

Tech Article

Can Detergents Kill Germs?

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- Industry: Infection Prevention



The role of detergents is to reduce and eliminate bioburden to allow subsequent disinfection and/or sterilization steps to be effective.



When contaminated instruments arrive in Sterile Processing, the primary goal is to start soil removal with various types of detergents.

The timing and correct selection of chemicals in the “dirty” decontamination side becomes more confusing if killing germs is a consideration when items cannot go through washer thermal disinfection. Device instructions must be followed but often tell us to use alcohol to “clean” the device. Selecting a chemical that will do the job, meet device instructions and not cause damage is tricky.

Two things that Sterile Processing must understand in this chemical dilemma: first, detergents cannot claim to kill germs unless EPA registered and secondly, disinfectants are not tested for cleaning action by the EPA. Disinfectants must have chemicals to kill germs with alcohols, peroxides or ammoniums as frequently used active agents. But those same chemicals may interfere with cleaning or cause corrosion.

If device instructions recommend avoiding alcohol during processing, a water-based disinfectant may be useful. Water-based disinfectants with cleaning surfactants and alcohol content below 5 % alcohol are available with EPA registration to meet device instructions. The disinfectant label should state that it is a cleaner and disinfectant.

It's imperative to check chemical instructions for the need to rinse or wipe off residues of chemicals between steps and before heat sterilization. Valuable resources include Annex E of AAMI ST79:2017 and AAMI TIR68:2018. Both documents explain how to select and use disinfectants in Sterile Processing.

A recent issue came up in the Journal of Thoracic Disease when discussing reprocessing of bronchoscopes [1]. In a section titled “Infection control considerations for the use of bronchoscopes in suspected or confirmed COVID-19 patients” it is stated “The SARS-CoV-2 virus has a lipid envelope structure that makes it more resistant to disinfection by enzymatic detergents; therefore, use of these cleaners alone is not sufficient for reuse of the bronchoscope.”

This statement illustrates continuing misunderstanding about the use of detergents for disinfection. Detergents may physically remove pathogens within bioburden, but this is not a chemical disinfection action and not a claim supported by lab testing. Products making claims to inactivate SARS-CoV-2 or other pathogens must have EPA registration on the label and may be identified as germicidal detergents or disinfectants with cleaning properties. If the product is a high-level chemical disinfectant, it is FDA reviewed and cleared and is NOT indicated for soil removal.

SARS-CoV-2 virus is a lipid enveloped virus. Enveloped virus types are more easily inactivated by disinfectants. Non-enveloped virus types such as Norovirus are more difficult to inactivate.

The role of detergents and enzymatic detergents is to reduce and eliminate all bioburden to allow subsequent disinfection and / or sterilization steps to be effective.

This issue underscores the need for certified, trained Sterile Processing technicians who understand principles of infection prevention and how to use device cleaning instructions.

[1] Society for Advanced Bronchoscopy Consensus Statement and Guidelines for bronchoscopy and airway management amid the COVID-19 pandemic. J Thorac Dis. 2020 May; 12(5): 1781–1798.

About the Author:

Peggy Spitzer, AAS, BA, MA.Ed. is a Colorado native with over 30 years of combined experience as a healthcare provider, college faculty and clinic manager. As the clinical education manager at MicroCare Medical., a manufacturer of detergents and disinfectants for healthcare, she develops and presents education programs to hospital and dental professional groups focusing on infection prevention, instrument processing and best practices for chemicals. Peggy is a past president, secretary and treasurer of the Rocky Mountain Central Sterile Chapter promoting education and certification for Sterile Processing professionals.