

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 January 2008 (17.01.2008)

PCT

(10) International Publication Number
WO 2008/006712 A2

(51) International Patent Classification:

A61K 9/16 (2006.01) A01N 31/16 (2006.01)
A01N 43/653 (2006.01) A01N 53/00 (2006.01)
A01N 37/50 (2006.01)

(21) International Application Number:

PCT/EP2007/056560

(22) International Filing Date: 29 June 2007 (29.06.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

0613925.7 13 July 2006 (13.07.2006) GB

(71) Applicant (for AE, AG, AU, BB, BH, BW, BZ, CA, CY, EG, GB, GD, GH, GM, IE, IL, IN, KE, KN, LC, LK, LS, MT, MW, MY, NA, NG, NZ, OM, PG, SC, SD, SG, SL, SZ, TT, TZ, UG, VC, ZA, ZM, ZW only): **UNILEVER PLC** [GB/GB]; Unilever House, Blackfriars, London Greater London EC4P 4BQ (GB).

(71) Applicant (for all designated States except AE, AG, AU, BB, BH, BW, BZ, CA, CY, EG, GB, GD, GH, GM, IE, IL, IN, KE, KN, LC, LK, LS, MT, MW, MY, NA, NG, NZ, OM, PG, SC, SD, SG, SL, SZ, TT, TZ, UG, US, VC, ZA, ZM, ZW): **UNILEVER N.V.** [NL/NL]; Weena 455, NL-3013 AL Rotterdam (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ANGUS, Doris** [GB/GB]; 22 Brampton Drive, Liverpool Merseyside L8 7ST (GB). **DUNCALF, David, John** [GB/GB]; 36 Sandon Crescent, Little Neston Wirral CH64 0TU (GB). **ELPHICK, Andrew, James** [GB/GB]; 9 Bolsover Close, Long Hanborough, Oxford OX29 8RA (GB). **FOSTER, Alison, Jayne** [GB/GB]; 74 Village Road, Higher Bebington, Wirral Merseyside CH63 8QB (GB). **LONG,**

James [GB/GB]; 28 Palm Grove, Oxtan, Wirral CH43 1TF (GB). **RANNARD, Steven, Paul** [GB/GB]; Unilever R & D Port Sunlight, Quarry Road East, Bebington, Wirral Merseyside CH63 3JW (GB). **WANG, Dong** [CN/GB]; IOTA NanoSolutions Ltd, MerseyBio, Crown Street, Liverpool Merseyside L69 7ZB (GB).

(74) Agent: **ELLIOTT, Peter, William**; Unilever PLC, Unilever Patent Group, Colworth House, Sharnbrook, Colworth House, Sharnbrook, Bedford Bedfordshire MK44 1LQ (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IMPROVEMENTS RELATING TO NANODISPERSIONS

(57) Abstract: The invention provides process for making contra-soluble nano-dispersions of at most sparingly-soluble materials in a soluble carrier material comprising the steps of: (i) providing a single phase mixture of: a) a solvent or a mixture of miscible solvents, b) at least one carrier material soluble in solvent (a), said carrier material being also contra-soluble to payload material (c) and solid at ambient temperature, c) at least one a payload material which is soluble in solvent (a), and, (ii) drying the mixture to remove solvent (a) and thereby obtain the carrier material (b) in solid form with payload (c) dispersed therein as nanoparticles.



WO 2008/006712 A2