

Evidence based cleaning practices

Caution biodegradable detergent residues feed bacteria providing nutrition needed for growth on surfaces cleaned.

One bacterium can become six million in eight hours.

Rinse with clear water after use of biodegradable detergent or disinfectant detergent.

CDC Centers for Disease Control and Prevention

How To Clean and Disinfect Schools To Help Slow the Spread of Flu

http://www.processcleaningsolutions.com/pdf/CDC_Cleaning_for_Seasonal_Influenza.pdf

"Clean and disinfect correctly"

"Always follow label directions on cleaning products and disinfectants. Wash surfaces with a general household cleaner to remove germs. Rinse with water, and follow with an EPA-registered disinfectant to kill germs."

Cleaning Objects/Surfaces to Prevent Spreading H1N1

http://www.processcleaningsolutions.com/pdf/Cleaning_Surfaces_to_Prevent_Spreading_H1N1.pdf

"1. Clean all items with soap or detergent and water. 2. Rinse items with clean, clear water."

How to prevent germs from spreading British NHS National Health Service

http://www.processcleaningsolutions.com/pdf/How_to_prevent_germs_from_spreading.pdf

"Germs can multiply easily. Within eight hours, one bacterium on a damp cloth can multiply to six million."

"Germs stick to cloths and are difficult to remove by rinsing, so all cleaning materials should be disinfected and then dried after use."

"Use two buckets for mopping – one for detergent and the other for rinsing."

"Mops and buckets should be cleaned, disinfected and dried after each use."

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Microbial contamination of hospital reusable cleaning towels

http://www.processcleaningsolutions.com/pdf/Microbial_contamination_of_hospital_reusable_cleaning_towels.pdf

"Our results indicate that cloth towels used for cleaning hospital rooms contained high numbers of microbial contaminants."

"In the 10 hospitals participating in this study, almost all (93%) sampled cleaning towels contained viable microorganisms even after laundering."

"Conclusions: In this case, hospital laundering practices appear insufficient to remove microbial contaminants and may even add contaminants to the towels. Furthermore, it has been previously reported that towels can interfere with the action of common hospital disinfectants. Either independently or in combination, these 2 factors may increase the risk for transmission of pathogens in hospitals."

Environmentally friendly pollutants – what your detergent does to waterways.

http://www.processcleaningsolutions.com/pdf/What_your_detergent_does_to_waterways.pdf

While bacteria are small, what they lack in size they make up for in their numbers and how fast they grow. I often find millions in one milliliter of creek and river water, with bacterial populations doubling every 20 minutes.

“Biodegradable” soaps and detergents are designed as food for bacteria. They are often referred to as “environmentally friendly”. Yet if they end up in our waterways they are anything but friendly. These soaps and detergents are meant to feed the bacteria in sewerage treatment plants under controlled conditions. Environmentally friendly detergents are not meant to feed the bacteria in our waterways.

They are pollutants when they encourage bacterial growth and loss of oxygen in our rivers and streams. They can be the cause of a very unhealthy ecosystem.

Peter Pollard
Principal Research Fellow, Australian Rivers Institute at Griffith University

Detergent Residues on Surfaces - Food for Microbes

http://www.processcleaningsolutions.com/pdf/Detergent_Residues_on_Surfaces.pdf

As many authors have previously emphasized, cleaning and sanitization (or disinfection) of surfaces are separate processes that need to be carried out in separate steps. But within the cleaning process there also needs to be a separation between the application of cleaning solutions containing detergents and the removal by rinsing of any detergent residue after the use of the cleaning solutions.

Immediately after use in surface cleaning, and independent of whatever method is used to apply them, detergent molecules remain chemically unchanged. However, a small but finite amount of detergent remains on the surface. Detergents are then either rinsed off the surface being cleaned or—in all too many cases—remain as residue on the surface in the absence of good rinsing.

The detergents used in commercial cleaning solutions used in the US are strongly encouraged by the EPA to be “biodegradable” and in Europe are required by law to be such. While many in the cleaning industry are aware of the advantages of biodegradability for cleaning products, they may not make the connection between biodegradability and its implication:

that cleaning products can form food sources for common environmental microbes.

The nutritional use by bacteria of organic molecules like detergents that are adsorbed on surfaces has been studied for almost 70 years (Zobell 1943). A major conclusion from this body of work is that, while the exact mechanisms of the biodegradation processes may differ from those in solution, adsorbed detergent and other organic molecules on surfaces can be used for bacterial growth.

By Dr. Jay Glasel

CATEGORIES: SCHOOLS, HEALTHCARE, FOOD SERVICE, COMMERCIAL BUILDINGS, CLEANING MEASUREMENT, IEQ MEASUREMENT, HEALTH & HYGIENE, GREEN TAGGED: DETERGENT RESIDUES, DISINFECTING, SANITIZING SURFACES

THE DETERGENTS REGULATION: FACT SHEET ON AEROBIC BIODEGRADATION OF SURFACTANTS

http://www.processcleaningsolutions.com/pdf/biodegradability_updated.pdf

Biodegradation is the process by which micro-organisms break down organic materials into smaller, simpler fragments. The organic matter serves also as “food” to the bacteria providing them with energy and building blocks from which to make more bacteria.

Surfactants used in detergents normally end up in the waste water that eventually enters a sewage treatment plant with the dirt they have removed. At this stage, the surfactants are biodegraded under aerobic conditions. In this process, the bacteria in sewage treatment plants increase in number; this means that “biomass” is formed.