



(51) International Patent Classification:

C02F 1/32 (2006.01) *C02F 1/74* (2006.01)
C02F 1/72 (2006.01) *C02F 1/44* (2006.01)

(21) International Application Number:

PCT/IB2010/000982

(22) International Filing Date:

30 April 2010 (30.04.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

PCT/FR2009/050800 30 April 2009 (30.04.2009) FR

(71) Applicant (for all designated States except US): **LOIRA** [FR/FR]; ZA des Landes, Allée du Cers, F-31850 Mondouzil (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **OLIVEROS, Esther** [FR/FR]; 3 lot. Communal, F-31620 Cepet (FR). **BRAUN, André** [CH/FR]; 3 lot. Communal, F-31620 Cepet (FR). **MAURETTE, Marie-Thérèse** [FR/FR]; 5, rue Emile Guyou, F-31400 Toulouse (FR). **BENOIT-MARQUIE, Florence** [FR/FR]; 223, route de Bessières, F-31660 Buzet sur Tarn (FR). **DEBUIRE, Jacques** [FR/FR]; 29, avenue de la Valade, F-31380 Montastruc la Conseillère (FR).

(74) Agent: **MEHL, Claudia**; Eisenlohrstr. 31, 76135 Karlsruhe (DE).

(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, LR, 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).

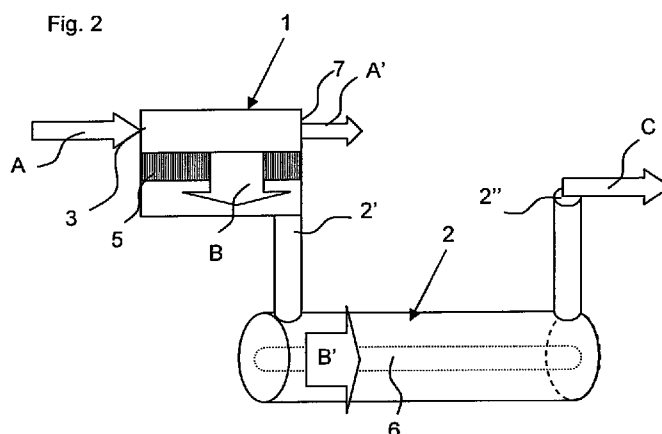
Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

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

21 April 2011

(54) Title: PURIFYING DEVICE AND METHOD FOR ELIMINATION OF XENOBIOTICS IN WATER



(57) Abstract: The present invention refers to a purifying device, adapted to perform a method of photochemical elimination of xenobiotics present in water. The purifying device comprises a photochemical reactor unit (2) having at least one inlet (2') for contaminated water and one outlet (2'') for purified water, it provides a flow path for continuously flowing water from said inlet (2') to said outlet (2''), and is equipped with a radiation source module (6) providing ultraviolet radiation in a wavelength range ranging from 100 to 280 nm. The purifying device further comprises at least one membrane filtration unit (1) designed to perform ultra filtration and connected upstream of said photochemical reactor unit (2) via said inlet (2') and at least one device for supplying air or dioxygen to the water comprised in the photochemical reactor unit (2). Further, a purification method is provided, using the device of the invention.