

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
13 May 2004 (13.05.2004)

PCT

(10) International Publication Number  
**WO 2004/039897 A3**

(51) International Patent Classification<sup>7</sup>: **B41M 3/00**, 1/00

9BL (GB). YEUDALL, Robert, Malcolm [GB/GB]; 23 Redwood Court, Milton of Leys, Inverness IV2 6HF (GB).

(21) International Application Number:

PCT/GB2003/004689

(74) Agents: **MERCER, Christopher, Paul** et al.; Carpmals & Ransford, 43-45 Bloomsbury Square, London WC1A 2RA (GB).

(22) International Filing Date: 30 October 2003 (30.10.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

|            |                               |    |
|------------|-------------------------------|----|
| 60/422,226 | 30 October 2002 (30.10.2002)  | GB |
| 60/422,230 | 30 October 2002 (30.10.2002)  | GB |
| 60/436,683 | 27 December 2002 (27.12.2002) | GB |
| 60/436,685 | 27 December 2002 (27.12.2002) | GB |
| 60/443,930 | 31 January 2003 (31.01.2003)  | GB |

(81) Designated States (*national*): 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, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, 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, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **INVERNESS MEDICAL LIMITED** [GB/GB]; Beechwood Park North, Inverness IV2 3ED (GB).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **DAVIES, Oliver, William, Hardwicke** [GB/GB]; An Cluaran, Croy, Inverness IV2 5PG (GB). **ARMSTRONG, Malcolm, Gordon** [GB/GB]; 3 West Heather Road, Inverness IV2 4WS (GB). **MARSHALL, Robert** [GB/GB]; 91 Towerhill Avenue, Inverness IV2 5FX (GB). **MITCHELL, Darren, Iain** [GB/GB]; 33 Berneray Court, Inverness IV2 3BF (GB). **O'REILLY, Thomas, Joseph** [GB/GB]; Loch View of Duntelchaig, Farr, Inverness IV2 6AW (GB). **ROBERTSON, Emma-Louise** [GB/GB]; 5 Fermtower Place, Culloden, Inverness IV2 7TL (GB). **SIM, Andrew, Graham** [GB/GB]; 26 Elgol, Broadford, Skye IV49

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

(88) Date of publication of the international search report:

1 July 2004

*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: PROCESS FOR MAKING AN ELECTROCHEMICAL SENSOR

(57) Abstract: An ink composition for use in a continuous web process for the manufacture of electrochemical sensors in accordance with the present invention includes graphite, carbon black, a resin and at least one solvent (e.g., at least one solvent with a boiling point between 120 °C and 250 °C). The ink composition has a weight ratio of graphite to carbon black is in a range of from 4:1 to 1:4 and a weight ratio of a sum of graphite and carbon black to resin in a range of from 10:1 to 1:1. Also, a method for manufacturing an electrochemical sensor includes transporting a substrate web past at least one print station and printing at least one electrochemical sensor electrode on the substrate web at the print station(s). The printing is accomplished by applying an ink composition to substrate web, wherein the ink composition includes, graphite, carbon black, a resin and at least one solvent. In addition, weight ratio of graphite to carbon black in the ink composition is in a range of from 4:1 to 1:4 and a weight ratio of a sum of graphite and carbon black to resin is in a range of from 10:1 to 1:1.



WO 2004/039897 A3