

TOXICOLOGY & APPLIED PHARMACOLOGY

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Review of necessary practices for Environmental Protection Agency submission of a hospital disinfectant using Good Laboratory Practice disinfectant study summaries of the SteraMist™Bit™ Disinfection system

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All disinfectants and pesticides marketed for use in the United States must meet safety requirements as described in OCSPP 810.2200. The Antimicrobial Testing Program (ATP) ensures that the Environmental Protection Agency (EPA) approved hospital disinfectants and tuberculocidal in the marketplace continue to meet stringent efficacy measures. This paper addresses the issues of getting a hospital disinfectant approved by the EPA, some of the challenges encountered and results achieved for a number of hospital-related pathogens including MRSA, *Pseudomonas* sp., H1N1, etc. using a novel approach. The paper also addresses the differences between hands-free and wipes technologies, sprays, and their approval pathways. The paper presents the results from Good Laboratory Practice Studies (GLP) submitted to EPA for a novel technology using The SteraMist™ Surface and Environmental systems. SteraMist™ Binary Ionization Technology® (BIT™), (TOMI, Beverly Hills, CA), converts a 7.8% hydrogen peroxide solution into a Hydroxyl Radical mist. This EPA registered solution is passed through an atmospheric cold plasma arc where activation occurs. Activation creates a mist/fog containing a high concentration of Reactive Oxygen Species (ROS), mainly the Hydroxyl Radical. Nine human pathogens are discussed including Gram-positive and negative bacteria, virus species and *Mycobacterium*. The mist/fog referred to as Activated Ionized Hydrogen Peroxide (AIHP) is delivered via a handheld application system or a standalone computerized environmental system.

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