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(21) International Application Number: PCT/US98/15371 (22) International Filing Date: 27 July 1998 (27.07.98) (30) Priority Data: 08/901,895 29 July 1997 (29.07.97) US (71) Applicant: BUCKMAN LABORATORIES INTERNATIONAL, INC. [US/US]; 1256 North McLean Boulevard, Memphis, TN 38108 (US). (72) Inventors: MCNEEL, Thomas, E.; 3509 Amesbury, Memphis, TN 38135 (US). WHITTEMORE, Marilyn, S.; 2026 Widgeon Way Drive, Memphis, TN 38138 (US). BRYANT, Stephen, D.; 6612 Country Bluff, Memphis, TN 38135 (US). VUNK, Graciela, H.; 3215 Oakwood Cv., Olive Branch, MS 38680 (US). (74) Agents: LINDEMAN, Jeffrey, A. et al.; Morgan, Lewis & Bockius LLP, 1800 M Street, N.W., Washington, DC 20036 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, 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, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, 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> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: METHODS AND COMPOSITIONS FOR CONTROLLING BIOFOULING USING SULFAMIC ACIDS  (I)		
(57) Abstract The invention relates to a method to inhibit bacteria from adhering to a submergible surface. The method contacts the submergible surface with an effective amount of at least one sulfamic acid or salt thereof to inhibit bacterial adhesion to the submergible surface. The invention also relates to a method for controlling biofouling of an aqueous system. This method adds an effective amount of at least one sulfamic acid or salt thereof to inhibit bacteria from adhering to a submerged surface within the aqueous system. This method effectively controls biofouling without substantially killing the fouling organisms. The sulfamic acid used in the method of the invention has the formula $R^1R^2NS(O)_2(OH)$. In this formula, R^1 and R^2 are independently a hydrogen, a C_4-C_{20} alkyl group or a cyclohexyl group. However, R^1 and R^2 are not both hydrogen. Alternatively, R^1 and R^2, together with the N, may also form a 5-8 membered heterocyclic ring having formula (I). In the heterocyclic ring, X is O, NH, or CH_2. The salt of sulfamic acid can be an acid salt or quaternized sulfamic acid salt. The present invention also relates to a composition containing sulfamic acids or salts thereof useable in the above methods. The compositions comprise at least one sulfamic acid or salt thereof in an amount effective to inhibit bacteria from adhering to submergible or submerged surfaces.		