

Title (en)  
Mixture of surface-active compounds for use in cleaning compositions

Title (de)  
Mischung oberflächenaktiver Substanzen zur Verwendung in Reinigungsmitteln

Title (fr)  
Mélanges des agents tensio-actifs pour l'utilisation dans des composition de nettoyage

Publication  
**EP 1764408 A1 20070321 (DE)**

Application  
**EP 06018517 A 20060905**

Priority  
DE 102005044028 A 20050914

Abstract (en)  
Mixture comprises at least two different surface active substance, where the first surface active compound (a) is alkyl compound (I); and the second surface active compound (b) is alkenyl compound (II), ethoxylated fatty alcohol (III), ethoxylated fatty alcohol (IV), alkyl (oligo)glycoside (V), betaine, alkyl compound (VI), alkenyl compound (VII) or nitro compound (VIII), where the weight ratio of (a) and (b) is 10:1-1:10. Mixture comprises at least two different surface active substance, where the first surface active compound (a) is alkyl compound (I) of formula (R 1>O[CH 2CH 2O] xCH 2CH(OM)R 2>) and the second active substance (b) is alkenyl compound (II) of formula (R 3>O[CH 2CH 2O] y[CH 2CHCH 3O] zCH 2CH(OH)R 4>), ethoxylated fatty alcohol (III) of formula (R 5>-(OC 2H 4) z-OH), ethoxylated fatty alcohol (IV) of formula (R 6>CO-(OC 2H 4) m-OR 7>), alkyl (oligo)glycoside (V) of formula (R 8>O-[G] p), betaine, alkyl compound (VI) of formula (HO[CH 2CH 2O] oCH 2CH(O-(CH 2CH 2O) p)-R 9>) (where p is 20), alkenyl compound (VII) of formula (R 10>CH(OR 11>)CH 2-OR 11>) and/or nitrogen-containing compound (VIII) of formula (NR 13> 3), where the weight ratio of (a) and (b) is 10:1-1:10. R 1>4-22C alkyl, 4-22C alkenyl or R 2>-CH(OH)CH 2; R 2>, R 4>8-16C-alkyl or 8-16C alkenyl; x : 40-80; M : H or 1-18C saturated alkyl; R 3>8-22C-alkyl- and/or alkenyl; z : 1-20; R 6>7-21C-alkyl- and/or alkenyl; m : 11-100; R 7>H or CO- R 6>; R 8>4-22C-alkyl- and/or alkenyl; G : 5 or 6 carbon atom; p : 1-10; R 9>4-22C alkyl- and/or alkenyl; o : 1-20; R 10>8-16C-alkyl- or alkenyl; R 11>(CH 2CH 2O) rCH 2CH(OH)R 12>; r, s : 0-50; R 12>8-16C alkyl- or alkenyl; and R 13>(CH 2CH 2O) s-CH 2CH(OH)R 14> or 8-16C-alkyl. Independent claims are included for: (1) use of the mixtures in detergents and cleaning agent, preferably in cleaning agent for hard surfaces and automatic dishwasher; and (2) a cleaning agent containing 0.1-15 wt.% of mixture, comprising non-ionic, cationic and/or anionic surfactant, builder, enzyme, rinsing agent, auxiliary material and additives.

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Citation (applicant)  
• EP 1306423 A2 20030502 - GOLDSCHMIDT AG TH [DE]  
• DE 10045289 A1 20020328 - HENKEL KGAA [DE]  
• WO 02061025 A1 20020808 - COGNIS DEUTSCHLAND GMBH [DE], et al  
• DE 10003809 A1 20010802 - COGNIS DEUTSCHLAND GMBH [DE]  
• EP 1167499 A1 20020102 - COGNIS DEUTSCHLAND GMBH [DE]  
• EP 1254948 A1 20021106 - COGNIS DEUTSCHLAND GMBH [DE]  
• EP 1321511 A2 20030625 - COGNIS DEUTSCHLAND GMBH [DE]

Citation (search report)  
• [X] WO 02061025 A1 20020808 - COGNIS DEUTSCHLAND GMBH [DE], et al  
• [X] DE 10003809 A1 20010802 - COGNIS DEUTSCHLAND GMBH [DE]  
• [X] EP 1167499 A1 20020102 - COGNIS DEUTSCHLAND GMBH [DE]  
• [X] EP 1254948 A1 20021106 - COGNIS DEUTSCHLAND GMBH [DE]  
• [X] EP 1321511 A2 20030625 - COGNIS DEUTSCHLAND GMBH [DE]

Cited by  
US8349784B2; WO2012123719A1; WO2010063690A1; WO2009100855A3; US9157050B2; US9617500B2; EP2686411A1; US8148313B2

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