

Title (en)

Utilization of amorphous silico-aluminates as calcium-containing precipitates sequestrants

Title (de)

Verwendung von amorphen Siliko-Aluminaten als Wirtsgitter von Kalcium-enthaltenden Niederschlägen

Title (fr)

Utilisation de silico-aluminate amorphe en tant que capteurs de précipités calciques

Publication

EP 0572288 B1 19980715 (FR)

Application

EP 93400976 A 19930414

Priority

FR 9206419 A 19920526

Abstract (en)

[origin: EP0572288A1] The subject of the present invention is the use, in a detergent composition, of an alkali metal amorphous silicoaluminate as agents for capturing calcium-containing precipitates. The invention also relates to a detergent composition comprising at least one alkali metal amorphous silicoaluminate, alkali metal carbonate, the alkali metal is preferably sodium, and at least one inhibitor of calcium carbonate crystalline growth, the alkali metal carbonate being present especially as the main agent for removing ionic calcium.

IPC 1-7

C11D 3/12

IPC 8 full level

C01B 33/26 (2006.01); **C11D 3/08** (2006.01); **C11D 3/10** (2006.01); **C11D 3/12** (2006.01); **C11D 3/60** (2006.01); **C11D 9/12** (2006.01); **C11D 17/06** (2006.01)

CPC (source: EP KR US)

C11D 3/08 (2013.01 - EP US); **C11D 3/10** (2013.01 - EP KR US); **C11D 3/128** (2013.01 - EP US)

Citation (examination)

EP 0562628 A2 19930929 - KAO CORP [JP]

Cited by

WO0037596A3

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE

DOCDB simple family (publication)

EP 0572288 A1 19931201; EP 0572288 B1 19980715; AT E168410 T1 19980815; BG 97766 A 19940527; BR 9302020 A 19931130; CA 2096909 A1 19931127; CN 1079251 A 19931208; CZ 98493 A3 19940413; DE 69319664 D1 19980820; DE 69319664 T2 19990128; DK 0572288 T3 19981026; EE 9400075 A 19951215; FI 932375 A0 19930525; FI 932375 A 19931127; FR 2691715 A1 19931203; HU 9301530 D0 19930928; HU T66731 A 19941228; JP H0649485 A 19940222; KR 930023449 A 19931218; KR 960001012 B1 19960117; LT 3599 B 19951227; LT IP573 A 19950227; LV 10300 A 19941020; LV 10300 B 19950420; NO 931871 D0 19930524; NO 931871 L 19931129; PL 299048 A1 19940221; RO 114631 B1 19990630; SK 51993 A3 19940112; TW 251317 B 19950711; US 5700294 A 19971223; YU 35293 A 19960219

DOCDB simple family (application)

EP 93400976 A 19930414; AT 93400976 T 19930414; BG 9776693 A 19930525; BR 9302020 A 19930520; CA 2096909 A 19930525; CN 93106233 A 19930525; CZ 98493 A 19930524; DE 69319664 T 19930414; DK 93400976 T 19930414; EE 9400075 A 19940928; FI 932375 A 19930525; FR 9206419 A 19920526; HU 9301530 A 19930525; JP 14435693 A 19930525; KR 930009118 A 19930525; LT IP573 A 19930526; LV 930393 A 19930524; NO 931871 A 19930524; PL 29904893 A 19930524; RO 9300720 A 19930525; SK 51993 A 19930521; TW 82103691 A 19930511; US 58424496 A 19960111; YU 35293 A 19930520