

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
5 August 2010 (05.08.2010)

PCT

(10) International Publication Number
WO 2010/086600 A2

- (51) **International Patent Classification:**
C01B 31/02 (2006.01) *C23C 16/44* (2006.01)
C23C 16/26 (2006.01)
- (21) **International Application Number:**
PCT/GB2010/000130
- (22) **International Filing Date:**
28 January 2010 (28.01.2010)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
0901409.3 28 January 2009 (28.01.2009) GB
- (71) **Applicant (for all designated States except US):** **SURREY NANOSYSTEMS LTD** [GB/GB]; Unit 24 Euro Business Park, Newhaven, East Sussex BN9 0DQ (GB).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **JENSEN, Ben, Poul** [GB/GB]; 36 Motcombe Road, Eastbourne, East Sussex BN21 1QT (GB). **CHEN, Guan Yow** [SG/SG]; 02 Jalan Anak Bukit, #05-03 Sherwood Towers, Singapore 588998 (SG).
- (74) **Agent:** **THOMPSON GRAY LLP**; Central Court, 25 Southampton Buildings, London WC2A 1AL (GB).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, 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 (Rule 48.2(g))*



WO 2010/086600 A2

(54) **Title:** PROVIDING GAS FOR USE IN FORMING A CARBON NANOMATERIAL

(57) **Abstract:** In a Chemical Vapour Deposition (CVD) process for forming carbon nanomaterials, a supply (10) of acetylene gas is filtered by a filter (12) to remove a volatile hydrocarbon gas before the acetylene gas is provided to a mass flow controller (14). The mass flow controller (14) can mix the filtered acetylene gas with a supply of the volatile hydrocarbon gas so that a gas mixture has a selected proportion of the volatile hydrocarbon gas. The filter (12) performs the filtering by passing the acetylene gas over active carbon.