

Multi-Photon Absorbing Materials for Chlorine Dioxide Production Disorders

Background: Carbon dioxide gas has established anti-microbial activity and can be produced through numerous chemical reactions involving the presence of chlorite containing chemistry and acid generating chemistry. The anti-microbial activity can be extended to specifically to the ability to kill bacteria, fungi, mold, algae, protozoa and viruses. Commercially, chlorine dioxide gas cannot be compressed or stored due to its highly volatile nature. This necessitates the development of a system for generating chlorine dioxide gas to be used as an anti-microbial on site.

Applications:

- Cold sterilization of devices used in medicine and dentistry that would be damaged by heating, a conventional sterilization method
- Environmental sterilization for use by the armed forces

Advantages:

- Devices can be sterilized without the damaging effects of heating
- Increase portability for use in the field due to a reduction in the explosive nature of chlorine dioxide in gaseous form

The Technology: Researchers at the University of Arizona have developed a method for producing chlorine dioxide gas from an absorbent material. This material contains the necessary components that, when exposed to light, results in the formation of chlorine dioxide gas. This process allows for the transport of the gas which cannot be accomplished in compressed form. Furthermore, utilizing this method eliminates the need for heating a medical device in order to sterilize which could be damaging to the equipment. Further development of this technology

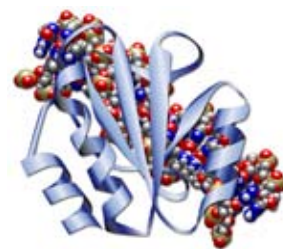
would enable production of a portable system that can be used in the field for quick sterilization of necessary equipment.

Lead Inventors: Stuart Williams

Stage of Development: Work is continuing.

Status: Patent Cooperation Treaty

Refer to Case # UA03-071
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