

Title (en)
WATER-SOFTENING AGENT IN GRANULAR TO POWDER FORM

Publication
EP 0460035 B1 19921111 (DE)

Application
EP 90903797 A 19900214

Priority
DE 3905423 A 19890222

Abstract (en)
[origin: DE3905423A1] The invention concerns a water-softening agent in granular to powder form which can be used in conjunction with a detergent or for washing and which contains (A) fine-crystalline, synthetic, hydrated zeolite of the type NaA, (B) polymer polycarboxylates, derived from acrylic acids and their copolymers with maleic acid in the form of the sodium salt, (C) sodium perborate in the form of the monohydrate and/or tetrahydrate and (D) at least one linear 1,2-alkanediol with a C10 to C18 chain length and/or their ethoxylation products with not more than 3 ethoxy groups. The agent consists of a dry mixture of at least two powder components; the first component contains the constituents (A) and (B) in the form of a spray-dried granulate, and the second powder component contains sodium perborate (C). Constituent (D) can be mixed with each powder component or with a mixture thereof or granulated.

IPC 1-7
C11D 3/12; **C11D 3/20**; **C11D 3/37**; **C11D 3/39**

IPC 8 full level
C11D 3/12 (2006.01); **C11D 3/20** (2006.01); **C11D 3/37** (2006.01); **C11D 3/39** (2006.01)

CPC (source: EP)
C11D 3/128 (2013.01); **C11D 3/2044** (2013.01); **C11D 3/3761** (2013.01); **C11D 3/3942** (2013.01)

Cited by
WO2024089071A1; WO2024089139A1; WO2024088521A1

Designated contracting state (EPC)
AT BE CH DE ES FR IT LI NL

DOCDB simple family (publication)
DE 3905423 A1 19900823; DE 59000471 D1 19921217; EP 0460035 A1 19911211; EP 0460035 B1 19921111; ES 2053182 T3 19940716; WO 9010054 A1 19900907

DOCDB simple family (application)
DE 3905423 A 19890222; DE 59000471 T 19900214; EP 9000238 W 19900214; EP 90903797 A 19900214; ES 90903797 T 19900214