

***In vitro* assessment of the toxic effects of an AKWATON based-disinfectant on human tissues**

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The purpose of this study is to prove the potential safe use of AKWATON as a new antimicrobial product. Many service products are often removed from the market due to their toxic effects on the human body or to their aggressiveness towards the environment. Antimicrobial products such as disinfectants may contain harmful ingredients that can cause disease. Some disinfecting products are corrosive or irritating; others produce strong odors, which in the long run can cause real health problems. AKWATON is a new disinfectant, member of the family of guanidine polymers. Its bactericidal, fungicidal and sporicidal properties have been demonstrated and widely documented. In this study, the toxic effects of AKWATON and of three well known commercial antimicrobial products currently on market, were evaluated and compared on various human tissues including eyes, lung, skin and liver cells. The testing were performed using the TB (Trypan blue) and MTT (3-(4, 5-Dimethylthiazol-2-yl)-2, 5-diphenyltetrazolium bromide) methods. Cell-cultures and the different tests done, showed that the AKWATON based-disinfectant was much less toxic, killing many fewer

cells than the commercial disinfectants. It spared more than 64% of skin cells; 65% of lung (IMR-90) cells; 66% of eye cells (ARPE-19) and 64% of liver (Hep-G2) cells while some well-known disinfectants currently marketed killed 100% of cells. This study demonstrated that AKWATON can be used as an odorless, colorless, non-corrosive and harmless disinfectant for hospital, agriculture industry, farming, food service and household facilities or as antiseptic.

Speaker Biography

Mathias Oulé holds a Bachelor's degree in Mathematics, a Master's degree in Biochemistry from the University of Abidjan (Côte d'Ivoire), a Master's degree in Microbiology and a Doctorate in Microbiology from Laval University (Québec). Since 2000, he is Professor of Microbiology at Saint-Boniface University (Winnipeg, MB); Head of the Department of Biological Sciences from 2006 to 2010. For several years, he has been researching on AKWATON, a microbicidal polymer with high solubility in water, odorless, colorless, non-corrosive and harmless, to fight nosocomial infections and superbugs. In 2012, the Society for General Microbiology (SGM) issued press release on his studies on AKWATON's sporicidal activity, published in the *Journal of Medical Microbiology* (JMM).

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