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(21) International Application Number: PCT/US96/16437 (22) International Filing Date: ✓ 16 October 1996 (16.10.96) (30) Priority Data: 08/548,453 ✓ 26 October 1995 (26.10.95) US (71) Applicant: PUREPULSE TECHNOLOGIES, INC. [US/US]; 8888 Balboa Avenue, San Diego, CA 92084 (US). ✓ (72) Inventors: DUNN, Joseph, E.; 1761 Alta Vista Drive, Vista, CA 92084 (US). CLARK, Reginald, Wayne; 12919 Via Esperia, Del Mar, CA 92104 (US). BUSHNELL, Andrew, H.; 11874 Semillion Boulevard, San Diego, CA 92131 (US). SALISBURY, Kenton, J.; 11324 Vista la Cuesta, San Diego, CA 92131 (US). (74) Agents: SAMPLES, Kenneth, H. et al.; Fitch, Even, Tabin & Flannery, Room 900, 135 S. LaSalle Street, Chicago, IL 60603 (US).	(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE (Utility model), DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i>	
(54) Title: IMPROVED DEACTIVATION OF ORGANISMS USING HIGH-INTENSITY PULSED POLYCHROMATIC LIGHT		
(57) Abstract A method of deactivating microorganisms in food products, packaging material, water, air, and other products involves illuminating the microorganisms using at least one short-duration, high-intensity pulse of broad-spectrum polychromatic light. In variations of this embodiment, the light has an intensity of at least 0.1 J/cm², the pulse duration is from between about 10 nanoseconds and 10 milliseconds, and/or at least 50 % of the at least one pulse's energy is transmitted in light having wavelength from between about 170 and 2600 nanometers. Advantageously, the microorganisms may be <i>Cryptosporidium parvum</i> oocysts, <i>Bacillus pumilus</i> spores or poliovirus.		