

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
10 April 2003 (10.04.2003)

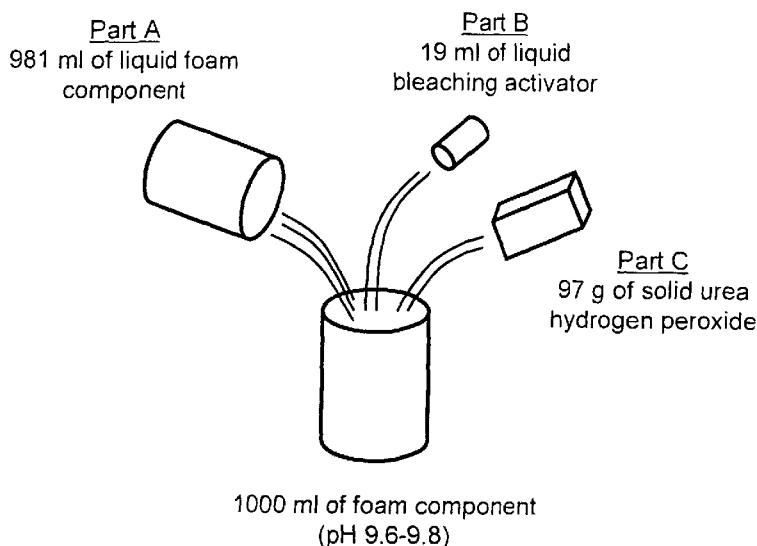
PCT

(10) International Publication Number  
**WO 03/028429 A3**

- (51) International Patent Classification<sup>7</sup>: **A62D 3/00**, B01F 17/18, 17/38, C11D 1/62, 3/39
- (21) International Application Number: PCT/US02/29886
- (22) International Filing Date:  
20 September 2002 (20.09.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/326,508 1 October 2001 (01.10.2001) US  
60/334,271 30 November 2001 (30.11.2001) US  
60/387,104 7 June 2002 (07.06.2002) US
- (71) Applicant (for all designated States except US): **SANDIA CORPORATION** [US/US]; P.O. Box 5800, Mail Stop 0161, Albuquerque, NM 87185-5800 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **TUCKER, Mark, D.** [US/US]; 9375 San Diego, Northeast, Albuquerque, NM 87122 (US).
- (74) Agent: **MYERS, Jeffrey, D.**; Peacock, Myers & Adams, P.C., P.O. Box 26927, Albuquerque, NM 87125-6927 (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, EC, 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, US, UZ, VC, 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, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (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)) for US only

[Continued on next page]

(54) Title: ENHANCED FORMULATIONS FOR NEUTRALIZATION OF CHEMICAL, BIOLOGICAL AND INDUSTRIAL TOXANTS



(57) Abstract: An enhanced formulation and method of making that neutralizes the adverse health effects of both chemical and biological compounds, especially chemical warfare (CW) and biological warfare (BW) agents, and toxic industrial chemicals. The enhanced formulation according to the present invention is non-toxic and non-corrosive and can be delivered by a variety of means and in different phases. The formulation provides solubilizing compounds that serve to effectively render the chemical and biological compounds, particularly CW and BW compounds, susceptible to attack, and at least one reactive compound that serves to attack (and detoxify or kill) the compound. The formulation includes at least one solubilizing agent, a reactive compound, a bleaching activator and water.



WO 03/028429 A3



**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.*

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

18 December 2003