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(21) International Application Number: PCT/US00/10804 (22) International Filing Date: 20 April 2000 (20.04.00) (30) Priority Data: 60/134,683 18 May 1999 (18.05.99) US 09/448,927 24 November 1999 (24.11.99) US (71) Applicants: SOUTHWEST RESEARCH INSTITUTE [US/US]; 6220 Culebra Road, P.O. Drawer 28510, San Antonio, TX 78228-0510 (US). BERNARD TECHNOLOGIES, INC. [US/US]; 919 North Michigan, Suite 1710, Chicago, IL 60611 (US). (72) Inventors: WELLINGHOFF, Stephen, T.; Southwest Research Institute, 6220 Culebra Road, P.O. Drawer 28510, San Antonio, TX 78228-0510 (US). KAMPA, Joel, J.; 8979 Dietz Elkhorn, Boerne, TX 78006 (US). LELAH, Michael, D.; Bernard Technologies, Inc., 919 North Michigan, Suite 1710, Chicago, IL 60611 (US). BARENBERG, Sumner, A.; Bernard Technologies, Inc., 919 North Michigan, Suite 1710, Chicago, IL 60611 (US). GRAY, Peter, N.; Bernard Technologies, Inc., 919 North Michigan, Suite 1710, Chicago, IL 60611 (US). DIXON, Hong; 11417 Lago Vista, Helotex, TX 78023 (US).		(74) Agents: PETRILLO, Kathleen, M. et al.; Senniger, Powers, Leavitt & Roedel, One Metropolitan Square, 16th Floor, St. Louis, MO 63102 (US). (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, 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>
(54) Title: ENERGY-ACTIVATED COMPOSITIONS FOR CONTROLLED SUSTAINED RELEASE OF A GAS (57) Abstract A composition for energy-controlled generation and release of at least one gas, which includes an energy-activated catalyst capable of being activated by electromagnetic energy, and a solid or a liquid containing anions capable of being oxidized by the activated catalyst or reacted with species generated during activation of the catalyst to generate at least one gas. The composition, when exposed to electromagnetic energy, is capable of generating and releasing the gas after activation of the catalyst and oxidation or reaction of the anions.		