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(54) Title: OXIDATION OF DANGEROUS CHEMICAL AND BIOLOGICAL SUBSTANCES

(57) Abstract: Advanced Oxidation Technologies (AOT) using laser triggered and driven AOT platform are disclosed, including a method for the advanced oxidation of dangerous chemical and biological sources suspected in particular regions, a variety of uses of said method, and the environments where it can be implemented. The method has two basic steps that are: (c) spraying the regions to be treated with a cloud of gas, vapors, microdroplets, droplets, or bubbles formed from at least one liquid solution containing at least one type of photocatalytic oxidizing substance; (d) directing across said cloud at least one high intensity beam of light having wavelength of between 220 and 390 nanometer for triggering said cloud thereby causing a catalyzed activation that releases free radicals of said oxidizing substance in order to react with said chemical or biological sources. Various types and embodiments of systems and devices using the method of the present invention are also disclosed, including a bubble generator adapted for implementation of the method in various sites where treatment procedures according to the method are required.