

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
25 November 2004 (25.11.2004)

PCT

(10) International Publication Number
WO 2004/102694 A3

(51) International Patent Classification⁷: **H01M 6/18**

(21) International Application Number:
PCT/US2004/013009

(22) International Filing Date: 12 May 2004 (12.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/437,778 13 May 2003 (13.05.2003) US

(71) Applicants (for all designated States except US): **SO-LICORE, INC.** [US/US]; 2700 Interstate Drive, Lakeland, FL 33805 (US). **AVESTOR LIMITED PARTNERSHIP** [CA/CA]; 1560 Rue de Coulomb, Boucherville, Quebec J4B 7Z7 (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WENSLEY, Glen, C.** [US/US]; 5635 Summerland Hills Circle, Lakeland, FL 33813 (US). **GUSTAFSON, Scott** [US/US]; 4105 Sunny Glenn Drive, Lakeland, FL 33813 (US). **NELSON, Craig, R.** [US/US]; 735 Glengarry Drive, Melbourne, FL 32940 (US). **SINGLETON, Robert, W.** [US/US]; 2910 Barret Avenue, Plant City, FL 33566 (US). **BROUILLETTE, Dany** [CA/CA]; 3310 Mistral, Apt. 3, Brossard, Quebec J4Y 2R7 (CA). **VALLEE, Alain** [CA/CA]; 22, rue Des Embruns, Varennes, Quebec J3X 2A2 (CA).

(74) Agents: **PEET, Richard, C.** et al.; Foley & Lardner LLP, Washington Harbour, 3000 K Street N.W., Suite 500, Washington, D.C. 20007-5143 (US).

(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, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, 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 (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, IT, LU, 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
- 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:
7 April 2005

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: POLYIMIDE BASED ELECTROLYTE AND IMPROVED BATTERIES THEREFROM

(57) Abstract: A battery includes an anode, a cathode, and a polymer matrix electrolyte (PME) separator disposed between the anode and the cathode. The PME separator includes a polyimide, at least one lithium salt in a concentration of at least 0.5 moles of lithium per mole of imide ring provided by the polyimide, and at least one solvent intermixed. The PME is generally homogeneous as evidenced by its high level of optically clarity. The battery can be a lithium ion or lithium metal battery.



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