a cellulose derivative having a degree of substitution of net ionic groups up to about 0.65 in the substantial absence of fibres or fibrils of cellulose or lignocellulose. The invention also relates to a method of producing a filler which comprises mixing a calcium salt-containing material with a cellulose derivative having a degree of substitution of net ionic groups up to about 0.65, wherein the cellulose derivative contains cationic groups. The invention further relates to a filler obtainable by the methods. The invention further relates to a papermaking process which comprises providing an aqueous suspension containing cellulosic fibres, introducing into the suspension a filler comprising calcium salt and cellulose derivative having a degree of substitution of net ionic groups up to about 0.65, wherein the filler is substantially free from fibres or fibrils of cellulose or lignocellulose, and dewatering the suspension to form a web or sheet of paper. The invention also relates to a papermaking process which comprises providing an aqueous suspension containing cellulosic fibres, introducing into the suspension a filler calcium salt and cellulose derivative having a degree of substitution of net ionic groups up to about 0.65, wherein the cellulose derivative contains cationic groups, and dewatering the suspension to form a web or sheet of paper.

IPC 8 full level  
**D21H 17/67** (2006.01); **D21H 17/26** (2006.01); **D21H 23/04** (2006.01)

CPC (source: EP KR)  
**D21H 3/00** (2013.01 - KR); **D21H 17/67** (2013.01 - EP KR); **D21H 23/00** (2013.01 - KR); **D21H 17/26** (2013.01 - EP); **D21H 17/675** (2013.01 - EP); **D21H 17/74** (2013.01 - EP); **D21H 23/04** (2013.01 - EP)

Citation (opposition)  
Opponent : Dr. Bernd Aechter  
• WO 8201020 A1 19820401 - SUNDEN O, et al  
• CA 2328239 A1 19991021 - KEMIRA KEMI AB [SE]  
• US 4310360 A 19820112 - KVANT MAGNUS B  
• US 4579943 A 19860401 - KAMIDE KENJI [JP], et al  
• US 5492560 A 19960220 - FAIRCHILD GEORGE H [US]  
• H. HAMADA ET AL.: "Effects of water-soluble cellulosic polymers on coating development and quality", PROCEEDINGS OF PITA COATING CONFERENCE, 4 March 2003 (2003-03-04), pages 91 - 95  
• J. A. WALECKA: "An Investigation of Low Degree of Substitution Carboxymethylcelluloses", DOC- TOR'S DISSERTATION, June 1956 (1956-06-01), pages FP - 113, XP055397518

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**WO 2005061793 A1 20050707**; AR 050757 A1 20061122; AU 2004303745 A1 20050707; AU 2004303745 B2 20081106; BR PI0418030 A 20070417; BR PI0418030 B1 20180925; CA 2550261 A1 20050707; CA 2550261 C 20120214; CN 101871181 A 20101027; CN 1898439 A 20070117; CN 1898439 B 20120425; DK 2037041 T3 20170116; DK 2325388 T3 20160704; EP 1704282 A1 20060927; EP 1704282 B1 20180425; EP 1704282 B2 20230830; EP 2037041 A1 20090318; EP 2037041 B1 20160928; EP 2325388 A1 20110525; EP 2325388 B1 20160406; ES 2578731 T3 20160729; ES 2630379 T3 20170821; ES 2675222 T3 20180709; JP 2007515572 A 20070614; JP 4799424 B2 20111026; KR 100810389 B1 20080304; KR 20060108725 A 20061018; LT 2037041 T 20161227; NZ 547789 A 20100326; PL 1704282 T3 20180928; PL 2037041 T3 20170731; PL 2325388 T3 20160930; PT 1704282 T 20180704; PT 2037041 T 20170102; PT 2325388 T 20160712; RU 2006126678 A 20080127; RU 2345189 C2 20090127; SI 2037041 T1 20170131; SI 2325388 T1 20160831; TR 201809764 T4 20180723; TW 200536993 A 20051116; TW I356862 B 20120121

DOCDB simple family (application)  
**SE 2004001970 W 20041220**; AR P040104851 A 20041222; AU 2004303745 A 20041220; BR PI0418030 A 20041220; CA 2550261 A 20041220; CN 200480038513 A 20041220; CN 201010202833 A 20041220; DK 08172278 T 20041220; DK 10186029 T 20041220; EP 04809143 A 20041220; EP 08172278 A 20041220; EP 10186029 A 20041220; ES 04809143 T 20041220; ES 08172278 T 20041220; ES 10186029 T 20041220; JP 2006546916 A 20041220; KR 20067012294 A 20060621; LT 08172278 T 20041220; NZ 54778904 A 20041220; PL 04809143 T 20041220; PL 08172278 T 20041220; PL 10186029 T 20041220; PT 04809143 T 20041220; PT 08172278 T 20041220; PT 10186029 T 20041220; RU 2006126678 A 20041220; SI 200432329 A 20041220; SI 200432366 A 20041220; TR 201809764 T 20041220; TW 93139994 A 20041222