

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
28 December 2006 (28.12.2006)

PCT

(10) International Publication Number
WO 2006/135966 A1

(51) International Patent Classification:

C08J 9/36 (2006.01) **B01D 71/42** (2006.01)
B01D 71/26 (2006.01) **B01D 71/62** (2006.01)
B01D 71/32 (2006.01) **B01D 71/64** (2006.01)
B01D 71/34 (2006.01) **B01D 71/68** (2006.01)
B01D 71/38 (2006.01) **B01D 71/82** (2006.01)
B01D 71/40 (2006.01) **C08J 5/22** (2006.01)

(21) International Application Number:

PCT/AU2006/000864

(22) International Filing Date: 20 June 2006 (20.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

2005903237 20 June 2005 (20.06.2005) AU

(71) Applicant (for all designated States except US): **U.S. FILTER WASTEWATER GROUP, INC.** [US/US]; 181 Thorn Hill Road, Warrendale, PA 15086 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MULLER, Heinz-Joachim** [DE/AU]; 142 Dartford Road, Thornleigh, NSW 2120 (AU). **WANG, Dongliang** [CN/AU]; 1/34 Fennell St, Parramatta, New South Wales 2150 (AU). **KUMAR, Ashvin** [AU/AU]; 15 Blackman Crescent, South Windsor, NSW 2756 (AU).

(74) Agent: **SHELSTON IP**; 60 Margaret Street, Sydney, NSW 2000 (AU).

(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, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, 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, HU, IE, IS, IT, LT, LU, LV, 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).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

— with international search report

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: CROSS LINKING TREATMENT OF POLYMER MEMBRANES

(57) Abstract: Methods of forming a hydrophilic porous polymeric membrane which include preparing a porous polymeric membrane from a polymer blend which typically contains a hydrophobic non crosslinkable component (e.g. PVdF) and a component which is cross-linkable (for instance, PVP) and treating said porous polymeric membrane under cross linking conditions to produce a modified membrane with greatly improved water permeability and hydrophilic stability. Cross linking condition include chemical (e.g. peroxodisulfate species), thermal or radiation and/or combinations thereof. Non cross linked material may be washed out if desired.



WO 2006/135966 A1