

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 January 2003 (23.01.2003)

PCT

(10) International Publication Number
WO 03/006374 A1

(51) International Patent Classification⁷: **C01B 33/107**,
B01D 53/22, H01L 31/20, 21/205, C03B 37/00, G01N
30/14

(74) Agents: **ISHIDA, Takashi** et al.; A. AOKI, ISHIDA &
ASSOCIATES, Toranomom 37 Mori Bldg., 5-1, Tora-
nomom 3-chome, Minato-ku, Tokyo 105-8423 (JP).

(21) International Application Number: PCT/JP02/07069

(22) International Filing Date: 11 July 2002 (11.07.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2001-212890 12 July 2001 (12.07.2001) JP
60/306,420 20 July 2001 (20.07.2001) US

(71) Applicant (for all designated States except US): **SHOWA
DENKO K. K.** [JP/JP]; 13-9, Shiba Daimon 1-chome, Mi-
nato-ku, Tokyo 105-8518 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ATOBE, Hitoshi**
[JP/JP]; C/O Production & Technology Control Depart-
ment, Gases & Chemicals Division,, SHOWA DENKO
K.K., 5-1, Ogimachi, Kawasaki-ku, Kawasaki-shi, Kana-
gawa 210-0867 (JP). **OKA, Masakazu** [JP/JP]; C/O
Production & Technology Control Department, Gases &
Chemicals Division,, SHOWA DENKO K.K., 5-1, Ogi-
machi, Kawasaki-ku, Kawasaki-shi, Kanagawa 210-0867
(JP). **KANEKO, Toraichi** [JP/JP]; 14-1, Aza-Michishita,
Oaza-Teruoka, Iiyama-shi, Nagano 389-2601 (JP).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK,
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI,
SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK,
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

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: PRODUCTION AND USE OF TETRAFLUOROSILANE

(57) Abstract: Tetrafluorosilane is produced by a process comprising a step (1) of heating a hexafluorosilicate, a step (2-1) of reacting a tetrafluorosilane gas containing hexafluorodisiloxane produced in the step (1) with a fluorine gas, a step (2-2) of reacting a tetrafluorosilane gas containing hexafluorodisiloxane produced in the step (1) with a highvalent metal fluoxide, or a step (2-1) of reacting a tetrafluorosilane gas containing hexafluorodisiloxane produced in the step (1) with a fluorine gas and a step (2-3) of reacting a tetrafluorosilane gas produced in the step (2-1) with a highvalent metal fluoxide. Further, impurities in high-purity tetrafluorosilane are analyzed.



WO 03/006374 A1