

Title (en)

METHOD FOR IMPROVING THE CLEANING ACTION OF A DETERGENT OR CLEANING AGENT

Title (de)

VERFAHREN ZUR VERBESSERUNG DER REINIGUNGSLEISTUNG EINES WASCH- ODER REINIGUNGSMITTELS

Title (fr)

PROCÉDÉ POUR AMÉLIORER LE POUVOIR DE NETTOYAGE D'UN PRODUIT DÉTERGENT OU NETTOYANT

Publication

EP 2313483 B1 20180620 (DE)

Application

EP 09780409 A 20090710

Priority

- EP 2009058791 W 20090710
- DE 102008038479 A 20080820

Abstract (en)

[origin: WO2010020475A2] According to the invention, the cleaning action of a detergent or cleaning agent is improved when the agent comprises at least one hydrolytic enzyme and at least one substance that produces a synergistic cleaning action when the agent is used together with the hydrolytic enzyme. Said substance is selected from the following: i. an amino acid or polyamino acid or derivatives therefrom and/or; ii. biotenside and/or; iii. a microbial metabolite and/or; iv. a preparation of a microbial culture supernatant that contains at least 2.5 % in weight of one of the substances i) to iii).

IPC 8 full level

C11D 3/386 (2006.01); **C11D 3/22** (2006.01); **C11D 3/37** (2006.01)

CPC (source: EP US)

C11D 1/32 (2013.01 - EP US); **C11D 3/2003** (2013.01 - EP US); **C11D 3/201** (2013.01 - EP US); **C11D 3/2041** (2013.01 - EP US); **C11D 3/2044** (2013.01 - EP US); **C11D 3/2065** (2013.01 - EP US); **C11D 3/2072** (2013.01 - EP US); **C11D 3/2075** (2013.01 - EP US); **C11D 3/2079** (2013.01 - EP US); **C11D 3/2082** (2013.01 - EP US); **C11D 3/2086** (2013.01 - EP US); **C11D 3/221** (2013.01 - EP US); **C11D 3/222** (2013.01 - EP US); **C11D 3/33** (2013.01 - EP US); **C11D 3/3719** (2013.01 - EP US); **C11D 3/3723** (2013.01 - EP US); **C11D 3/3753** (2013.01 - EP US); **C11D 3/3757** (2013.01 - EP US); **C11D 3/3769** (2013.01 - EP US); **C11D 3/381** (2013.01 - EP US); **C11D 3/386** (2013.01 - EP US); **C11D 3/38627** (2013.01 - EP US); **C11D 3/38636** (2013.01 - EP US); **C11D 3/38645** (2013.01 - EP US); **C11D 3/3869** (2013.01 - EP US)

Citation (opposition)

Opponent : BASF SE

- JP S63183999 A 19880729 - KAO CORP
- JP S6363796 A 19880322 - KAO CORP
- WO 2008028896 A2 20080313 - HENKEL KGAA [DE], et al
- WO 9600770 A1 19960111 - PROCTER & GAMBLE [US], et al
- WO 9710323 A1 19970320 - PROCTER & GAMBLE [US]
- WO 9936503 A1 19990722 - PROCTER & GAMBLE [US], et al
- DE 60022111 T2 20060622 - KAO CORP [JP]
- US 6287841 B1 20010911 - MULLENERS LEONARDUS JOHANNES S [NL], et al
- US 2006089284 A1 20060427 - MIRACLE GREGORY S [US], et al
- WO 9425556 A1 19941110 - PROCTER & GAMBLE [US]
- US 6235697 B1 20010522 - KNORR JOSEPH ROBERT [US], et al

Opponent : THE PROCTER & GAMBLE COMPANY

- US 5308530 A 19940503 - ARONSON MICHAEL P [US], et al
- WO 2004085594 A1 20041007 - CIBA SC HOLDING AG [CH], et al
- US 6235697 B1 20010522 - KNORR JOSEPH ROBERT [US], et al
- EP 1036840 A2 20000920 - KAO CORP [JP]
- WO 2007144855 A1 20071221 - PROCTER & GAMBLE [US], et al
- HARADA ET AL.: "Effect of Polycarboxylate Blocks on the Amidase Activity of Trypsin through Complexation with PEG/Polcarboxylate Block Ionomers", MACROMOLECULAR BIOSCIENCE, July 2007 (2007-07-01), pages 339 - 343, XP055579008
- KAWAMURA ET AL.: "Acceleration of Enzymatic Reaction of Trypsin through the Formation of Water-Soluble Complexes with Poly(ethylene glycol)-block-Poly(aspartic acid)", BIOMACROMOLECULES, June 2005 (2005-06-01), pages 627 - 631, XP055579011
- BOERIS ET AL.: "Protein-flexible chain polymer interactions to explain protein partition in aqueous two- phase systems and the protein-polyelectrolyte complex formation", INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, vol. 41, no. 3, 2007, pages 286 - 294, XP022134531

Designated contracting state (EPC)

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 SE SI SK SM TR

DOCDB simple family (publication)

DE 102008038479 A1 20100225; EP 2313482 A2 20110427; EP 2313482 B1 20190612; EP 2313482 B2 20220727; EP 2313483 A2 20110427; EP 2313483 B1 20180620; EP 2727988 A2 20140507; EP 2727988 A3 20160316; EP 2727988 B1 20190904; EP 2727989 A2 20140507; EP 2727989 A3 20160316; EP 2727989 B1 20190626; EP 2727989 B2 20221221; EP 2727990 A2 20140507; EP 2727990 A3 20160316; ES 2744829 T3 20200226; ES 2744829 T5 20221019; ES 2745761 T3 20200303; ES 2745761 T5 20230309; ES 2753240 T3 20200407; PL 2313482 T3 20191129; PL 2313482 T5 20230227; PL 2727988 T3 20200228; PL 2727989 T3 20191231; PL 2727989 T5 20230327; US 2011136720 A1 20110609; US 2011201536 A1 20110818; WO 2010020475 A2 20100225; WO 2010020475 A3 20100617; WO 2010020476 A2 20100225; WO 2010020476 A3 20100617

DOCDB simple family (application)

DE 102008038479 A 20080820; EP 09780407 A 20090710; EP 09780409 A 20090710; EP 14152968 A 20090710; EP 14152970 A 20090710; EP 14152971 A 20090710; EP 2009058789 W 20090710; EP 2009058791 W 20090710; ES 09780407 T 20090710; ES 14152968 T 20090710; ES 14152970 T 20090710; PL 09780407 T 20090710; PL 14152968 T 20090710; PL 14152970 T 20090710; US 201113026344 A 20110214; US 201113026491 A 20110214