

10 OCT 2003

200 3059995

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
24 October 2002 (24.10.2002)

PCT

(10) International Publication Number
WO 02/083578 A3

(51) International Patent Classification⁷: D21H 21/02,
D21C 9/08, C02F 5/00, 5/08, D21C 3/22

(21) International Application Number: PCT/US02/11506

(22) International Filing Date: 15 April 2002 (15.04.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/284,049 16 April 2001 (16.04.2001) US

(71) Applicant: BUCKMAN LABORATORIES INTERNATIONAL, INC. [US/US]; 1256 North McLean Boulevard, Memphis, TN 38108-0305 (US).

(72) Inventor: ENG, Goh Hock; Blk 420, Cho Chu Kang Ave. 4, #16-316, Singapore 680420 (SG).

(74) Agent: KILYK, Luke, A.; Kilyk & Bowersox P.L.L.C., 53A East Lee Street, Warrenton, VA 20186 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, 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, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, 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, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
9 January 2003

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.



162162



ACTION

WO 02/083578 A3

(54) Title: PROCESS AND APPARATUS FOR THE REMOVAL OF SCALE BUILD-UP

(57) Abstract: A method to remove scale build-up in a vessel having at least one screen is described and involves placing a cover inside the vessel such that it is located beneath at least one screen to separate the screen from the rest of the vessel. The cover in the vessel forms an upper portion and a lower portion in the vessel. Preferably, the cover is in close proximity to the screen which is located in the upper portion of the vessel. The method then further includes introducing a chemical formulation into the upper portion of the vessel in a sufficient amount to remove at least a portion of the scale build-up on the screen. A system to remove scale build-up is also described and includes a vessel having at least one screen. The system further includes a cover located inside the vessel and beneath at least one screen to separate the screen from the rest of the vessel and to form an upper portion and a lower portion in the vessel. Normally the cover is in close proximity to the screen. The system further includes a chemical formulation present in the upper portion of the screen to remove scale build-up. The system of the present invention provide an economical and chemical means to remove scale build-up in vessels that are especially large, such as those used in the paper and pulp manufacturing industry. The present invention further reduces the time needed to remove scale build-up in vessels have one or more screens.