ProNatural Product Testing at Lakeside Beikirch Care Center

Gary M Russotti MD,MS
Idea Boxx
Director of Medical/Biochemical R&D
and Regulatory Compliance

Objective:

To ascertain the cleaning effectiveness of two new cleaning products: ProNatural Antimicrobial MultiSurface Cleaner and ProNatural All Purpose Cleaner/Degreaser, tested at a high-level healthcare facility; Lakeside Beikirch Care Center.

Method:

Two ProNatural cleaning products: ProNatural Antimicrobial MultiSurface Cleaner and ProNatural All Purpose Cleaner/Degreaser were applied to numerous surfaces, in several areas of a skilled nursing facility and stand alone emergency department, by four experienced Environmental Services staff. Standardized cleaning methods and dwell times were employed.

Results:

A rating system of 1-5 was used to measure cleaning effectiveness: 1 - non effective, 2 - somewhat, 3 - effective, 4 - highly, 5 - highest. All four staff participants rated the ProNatural Antimicrobial MultiSurface Cleaner as having the highest effectiveness over four different Spartan cleaning products: Clean By Peroxy, Super HDQ disinfectant, Tribase Multipurpose cleaner, and Non Acidic bathroom cleaner. All four participants rated the ProNatural All Purpose Cleaner/Degreaser as a highly effective cleaning product with unique applications.

Conclusions:

The ProNatural Antimicrobial MultiSurface Cleaner has ingredients, as defined by the EPA, as posing little to no risk to human health and the environment along with the ability to kill odor causing bacteria. Both ProNatural Antimicrobial MultiSurface Cleaner and ProNatural All Purpose Cleaner/Degreaser are based on ingredients that are naturally derived, non-corrosive and that actually qualify as FDA approved direct food additives. The Environmental Services staff at Lakeside Beikirch Care Center determined that the ProNatural Antimicrobial MultiSurface Cleaner outperformed the cleaning effectiveness of four different Spartan cleaning products in multiple hard surface applications. The staff also rated the ProNatural All Purpose Cleaner/Degreaser as a highly effective cleaning product with unique applications.

Both ProNatural Antimicrobial MultiSurface Cleaner and ProNatural All Purpose Cleaner/Degreaser are highly effective cleaning products applicable to the healthcare industry.

Introduction

Cleaning products that are based on synthetic chemicals, such as chlorine, ammonia, phosphates, quaternary ammonium compounds, 2-Butoxyethanol, coal tar dyes, and monoethanolamine, require an EPA registration on their labels so that the EPA can disclose to the public the level of risk of these chemicals to human health and the environment.

These types of cleaning products, used in healthcare today, are coming under more rigorous scrutiny regarding their short and long term adverse effects on the health of patients, clinical staff, and ancillary personnel, as well as building infrastructure and the external environment. Adverse effects can include medical disorders of the majority of human organ systems, corrosion of multiple hard surface structures and toxic repercussions to both terrestrial and aquatic ecosystems.

The healthcare community is stressing the importance of these adverse effects by advocating through entities such as Practice GreenHealth, Healthcare Without Harm and Healthier Hospitals Initiative.

Products that have a significantly less adverse effect on human health and the environment yet are equally or more effective as cleaning agents, may soon take the lead as having the strongest support from healthcare institutions and the public. ProNatural Antimicrobial MultiSurface Cleaner and ProNatural All Purpose Cleaner/Degreaser are two products that have excellent cleaning efficacy. Both products are based on ingredients that are naturally derived, non-corrosive, and FDA approved direct food additives.

The ProNatural Antimicrobial MultiSurface Cleaner is based on a natural acid and a naturally derived anionic surfactant. These ingredients meet the US EPA Minimum Risk Pesticide requirements (1). The EPA has determined that these ingredients pose little to no risk to human health or the environment and therefore are exempt from the formal EPA registration that is required of other cleaning products designated with an EPA label. This product's strong antimicrobial efficacy, against multiple virulent pathogens (Table1), has been verified by a reputable third party testing laboratory company (Antimicrobial Test Laboratories).

The ProNatural Antimicrobial MultiSurface Cleaner can be used on any hard surface that requires both cleaning and decontamination of pathogens in one step. The ProNatural All Purpose Cleaner/Degreaser is based on a saponified natural fatty acid and other naturally derived ingredients which give it very effective cleaning and degreasing properties. It excels at cleaning heavier soils and grease on food contact surfaces, any hard surface, as well as on carpeting.

These two products complement each other, in the cleaning of hard surfaces, since the ProNatural Antimicrobial is a low pH acidic formulation and the ProNatural

Cleaner/Degreaser is a high pH alkaline formulation. Neither product is recommended for use on shiny surfaces that require a streak free finish (glass, stainless steel).

Materials & Methods

Lakeside Beikirch Care Center is a 120 bed skilled nursing facility. Four Environmental Service (EVS) cleaning staff members participated in this evaluation. User acceptance testing of two ProNatural products was conducted from February 16th through the 20th, 2015. Each participant was educated by an independent professional Environmental Services consultant.

The EVS staff was asked to rate the effectiveness of both ProNatural products as well as comparing their effectiveness to Spartan cleaning products. A rating system of 1-5 was used to measure cleaning effectiveness: 1- non effective, 2- somewhat, 3- effective, 4- highly, and 5- highest.

The ProNatural Antimicrobial MultiSurface Cleaner was used on various wood (wainscoting), metal (lockers), porcelain (sinks), plastic (cafeteria tables), rubber (baseboards), and laminate (overbed tables) surfaces at a dilution rate of 1:128. The product was dispensed from a spray bottle. The dwell time was two minutes using 100% cotton wash cloths as applicators.

The ProNatural Antimicrobial product was then used to clean floor surfaces including sheet vinyl, vinyl composite tile, and finished flooring. The dilution rate was 1:128. The cleaning method included buckets with microfiber mops and an auto scrubber. The dwell time was two minutes. The staff determined that any minimal residue did not require any further removal.

The ProNatural All Purpose Cleaner/Degreaser was used on wall boards, nylon woven 8 year old carpeting, tile grout, and lime scale deposits on stainless steel fixtures (drinking fountains, toilets, and urinals). The dilution rate was 1:4 and the cleaning methods included spray bottles, deck brushes, and microfiber mops and auto scrubbers. The dwell time was five minutes, along with agitation. Heavy soiling and build up required 5-10 minutes of additional dwell time. The staff determined that no precautions were needed to dispose of this product down nearby drains.

Results

It was subjectively noted that the majority of EVS staff, nursing center residents, and visitors commented on the pleasant fragrance of both ProNatural products.

All four staff participants gave a rating of 5, the highest effectiveness, to the ProNatural Antimicrobial product. All four staff participants stated they would choose the ProNatural Antimicrobial MultiSurface Cleaner over the current Spartan cleaning products at their facility: Clean By Peroxy, Super HDQ disinfectant, Tribase multipurpose cleaner, and Non Acid bathroom cleaner, for these surface applications.

All four staff participants rated the ProNatural Antimicrobial product as having the highest effectiveness for floor surface applications also. They all stated that it outperformed the

current Spartan product, Damp Mop, due to its quicker drying time and improved enhancement of the floor finish.

All four staff participants rated the ProNatural All Purpose Cleaner/ Degreaser product as highly effective, for the applications cited in the Materials and Methods section above, and for removing urine stains and odors in resident restrooms. The EVS staff reported that there was no alternative product available to them that compared to the ProNatural All Purpose Cleaner/Degreaser.

Conclusions

The main goal of cleaning products, especially in a healthcare environment, is to perform effectively. It would be most advantageous if that effectiveness can be equally or better achieved using products that have ingredients that pose little or no risk to human health and the environment.

The ProNatural Antimicrobial MultiSurface Cleaner has ingredients, as defined by the EPA, as posing little or no risk to human health or the environment along with the ability to kill odor causing bacteria. Both ProNatural Antimicrobial MultiSurface Cleaner and ProNatural All Purpose Cleaner/Degreaser are based on ingredients that are naturally derived, non-corrosive, and actually qualify as FDA approved direct food additives.

The Environmental Services staff at Lakeside Beikirch Care Center determined that the ProNatural Antimicrobial MultiSurface Cleaner outperformed the cleaning effectiveness of four different Spartan cleaning products in multiple hard surface applications. The staff also rated the ProNatural All Purpose Cleaner/Degreaser as a highly effective cleaning product with unique applications.

References

(1) EPA.gov

ProNatural Antimicrobial Efficacy Studies

Pathogen	Contact Time	Log Reduction
Bacteria (gm+)		
Staphylococcus aureus (gm+)	30 sec	>7.00
Listeria monocytogenes (gm+)	30 sec	>6.26
Enterococcus faecalis (VRE) (gm+)	5 min	>7.41
MRSA (gm+)	5 min	>6.13
Clostridium difficile (gm+)	15 min	0.72
Bacteria (gm-)		
Eschericia coli (gm-)	30 sec	>7.00
Pseudomonas aeruginosa (gm-)	60 sec	>7.00
Legionella pneumophilia (gm-)	60 sec	>6.00
Acinetobacter baumannii (gm-)	60 sec	>6.00
Stenotrophomonas maltophilia (gm-)	60 sec	>6.00
Enterobacter cloacae (CRE) (gm-)	5 min	>7.43
Enterobacter aerogenes (gm-)	5 min	>5.34
Salmonella enterica (gm-)	5 min	>5.63
Neisseria gonorrhoeae (gm-)	5 min	>3.66
Yeast/Mold		
Candida albicans	15 min	>6.00
Dekkera bruxellensis	5 min	>5.40
Viruses		
Norovirus	10 min	>4.25

*Efficacy may be observed at shorter contact times, however, only the times listed have been tested.

2/23/15