



PCS Green Cleaning and disinfecting with our Hypochlorous Water products which are produced by diluting our PCS concentrated alkali sodium hypochlorite disinfectant with purified water and adjusting pH of solution to 6.5 to 8.5 with dilute acetic acid creating PCS proprietary hypochlorous acid solutions, the most potent oxidizing disinfecting form of available chlorine.

## PCS Hypochlorous acid cleaners, disinfectants and biofilm remover

1. All decompose upon drying leaving no residual disinfectant on surfaces or the indoor environment.
2. All decompose within minutes by reaction with massive amounts organic soils in sanitary sewer system unlikely to ever survive long enough to reach waste water treatment plants.
3. Reactive byproducts produced in municipal sewage system are rapidly degraded before reaching sewage treatment plants.
4. All contain no synthetic or organic detergent chemicals requiring biodegrading at waste treatment plants. All are not WHMIS regulated meaning there is insufficient chemical concentration to trigger hazard labeling on the label or safety data sheet.
5. All act synergistically with PCS microfiber cloths allowing for the elimination of single use disposable wipes.
6. All act synergistically to our more effective cleaning processes designed to minimize the issue of dry surface biofilms.
7. All contain PCS proprietary Hypochlorous acid created from PCS Hypochlorous water solutions.
8. Hypochlorous acid is generated in white blood cells of all mammals including humans.
9. Hypochlorous acid in very low concentrations have proven effective against oral biofilm bacteria at concentrations of 5 ppm, 25 and 50 ppm have proven effective in food production sanitation against vegetative and biofilm bacteria even after one year storage, Mayo Clinic study reported Hypochlorous acid effectiveness on vegetative bacteria and same bacteria in biofilm form at the same hypochlorous acid concentration, H2O2 required up to 1000 times higher concentration to be effective against biofilm bacteria.
10. New study reports using a low concentration Hypochlorous acid cleaning or disinfecting products could have a secondary benefit of reducing viruses from indoor air by 99% within minutes of exposure to less than 0.2 ppm of Hypochlorous acid in the air, H2O2 required .9 ppm and twice the contact time. H2O2 and Hypochlorous acid have identical exposure limits in indoor air of 1 ppm.
11. Antibiotic and Detergent Resistant Bacteria-PCS Hypochlorous Acid cleaners and disinfectants contain only natural inorganic ingredients that mostly decompose to inorganic salts providing no organic ingredients that microbes could degrade and use as a food source.

Some of the world's largest manufacturers of retail and institutional cleaners have had to recall millions of containers of detergents. All the products recalled had large growth of bacteria like pseudomonas.

We assume bacteria have evolved sufficient resistance to the preserving action of the cleaners and began consuming the biodegradable cleaning ingredients as food for growth. It is only a matter of time before many more degradable cleaners become contaminated. Clorox, Millions of bottles of household cleaner recalled over bacteria contamination. Colgate-Palmolive, Recalls Fabuloso MultiPurpose Cleaners Due to Risk of Exposure to Bacteria 4.9 million containers.

Laundress has recalled over 8 million laundry detergents & other products for the presence of dangerous bacteria. The Consumer Product Safety Commission said the recall involves Art of Green Free and Clear laundry detergent and Zen Lavender Garden laundry detergent. Laundry detergent recalled over possible bacterial contamination.

PCS Hypochlorous Acid products reduce environmental impact of surface cleaners and disinfectants all are classified as non-hazardous by WHMIS.