Comparing Two Disinfectants Through a Price Analysis

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OBJECTIVE

Choosing the right disinfectant and format to fit your facilities disinfection needs is impacted by many important factors. Formats range from Ready-to-Use (RTU) spray liquid, RTU disposable wipes or dilutable concentrate solutions. Often times, concentrated disinfectants are presumed to be the more cost effective option in comparison to RTU products, however when considering other factors such as compliance, shelf life, labor costs, compatibility, time, efficacy and convenience, these factors can highlight the benefits and overall cost savings of RTU disinfectants.

TEST METHOD

The Division of Animal Research at Georgia State University underwent a change in disinfectants from a chlorine dioxide based concentrate tablet to Accelerated Hydrogen Peroxide® (AHP®) RTU spray solution. The chlorine dioxide had a 7 day shelf life while the AHP® RTU had a 2 year shelf life from the date manufactured. Initially a price analysis for the two products was conducted by doing a direct volume to volume comparison and determining the price per 21 oz. bottle.

Subsequently, several other factors contributing to cost were considered. One factor was the amount of wasted product that resulted from the shelf life of the solution.

Next, annual labor costs for both disinfectants were taken into consideration by calculating the weekly time spent on preparing and changing out new product. This determined the respective labor cost associated with each product. Yearly labor costs and overall annual costs were determined by combining the cost of disinfectants in combination with labor costs.

Finally, factors such as efficacy, contact time, compatibility with equipment, safety of personnel, and convenience, all important considerations, were factored into this analysis.

RESULTS

The initial price analysis based on a direct volume to volume comparison for a 21 oz. bottle, displayed an initial price gap that would decrease as more factors were taken into consideration.

AHP® proved to be a less wasteful product in comparison to chlorine dioxide. This was due to AHP® RTU being filled only when the solution ran out, thereby eliminating waste and proving to be cost efficient.

An analysis of labor costs showed that the chlorine dioxide product was more laborious requiring weekly collection, dilution preparation (15 minutes/gallon), re-dispersing of the bottles and longer speed of disinfection (5 minutes). Whereas, AHP® was only refilled as needed and had a speed of disinfection that was 5 times faster (1 minute). Greater time required meant higher costs associated with chlorine dioxide making the AHP® RTU solution practically equivalent in price.

Finally, factors beyond monetary value were considered such as convenience, along with the effects on equipment and personnel. The significantly shorter contact time of AHP® RTU disinfectant gave staff greater confidence that they were achieving disinfection, while remaining safe on their equipment and staff.

CONCLUSION

Many factors were considered when evaluating a new disinfectant and product format for this facility. A

comprehensive analysis of both monetary and non-monetary factors proved that the AHP® RTU disinfectant was in fact the best fit for the facility. Taking into consideration the corrosive nature of chlorine dioxide disinfectants on stainless steel surfaces, AHP® RTU disinfectant was not only safer on equipment but also on staff. It also proved to be more efficacious and efficient with faster contact times, and presented staff greater confidence in disinfection as it was simple to use with no dilutions required. These were all factors that far outweighed the upfront cost of the disinfectant making the switch to AHP® RTU disinfectants, an easy one.

REFERENCES

1. Hutto E., (2018). Comparing Two Disinfectants Through a Price Analysis. *Abstracts of Scientific Sessions – Poster Sessions 2018 AALAS National Meeting.* (43)