Examining the efficacy and shelf life of a peracetic acid based cleaner disinfectant

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Background

- PeridoxRTU is an EPA-registered peracetic acid-based cleaner and disinfectant with a Clostridium difficile surface sporicidal claim.
- The active product is generated by mixing 2 chemical components and comes pre-mixed (ready to use).
- Peracetic acid-based disinfectants may be less corrosive to surfaces and less irritating to personnel than some other products.
- Peracetic acid based disinfectants historically have had challenges with chemical stability and short shelf life after activation.
- Here, we evaluated the duration of sporicidal activity for PeridoxRTU after activation.

Methods

- We measured concentrations of available peracetic acid in parts per million (PPM) using a peracetic acid titration kit in newly opened bottles at serial time points over a 60 day period.
- For comparison, concentrations of peracetic acid were measured in another commercial peracetic acid-based disinfectant.
- Activity of the product against C. difficile spores and methicillin-resistant Staphylococcus aureus (MRSA) was tested using a standard ASTM method (E2197).
- Fabric compatibility was assessed by applying PeridoxRTU and 10% sodium hypochlorite to swatches of fabric frequently found in a healthcare setting.

Results

- PeridoxRTU exhibited persistent maximum sporicidal efficacy (no viable spores recovered) of Clostridium difficile spores over 60 days of testing after opening of the bottles (Figure 1).
- The peracetic acid concentration remained at greater than or equal to 2300 PPM over 60 days consistent with label claims (Figure 1).
- PeridoxRTU did not exhibit any staining on healthcare associated fabrics (Figure 2).

Conclusions

- PeridoxRTU consistently met sporicidal and peracetic acid concentration label claims over 60 days of testing.
- PeridoxRTU may be an effective surface sporicidal disinfectant for use in healthcare settings.

References


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- PeridoxRTU(R) provided by Contec for testing.