



- (51) International Patent Classification:
C02F 1/46 (2006.01) B01D 63/06 (2006.01)
B01D 71/02 (2006.01)
- (21) International Application Number:
PCT/US2015/053398
- (22) International Filing Date:
1 October 2015 (01.10.2015)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
14/510,385 9 October 2014 (09.10.2014) US
- (71) Applicant: SAFE FOODS CORPORATION [US/US];
4801 North Shore Drive, North Little Rock, AR 72118 (US).
- (72) Inventors: MASSEY, Justin; 4801 North Shore Drive, North Little Rock, AR 72118 (US). YEAMAN, Tim; 4801 North Shore Drive, North Little Rock, AR 72118 (US). NOLEN, Gary; 2885 N. Brookbury Crossing, Fayetteville, AR 72703 (US). BEERS, Kelly; 1388 Briarcliff Street, Fayetteville, AR 72703 (US). RHEINGANS, Joe; 401 Buttry Road, Rogers, AR 72756 (US).
- (74) Agent: GLAZIER, Stephen C; Akerman LLP, P.O. Box 3188, West Palm Beach, FL 33402-3188 (US).
- (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, BN, 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, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, 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, RS, SE, SI, SK,

[Continued on next page]

(54) Title: ANTIMICROBIAL APPLICATION SYSTEM WITH RECYCLE AND CAPTURE

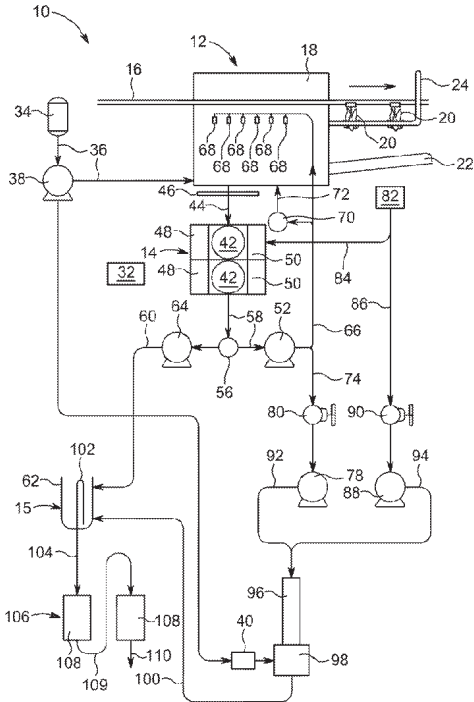


FIG. 1

(57) Abstract: A capture unit for use with an antimicrobial application unit may include an upstream filter and a downstream filter. The upstream filter may be positioned to receive effluent from the application unit and to filter solid components from the effluent. The resultant upstream effluent filtrate may then be passed downstream to the downstream filter. The downstream filter may be used to filter an antimicrobial component from the upstream effluent filtrate and the resultant downstream effluent filtrate may be suitable for disposal as wastewater discharge. The antimicrobial is preferably a quaternary ammonium compound, is more preferably an alkylpyridinium chloride, and is most preferably cetylpyridinium chloride.

WO 2016/057295 A1



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, — *before the expiration of the time limit for amending the*
GW, KM, ML, MR, NE, SN, TD, TG). *claims and to be republished in the event of receipt of*
Published: *amendments (Rule 48.2(h))*
— *with international search report (Art. 21(3))*