

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 September 2007 (27.09.2007)

PCT

(10) International Publication Number
WO 2007/109698 A2

(51) International Patent Classification:
A61K 31/58 (2006.01) A61L 2/23 (2006.01)

(21) International Application Number:
PCT/US2007/064462

(22) International Filing Date: 21 March 2007 (21.03.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/784,634 22 March 2006 (22.03.2006) US

(71) Applicants (for all designated States except US): **GLAXO GROUP LIMITED** [GB/GB]; Glaxo Wellcome House, Berkeley Avenue, Greenford Middlesex UB6 0NN (GB). **3M INNOVATIVE PROPERTIES COMPANY** [US/US]; 3M Center, Post Office Box 33427, Saint Paul, Minnesota 55133-3427 (US). **GLAXO WELLCOME MANUFACTURING PTE LTD** [SG/SG]; 1 Pioneer Sector 1, Jurong 628413 (SG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CAPECCHI, John** [US/US]; 3M Innovative Properties Company, 3M Center, Post Office Box 33427, St. Paul, Minnesota 55133-3427 (US). **STEFELY, James** [US/US]; 3M Innovative Properties Company, 3M Center, Post Office Box 33427, St. Paul, Minnesota 55133-3427 (US). **RILEY, Trevor** [GB/GB]; GlaxoSmithKline, Park Road, Ware Hertfordshire SG12 8BDP (GB).

(74) Agents: **DADSWELL, Charles, E.** et al.; GlaxoSmithKline, Corporate Intellectual Property Dept., Five Moore Drive, PO Box 13398, Research Triangle Park, NC 27709 (US).

(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, 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, 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).

Declarations under Rule 4.17:

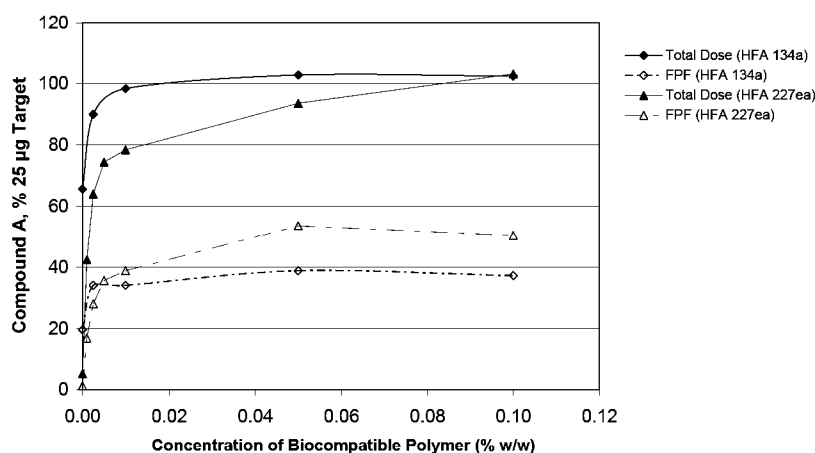
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

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

[Continued on next page]

(54) Title: NOVEL FORMULATIONS



(57) Abstract: The present invention relates to novel pharmaceutical aerosol formulations, processes for their preparation, their use in therapy, metered dose inhalers containing said formulations and the use of biocompatible polymers in reducing the variability in the content uniformity and/or in providing enhanced fine particle fraction (FPF) in said formulations.

WO 2007/109698 A2



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.