DISCUSSION AND PROFESSIONAL OPINIONS OF USING DISINFECTANT CLEANERS FOR CLEANING ENVIRONMENTAL SURFACES

- Chemical Disinfectants are pesticides by definition and there is a worldwide move to reduce their use.
- There are applications where disinfections or elimination of microbial life is critical, as in health care settings. There are guidelines that must be followed for the removal of all organic and other soils prior to the disinfecting procedure. In addition, strict adherence to disinfectant contact times must be followed.
- We are cleaning environmental surfaces in health care and other institutions as well as our homes with antibacterial cleaners and to what benefit?
- The key questions: are there sufficient benefits to incorporating disinfectants in cleaning non-critical environmental surfaces? Products used for this purpose generally contain low-level disinfectants such as quaternary ammonium compounds (quats) or phenolics, which may only be effective against easier to kill vegetable bacteria when excess soil is first removed and there is minimum of 10 minutes of contact time. In most situations neither condition is met to make the disinfections successful. Such chemicals may also have the potential to make bacteria more resistant to antibiotics.
- Quats may be unsafe for the environment both when are manufactured and when they are discharged into the waste stream. They are not readily biodegradable. In 1991, it was reported, 0.04 to 0.05 ppm for Ohio River and 0.01 to 0.04 ppm in other U.S. rivers for dialkyldimethyl quaternary ammonium compound.
- The manufacturing process of the quats and phenolics releases carcinogens such as benzene and other volatile organic chemicals (VOC's). The U.S. Environmental Protection Agency (EPA) considers o-phenylphenol a probable carcinogen. Phenolic antimicrobials can bioaccumulate in the aquatic food chain.
- Quats and Phenolics have negative effects on humans and are considered to be hazardous by WHMIS and OSHA criteria. Some products registered as disinfectant cleaners may claim to be non-hazardous because they are exempt of WHMIS. They should not be considered free of toxic health effects because they report to different legislation.
- Furthermore, much research has shown that environmental surfaces, such as floors in hospitals, cannot be properly disinfected with the products and procedures currently practiced. Counts of viable bacteria on such surfaces return to pre-treatment levels within a couple of hours following disinfecting.
- We need to reverse the trend of exposing ourselves, building occupants and our environment, to unnecessary application of pesticides, limiting their use to where they are needed, ensuring that they are used in a safe and effective manner, and using ones that are safest as possible.

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