

Title (en)  
DETERGENT

Title (de)  
REINIGUNGSMITTEL

Title (fr)  
DÉTERGENTS

Publication  
**EP 2118254 B1 20110727 (DE)**

Application  
**EP 07847825 A 20071205**

Priority  
• EP 2007063328 W 20071205  
• DE 102007006627 A 20070206

Abstract (en)  
[origin: US2010031976A1] Phosphate-free automatic dishwashing agents containing a) citrate, b) sodium percarbonate, c) nonionic surfactant, d) copolymer encompassing i) monomers from the group of the mono- or polyunsaturated carboxylic acids, ii) monomers of the general formula R1(R2)C-C(R3)-X-R4, in which R1 to R3, mutually independently, denote -H, -CH3, or -C2H5, X denotes an optionally present spacer group that is selected from -CH2-, -C(O)O-, and -C(O)-NH-, and R4 denotes a straight-chain or branched saturated alkyl residue having 2 to 22 carbon atoms or an unsaturated, preferably aromatic residue having 6 to 22 carbon atoms, e) 0.05 to 1 wt % methylglycinediacetic acid, are notable for washing and rinsing results that are comparable or even superior to those of phosphate-containing automatic dishwashing agents.

IPC 8 full level  
**C11D 3/20** (2006.01); **C11D 3/33** (2006.01); **C11D 3/37** (2006.01); **C11D 3/39** (2006.01)

CPC (source: EP US)  
**C11D 3/2086** (2013.01 - EP US); **C11D 3/33** (2013.01 - EP US); **C11D 3/3757** (2013.01 - EP US); **C11D 3/378** (2013.01 - EP US); **C11D 3/3942** (2013.01 - EP US)

Cited by  
WO2013056996A1; US8574374B2; WO2014161786A1; US9994797B2

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 LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**US 2010031976 A1 20100211**; AT E517975 T1 20110815; DE 102007006627 A1 20080807; EP 2118254 A1 20091118; EP 2118254 B1 20110727; WO 2008095562 A1 20080814

DOCDB simple family (application)  
**US 53688509 A 20090806**; AT 07847825 T 20071205; DE 102007006627 A 20070206; EP 07847825 A 20071205; EP 2007063328 W 20071205