

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 February 2006 (09.02.2006)

PCT

(10) International Publication Number
WO 2006/014019 A1

(51) International Patent Classification: **G03G 9/08**,
9/087

Avenue 201, 1714-10, Aza hinoguchi, Shimokanuki,
Numazu-shi, Shizuoka, 4100822 (JP).

(21) International Application Number:
PCT/JP2005/014709

(74) Agent: **HIROTA, Koichi**; HIROTA, NAGARE & AS-
SOCIATES, 4th Floor, Sinjuku TR Bldg., 2-2-13, Yoyogi,
Shibuya-ku, Tokyo 1510053 (JP).

(22) International Filing Date: 4 August 2005 (04.08.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2004-229201 5 August 2004 (05.08.2004) JP

(71) Applicant (for all designated States except US): **RICOH
COMPANY, LTD.** [JP/JP]; 3-6, Nakamagome 1-chome,
Ohta-ku, Tokyo, 1438555 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **UTSUMI, Tomoko**
[JP/JP]; 2349, Kadosawabasi, Ebina-shi, Kanagawa,
2430426 (JP). **MOCHIZUKI, Satoshi** [JP/JP]; Angel
Heim Okaishiki 2-601, 27-1, Okaishiki, Numazu-shi,
Shizuoka, 4100012 (JP). **SUGIURA, Hideki** [JP/JP];
837-16, Miyajima, Fuji-shi, Shizuoka, 4160945 (JP).
ICHIKAWA, Tomoyuki [JP/JP]; Dai6 Sumika Bldg. 206,
115, Suenaga-cho, Takatsu-ku, Kawasaki-shi, Kanagawa,
2130013 (JP). **MASUDA, Minoru** [JP/JP]; Sugiyama
Heights 202, 20-2, Hanazono-cho, Numazu-shi, Shizuoka,
4100065 (JP). **NAKAYAMA, Shinya** [JP/JP]; Gran River

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, 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, HR, HU, ID, IL, IN, IS, KE, KG,
KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM,
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,
SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,
YU, 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, 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:

— with international search report

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

(54) Title: TONER AND PRODUCTION METHOD THEREOF, IMAGE FORMING APPARATUS AND IMAGE FORMING METHOD, AND PROCESS CARTRIDGE

(57) Abstract: The object of the invention is to provide a toner enabling excellent transferring properties, cleanability, and fixability, and forming a high-precision image without substantially degraded image quality even after printed on a number of sheets of paper. The invention also provides the toner-production method, an image forming apparatus, an image forming method, and a process cartridge. To this end, the present invention provides a toner which comprises toner-base particles containing a binder resin and a filler, and inorganic fine particles, in which the filler is included in a filler-layer in the vicinity of surfaces of the toner-base particles, the number average particle diameter of the primary particles of the inorganic fine particles is 90nm to 300nm, and the average circularity of the toner is 0.95.

WO 2006/014019 A1