



## ***Lessons Learned from COVID and the Importance of Chemical Dilution Control***

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At the start of 2021, indoor air quality was the focus of multiple publications, studying the impact of increased cleaning rates through the COVID-19 pandemic to understand the effects of using cleaning chemicals at a higher-than-normal rate. These articles summarized that the frequency of cleaning and disinfecting in indoor spaces had caused alarming spikes in rates of Asthma and other respiratory conditions.

From early in the pandemic, data had shown that frequent cleaning and disinfecting were among the best methods to prevent the spread of the COVID-19 virus. As a result, cleaning and disinfecting procedures were increased to match recommended guidelines. What wasn't known at the time was the impact of increased cleaning on indoor air quality and the breathability of the air in offices, gyms, schools, hospitals, homes, etc.

We also saw increased use of electrostatic sprayers, misting systems, and foggers into the marketplace. These can be good and practical tools, but they aren't the end-all, be-all life saving equipment as the marketing would suggest. As other recent studies have shown, for these sprayers, misters, and foggers to be effective, they require exacting processes to work well. In practice and reality, most of these systems are used in imprecise ways. As a result, they lead to an over-confidence in an under-cleaned surface.

Seeing these trends developing in cleaning, we set out to speak with one of the most well-known experts in sustainable and green cleaning, Stephen Ashkin of The Ashkin Group, LLC. In the following 6 lessons below, Stephen outlines what so many people know, but maybe, just possibly, could be reminded of.

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**Cleaning is essential:** As a result of COVID-19, the entire global community has learned many things. Among the most important lessons-learned are that cleaning is an essential tool for protecting health; frontline cleaning personnel are essential workers; and cleaning and disinfecting products are extremely effective – when used properly.

**The cleaning industry should feel proud:** Among the ways the U.S. cleaning industry responded to COVID-19 saw disinfectant manufacturers registering over 500 products with the U.S. Environmental Protection Agency (List N) approved for SARS CoV-2 (among other pathogens) including 247 products which are concentrated formulations. Altogether the total annual consumption of chemical cleaning products including disinfectants, all-purpose, glass, washroom, heavy duty, and others amount to over 6 billion pounds for keeping commercial and institutional buildings clean, safe and healthy.

**Cleaning and disinfecting products work:** Products don't work by magic but must be used correctly. While routine cleaning procedures are challenging in themselves, far too many cleaning operations use the old-fashioned "glug-glug" method for diluting concentrates and literally guess if the product is properly diluted into the most effective use-solution. Inaccurate dilution can cause disinfectants to be ineffective against pathogens (and technically improper dilution is a violation of federal law), and adversely affect the performance of other products.

**Concentrates save money:** From a cost perspective, consider that a quart bottle of a ready-to-use cleaner or disinfectant with a trigger sprayer can cost between \$2.50 and \$5.00 each, whereas the use-solution produced from an accurately diluted concentrate costs only \$0.25 to \$0.50. Concentrates offer a 10X reduction in cost compared to ready-to-use products.

**Concentrates reduce environmental impacts:** The benefit of using concentrated chemicals and reusing quart plastic spray bottles and trigger sprayers substantially reduces the total environmental impacts from the plastic bottles, trigger sprayers and cardboard shipping cartons; along with reduced transportation impacts from unnecessarily shipping water.

**Portion control devices can be configured to meet all cleaning needs:** There are sophisticated electronic pumps that accurately dose concentrated chemicals for critical cleaning processes such as those in food production, dosing drain line cleaners, laundry operations, and other cleaning activities where controlled dosing is critical.

Additionally, less expensive portion control devices are available. These options include proprietary portion control devices supplied by chemical manufacturers provided at no additional cost when buying their chemicals.

There are other dispensing options from single product dispensers that work great for 5 gallon pails and 55 gallon drums for filling autoscrubbers and other machines, single to multiple product dispensers for daily-use products, closed-loop dispensers that minimize worker exposure to concentrate chemicals, and those that dispense at 1 gallon per minute for filling spray bottles to those that dispense at 4 gallons per minute to save time for filling mop buckets and equipment. Ultimately these dispensers can be configured to meet every cleaning requirement safely, accurately, efficiently, and economically.

In the end, concentrated chemicals dispensed through portion control devices are essential for protecting health and can be configured to maximize effectiveness while significantly reducing costs and impacts on the environment.

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It's just like Stephen says above, to get back to cleaning and disinfecting correctly; it's like going back to basics. Let's remind ourselves of the tried-and-true methods of proper cleaning, sanitizing, and disinfecting like so many of us have known all along. Cleaning and cleaning well; works! Overuse of chemicals doesn't just create poor chemistry performance, but it also introduces more chemicals into our daily environments. Concentrates and dilution control devices can save money, reduce environmental impact, and increase worker safety.

This industry was founded on cleaning and cleaning correctly, and we're excited to see an opportunity to shift trends back to these well-known and reliable methods. Now's the time to get back to basics, proper cleaning, and dilution control for the sake of healthy and safe workplaces.

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