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(21) International Application Number: PCT/CA99/01041 (22) International Filing Date: 4 November 1999 (04.11.99) (30) Priority Data: 09/199,325 25 November 1998 (25.11.98) US (71) Applicant (for all designated States except US): E-CELL CORPORATION [CA/CA]; 52 Royal Road, Guelph, Ontario N1H 1G3 (CA). (72) Inventors; and (75) Inventors/Applicants (for US only): BARBER, John, H. [CA/CA]; 380 Highland Road, Fergus, Ontario N1M 3N8 (CA). TESSIER, David, Florian [CA/CA]; 510-244 Willow Road, Guelph, Ontario N1H 6R5 (CA). (74) Agent: FORS, Arne, I.; Gowling, Strathy & Henderson, Suite 4900, Commerce Court West, Toronto, Ontario M5L 1J3 (CA).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, 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, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: METHOD AND APPARATUS FOR ELECTRODEIONIZATION OF WATER USING MIXED BED AND SINGLE PHASE ION EXCHANGE MATERIALS IN DILUTING COMPARTMENTS (57) Abstract The invention provides a method and apparatus for electrodeionizing water, whereby the water to be purified is passed through diluting compartments in an electrodeionization unit having an anode compartment at one end of the unit and a cathode compartment at the other end of the unit, and a plurality of diluting compartments alternating with concentrating compartments defined by anion and cation exchange membranes. Each of the diluting compartments contains ion exchange material. Importantly, the ion exchange material comprises at least one mixed bed phase of anion exchange material and cation exchange material and at least one single phase, adjacent to the mixed bed phase, of anion exchange material or cation exchange material, or anion exchange and cation exchange material.		