Common Sense Arguments/Concerns Regarding DFE (Detergent Free Cleaning) Products From Cogent Environmental and Distributed by Chemspec

Overview: Every manufacturer and end-user comes to their understanding of cleaning products and their application with presuppositions-truths they are willing to accept, and some truths they are more than happy to whole-heartedly deny. This is also the case with DFC, and will be the case with those willing to accept its basis tenets.

There is no perfect product providing the best solution in all situations and circumstances. Cleaning efficacy is determined by product, procedures, frequency, equipment or custodial hardware used, etc., and influenced by type of soils, soil load, type of substrate, dwell time, amount of agitation, etc. At times, various products produce similar results and the choice boils down to personal preference.

Regarding the DFC Disinfectants, as well as the DFC Cleaners, they certainly have their place, but they are not miracle products outperforming all other options in all cases under all situations. There are trade-offs to performance, odor, kill claims, price, etc. If there is an outbreak of a virus, bacteria, spore, etc. that is of concern and existing disinfectants do not have the stated claims of kill, by all means, consider use of the DFC Disinfectants during the outbreak, however ensure proper cleaning procedures and tools are also used.

However true that the DFC products will appeal to a specific audience or application/condition, some facts still remain.

- Sodium Hypochlorite (bleach) is not people or environmentally safe/friendly
- Real world usage versus lab testing, extrapolations and presuppositions
- Specific kill claims as a disinfectant
- When to use a bleach and water solution
- Use of Green Certified products
- Cleaning efficacy/performance
- Harsh offensive odor
- Price at dilution & as compared to alternates

- Residue left behind
- Shelf life

1) ***Sodium Hypochlorite (Bleach) is Not People or Environmentally Safe/Friendly*** – it is a suspected cardiovascular/blood toxicant, a neurotoxicant, a respiratory irritant, and a skin or sense organ toxicant. In concentrate, it is extremely corrosive to metals such as stainless steel and aluminum, and can cause damage to the eyes and skin, and will bleach fabrics. It has been assigned to Toxicity Category 1, indicating the highest degree of toxicity for these acute effects. Therefore the use of protective clothing, including safety glasses or goggles and chemical resistant gloves, is still required while handling and applying products that contain sodium hypochlorite as the active ingredient, due to the acute toxicity. Regarding ecological effects, sodium hypochlorite is highly toxic to fresh water fish and invertebrates. Even though product claims that since the use dilutions of bleach are low, so the health and environmental impact are low, what is the acute result over time? Do you want to be using a product based on bleach daily? Check out the Score Card Report.

2) ***Real World Usage versus Lab Testing, Extrapolations and Presuppositions*** – In the real world, most users of disinfectants do not pre-clean the surface and then apply the disinfectant, and then let is stay wet (dwell) for the required time (typically 5 to 10 minutes). If you do not do all three steps – pre-clean, apply disinfectant, allow stated dwell time - you are not following the label instructions and likely not producing the disinfectant kill claims. For a bleach solution, the longer the dwell time, the greater the chance of the sodium hypochlorite attacking and corroding the surface. Furthermore, it is widely accepted that cleaning/pre-cleaning is very important. If you remove the bacteria, virus, fungi, etc., the surface is left relatively safe as the contaminants are removed. However, for this to happen, you must use a good cleaner, that is, a cleaner with detergency so as to break down and help remove dried blood, body fluids and other dried soils that cover and bond bacteria to surfaces. While bleach and water may kill/disinfect, if you do not use a second product to do the initial, effective pre-clean, you are not disinfecting properly, as bleach and water is not a good cleaner, and bleach and water is inactivated with organic residues/soils. The bleach and water solution will bleach organic residues (soils), but the residues/soils are left behind/still there. Cleaning is removing, bleaching is not cleaning. You need to do both – clean and disinfect – so verify cleaning efficacy along with microbial efficacy, and remember, you must pre-clean the surface very well if you want to disinfect properly.

3) ***Specific Kill Claims as a Disinfectant – what are the specific claims.*** If the disinfectant/product is simply diluted bleach in RTU format, then the manufacture can claim that the product kills/disinfects like bleach, which is universally accepted to kill most everything. However, if the manufacturer adds any ingredient (inert or active) other than bleach (and water) they must provide microbial efficacy data for their specific kill claims they are making and proof of the effect on shelf life. So the point is, do you want to accept generic kill claims or would you be more comfortable with proof of kill/disinfecting claims against the specific virus, bacteria, fungi, etc. you are concerned about at your facility for your employees, building occupants and visitors, and the environment.
4) ***When to Use a Bleach and Water Solution*** – it is recommended by most not to use a bleach and water solution as the regular/daily disinfectant. For daily/regular use, it is suggested to use something more friendly to people and the environment. If the facility has an outbreak, then use the bleach and water product, or better yet a product with specific kill claims against the bacteria, virus, fungi you are concerned about/reason for the outbreak, and then go back to a safer product for daily use.

5) ***Is it Certified Green by Green Seal, Eco Logo or Design for the Environment (DfE)*** – with all the ecobabble/green washing in the market place, it is strongly suggested to only purchase products verified by a third party that it has been proven by independent and third party labs to meet a broad set of various criteria in order to prove that the product is in fact safer for people and the environment. Will a bleach and water solution meet current EcoLogo Criteria for a disinfectant? Are the regular cleaners Certified by Green Seal or EcoLogo? Are the bleach based cleaning products Certified by Green Seal or Eco Logo? This is easy to verify.

6) ***Cleaning Efficacy/Performance*** – need to do side-by-side cleaning challenges versus competitive products at your facility at different locations with different soil types and loads. See which product works best for you. Don't simply rely on claims of ASTM/AOAC criteria being met or exceeded. Side-by-side against your other options at your facility is the true test of performance. Use an ATP Meter to verify/substantiate results – before, after with just using cleaners A, B, C, etc., after with just spray and wiping with disinfectants D, E, F, etc., pre-cleaning with products A, B, C, etc. followed by allowing disinfectants D, E, F etc. to dwell as per label instructions.

7) ***Harsh Offensive Odor*** – smell the products you are considering and see if you can smell bleach, and how much or how offensive. Some may accept the

odor, some may not. In addition, when the products come in contact with organic soils, the odor will intensify.

8) ***Price at Dilution & as Compared to Alternates*** – calculate the after dilution/at use cost and compare to your alternatives for daily use product and for outbreak control.

9) ***Residue Left Behind*** – the DFC cleaning products leave a residue. It may not be a sticky residue, but it is unsightly. For the disinfectant, one must ask if they want a caustic, bleach residue left behind for their building occupants and visitors, even if the residue will dissipate quickly.

10) ***Shelf Life*** – sodium hypochlorite loses about 5% to 10% of its efficacy per month when stored at low temperatures, in dark places, in highly caustic solutions and its losses are much quicker at higher temperatures, in sun light, and at lower pH values. While the DFC disinfectants in Concentrate or RTU claim to lose about 1% per month as it is stabilized, if the product is used just for outbreaks, then the shelf life may be important to those users. While the claim for Concentrates and RTU products is 12 to 18 months, if the product is mixed from the DFC Concentrate, the shelf life is then likely 1 to 3 months. As a comparison, quat-based concentrates typically have a shelf life of over 3 years. With respect to the cleaners containing bleach and other ingredients, one must question or be provided data to the contrary, that soon after production, performance will decrease over time.

There are likely other reasons to question products. Until 3rd party test data is provided on the specific kill claims as a disinfectant, you test the product performance and determine at-use cost for your location, and you can accept the offensive odor and residue left behind, while using a product with no Certified Proof of being Green, proceed with caution. People are depending upon your decision.