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(21) International Application Number: ✓ PCT/EP97/06694 (22) International Filing Date: ✓ 25 November 1997 (25.11.97) (30) Priority Data: ✓ 08/755,843 ✓ 26 November 1996 (26.11.96) US ✓ 08/755,827 ✓ 26 November 1996 (26.11.96) US (71) Applicant: SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V. [NL/NL]; Carel van Bylandtlaan 30, NL-2596 HR The Hague (NL). ✓ (72) Inventors: KRAVETZ, Louis; 4926 Gleneagles Drive, Hous- ton, TX 77084 (US). MURRAY, Brendan, Dermot; 1118 Stoneyhill Drive, Houston, TX 77077 (US). SINGLETON, David, Michael; 12622 Rocky Meadow Drive, Houston, TX 77024 (US). ✓		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i> 9901457-3 19053 6093
(54) Title: HIGHLY BRANCHED PRIMARY ALCOHOL COMPOSITIONS, AND BIODEGRADABLE DETERGENTS MADE THEREFROM ✓ (57) Abstract There is provided a new branched primary alcohol composition and the sulfates, alkoxyates, alkoxy sulfates and carboxylates thereof exhibiting good cold water detergency and biodegradability. The branched primary alcohol composition has an average number of branches per chain of 0.7 to 3.0, having at least 8 carbon atoms and containing both methyl and ethyl branches. The primary alcohol composition may also contain less than 0.5 atom% of quaternary carbon atoms, and a significant number of ethyl branches, terminal isopropyl branches, and branching at the C ₃ position relative to the hydroxyl carbon. The process for its manufacture is by skeletally isomerizing an olefin feed having at least 7 carbon atoms or by dimerising a C ₆ -C ₁₀ olefin, followed by conversion to an alcohol, as by way of hydroformylation, and ultimately sulfation, alkoxylation or both to obtain a detergent surfactant. Useful skeletal isomerization catalysts include the zeolites having at least one channel with a crystallographic free diameter along the x and/or y planes of the [001] view ranging from 42 to 70 nanometer. Useful dimerisation catalysts include a combination of a nickel carboxylate with an alkyl aluminium halids, or a combination of a nickel chelate with an alkyl aluminium alkoxide.		