



INFECTIOUS DISEASES ARE SERIOUS BUSINESS ...

What is the probability of being caught an infectious disease?

ENORMOUS. All public surfaces can potentially be contaminated with bacteria or viruses, including (but not limited to) staphylococcus, hepatitis, norovirus (COVID-19, SARS), streptococcus, HIV, salmonella, H1N1 (swine flu), rhinoviruses, C. Difficile and more. No surface is safe, and some are worse than others.

- Desks were found to have 400X more bacteria than a toilet seat.
- Tests have proved that in just a few hours, viruses can spread to 60% of a building's occupants from a single doorknob.
- Studies determined that 28% of gym surfaces tested positive for contamination
- CDC statistics showed 3 out of 4 norovirus outbreaks occur in long-term care facilities and nursing homes



Who is at risk?

Everyone.



- ◆ Daycares and schools ◆ athletic facilities and gyms ◆ offices and stores ◆ food processing ◆ restaurants and grocery markets ◆ trains, planes and buses ◆ hotels and cruise ships ◆ shipping and boats ◆ theatres, cinemas and amusement parks ◆ hospitals, medical facilities and first responders ◆ agriculture ◆ veterinary

Even residential homes are all known to spread infectious diseases, as well as exposure to mold and allergens.

What's wrong with using Bleach and Quats to sanitize and disinfect?

- Traditional sanitizer/disinfection approaches like chlorine bleach and quarternary ammonium compounds, or quats, are toxic to humans, corrosive to materials and harm the environment they are released to. Klortab NaDCC tablets that produce hypochlorous acid (HOCL) when added to water are the less toxic alternatives to chlorine bleach & quats.

Because chlorine bleach is a hypochlorite (-OCL) and is highly reactive, impure, unstable and sensitive to light and temperature. Quats & chlorine bleach exacerbate or cause asthma.

Chlorine bleach concentrate begins to degrade from the moment it's manufactured and, within a month, easily loses a third or more of its activity. When diluted bleach is effective for only hours.

In addition, bleach and quats are highly corrosive to metals and other surfaces, extremely toxic to the environment, and unsafe for humans to handle or inhale its fumes.



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ALARMING FACTS

According to Centers for Disease Control and Prevention (CDC);

- Up to 70% of organisms causing hospital associated infections are resistant to at least one antibiotic.
 - Norovirus is the #1 cause of acute gastroenteritis outbreaks worldwide.
 - Norovirus affects about 21 million Americans annually
 - Leads to over 2 million outpatient/ER visits or hospitalizations, and 800 deaths
 - Touching a contaminated surface, then touching your mouth, spreads 61% of diarrhea or vomiting outbreaks.
 - There is no vaccine to prevent norovirus infection.
 - As of March 2015, half the estimated 25,000 individuals infected with Ebola virus ultimately died.
- The common cold, Rhinovirus, is the main reason the majority of our population misses school or work every year.

IT'S TIME FOR A PROACTIVE SOLUTION TO INFECTIOUS DISEASE PREVENTION— ONE THAT IS QUICK, SAFE AND EFFECTIVE.

Proactive Solution of HAZERHAN - KLORTAB NaDCC

Klortab NaDCC is a sustainable, solid tablet form of Sodium Triclosene, NaDCC, which dissolves readily in water to become a powerful hypochlorous acid (HOCL) that is versatile enough, depending on concentration, to use as a food surface sanitizer and a hospital grade disinfectant. If you aren't aware of the many benefits of HOCL, it's time you were. This multi-tasking, EPA registered sanitizer/disinfectant, when coupled with green cleaning formulations and the right application technology, literally SOLVES the time constraints and process problems of daily cleaning and sanitizing / disinfection. Klortab NaDCC is changing the janitorial/custodial industry for the better.

THE SCIENCE BEHIND KLORTAB NaDCC

WHY IS HOCl 100 TIMES MORE STRONG?

The active agent in Klortab NaDCC is sodium triclosene (NaDCC). While it does provide chlorine in the form of hypochlorous acid (HOCL) for sanitizing and disinfection purposes, it is not a hypochlorite like chlorine bleach. The chemistry and mode of action of NaDCC is significantly different, producing a solution that is stable once diluted, particularly in the presence of organic contaminants.

- HOCl has the equal chemical structure to the water (H₂O).
- It is equal format and it is electrically inactive.
- These parameters enable it to pass through into the cell wall in a equal way to water
- OCl⁻ is electrically charged which makes it difficult to pass through into the cell wall.
- The mechanism is uncertain
- Destroy the protein and enzyme systems.
- Spread out through the cell wall.



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WHAT ARE INFECTIOUS DISEASES COSTING?

- **USA:** up to 2 million healthcare-associated infections per year, of which 80.000 are lethal or may contribute to death.
- **EUROPE:** 5 million hospital associated infections per year, of which 50.000 (1%) are lethal or contribute to death in 135.000 cases (2.7%).
- **JAPAN:** resistance isolation rate of MRSA (methicillin-resistant staphylococcus aureus): 40 – 80%
- **INDIA:** an estimated 10 to 30 % of patients admitted to hospitals and nursing home acquire a nosocomial infection.

3 TABLET SIZES KILL A MULTITUDE OF MICROBES

Klortas NaDCC multi-purpose tablets have many various uses and are available in 3 tablet sizes for easy mixing and precise dilution.

Klortab NaDCC targets the most virulent microbes that affect every sector, from no-wipe sanitization for restaurants to high powered hospital grade disinfection, and everything in between.



USING AREAS	CONCENTRATION	DILUTION
Food contact surface sanitizer (No Rinse)	100 ppm	3,4gr – 1 tablet – 10 liters 5gr – 1 tablet - 15 liters 17,4gr –1 tablet - 50 liters
Hospital grade disinfectant claims (Bleach alt.) Cold & flu virus' (including H1N2) Salmonella & Staphylococcus	500 ppm	3,4gr – 1 tablet – 2 liters 5gr –1 tablet - 3 liters 17,4gr – 1 tablet – 10 liters
Bloodborne pathogen, Herpes & Polio Norovirus, MRSA & Ecoli HIV & Hep B claims Many Animal pathogens	1.000 ppm	3,4gr – 1 tablet – 1 liters 5gr –1 tablet – 1,5 liters 17,4gr – 1 tablet – 5 liters
C. Diff spores 4 minutes (Specialist Nurse Ülker Uysal Dokuz Eylül University Application and Research Hospital, İzmir)	5.000 ppm	3,4gr – 5 tablet – 1 liters 5gr –5 tablet – 1,5 liters 17,4gr – 5 tablet – 5 liters

THE FUTURE OF INFECTION CONTROL IS HERE AND IT IS SUSTAINABLE AND SAFER..

Klortab NaDCC is designed to be the most convenient and cost effective option to ship, store and apply a less toxic, more potent disinfection solution. Protecting environments and people from harmful pathogens has never been easier or more affordable.

Concentrated Klortab NaDCC tablets weigh 95% less per case than liquid concentrate sanitizer/ disinfectant. Making it more ergonomic to lift, and uses less plastics and cardboard, creating less solid waste.	Klortab NaDCC saves money on shipping, storage space and overall chemical cost.	Klortab NaDCC weighs 7x less than traditional liquid concentrate sanitizers/ disinfectants, so you pay 7x less in shipping costs. Klortab NaDCC takes up less square footage, saving money on storage
	Klortab NaDCC is less-toxic and less-corrosive to humans, materials and the environment.	



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Unique advantages of Klortab NaDCC/ Hypochlorous acid (HOCL) vs Chlorine bleach/hypochlorite (-OCL)

Hypochlorous acid is naturally produced in our bodies by white blood cells and tears	Klortab NaDCC is a broad-spectrum disinfectant with more kill claims than other sanitizing alternatives, while also being more cost effective	pH at neutral levels ensures the more effective bactericide, HOCL, remains dominant in the solution
The CDC and EPA substantiate HOCL kills pathogens up to 50 times better than chlorine bleach	Klortab NaDCC neutral pH is surface, human and environmentally-friendly	Diluted Klortab NaDCC is stable in closed containers for 7 to 30 days, depending on ppm of Free Available Chlorine (FAC); while chlorine bleach lasts only for hours once diluted
Klortab NaDCC kills mold and mildew, plus eliminates and controls odors	Testing on metal substrates prove Klortab NaDCC is 50% less corrosive than bleach, plus won't harm fabrics or substrates with normal use	Klortab NaDCC is versatile, from a no rinse food contact sanitizer, to a hospital grade disinfectant with a 4-minute C Diff kill rate
Undissociated HOCL has 4 times the anti-microbial killing power of -OCLs		Klortab NaDCC are cost-effective and sustainable, costing less to ship and store

BEAT BACTERIA WITH A POWERFUL SANITIZER / DISINFECTANT IN A COMPACT TABLET.

Klortab NaDCC has the power to kill 99.999% of Bacteria and eradicate C Diff Spores in 4 minutes! Klortab NaDCC proactive effervescent sanitizing and disinfecting tablets are effective against a broad range of microorganisms on pre-cleaned, nonporous, inanimate surfaces.

The microbiological analysis completed at Istanbul Yeditepe University and Klortab NaDCC tablets have been found to be effective against Escherichia coli, Staphylococcus aureus, Pseudomonas aeruginosa, Enterococcus hirae, Mycobacteria terrae, Trycophyton mentagrophytes, Candida Albicans, Aspergillus niger and Poliovirus Type 1 and Human Adenovirus type 5.

Apart from these, there are also biocidal activity tests conducted by international persons and institutions.

Using Areas:

◆ Daycares, Kindergartens, Schools, Universities ◆ Hospitals, Nursing Homes, Medical and Dental Facilities ◆ Gyms, Health Clubs, Fitness Centers, Spas and Salons ◆ Restaurants, Food and Catering Services and Kitchens ◆ Ambulances ◆ Offices, Shopping Centers and Grocery Stores ◆ Theaters, Sport Centers, Amusement Parks ◆ Hotels, Resorts and Cruise Ships ◆ Residential Homes, Apartments ◆ Kennels, Stables and Veterinary Clinics ◆ Agriculture and Farming ◆ Beverage and Food Processing Plants ◆ Transportation Vehicles, Trains, Buses and Airlines ◆ Marine, Fishing Boats, Ferries, Personal Boats

A SMALL TABLET THAT PACKS THE POWER TO PREVENT INFECTIOUS DISEASES

There are many outstanding differences between Klortab NaDCC and common sanitizer/disinfectants, such as chlorine bleach, quats and other harsh chemicals, not the least of which are its efficacy and cost efficiency. This unique chemistry is less toxic and safe enough for daily use, yet powerful enough to kill dangerous microbes. It is proven to disinfect 99.999% of a wide variety of bacteria and viruses, including "super bugs" like COVID-19, MRSA and H1N1, without causing the mutation of other "super bugs."

Saves Lives and Budgets	More Versatile	Safer and More Sustainable
- Depending on the concentration, HOCL kills 99.999% of bacteria and destroys C Diff in 4 minutes!	Emergency pathogen crisis can be addressed immediately even in an ambulance	Shelf stable for 3 years
Mitigates the spread of infectious diseases and illnesses are stopped before they start	Safely sanitizes food contact surfaces without rinsing	User friendly and safer for humans and materials
- Less sick days converts to higher productivity and lower financial losses	Can also become a heavy-duty disinfectant	Less hazardous to the environment and less corrosive
		Easily transported and stored at a fraction of the cost of alternatives
Revolutionary stabilized NaDCC tablet that forms hypochlorous acid (HOCL) when dissolved in water.		



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Great reviews that deal with the chemical, physical, and microbiological properties of chlorine-releasing agents (CRAs) are available. Sodium hypochlorite, chlorine dioxide, and Nchloro compounds such as sodium dichloroisocyanurate (NaDCC), with chloramine-T are the most important types of CRAs. Sodium hypochlorite solutions are widely used for surface disinfection (household bleach) and can also be used for disinfecting spillages of blood containing human immunodeficiency virus [19]. **(A Study on the Biological Mechanism of SARS-CoV-2, its Impacts and Adversities on the Human Body and Medications to Alleviate its Impacts Rafa AY, Luisetto M, Musa N, Arif OB, Ilman A, Haque T)**

While the NaDCC of ACC 200 ppm or higher showed a more than 99.999% reduction of viral titer at the reaction times of 20 s to 5 min in the evaluation study with a 1:9 volume ratio of virus to sample at NIID, the NaDCC of AC 100 ppm showed a more than 99.9% reduction of viral titer at the reaction times of 40 s to 5 min. • The NaDCC of ACC 50 ppm or higher showed a more than 99.99% reduction of viral titer for the reaction times of 20 s, 1 min and 5 min in the evaluation study with a 1:19 volume ratio of virus to sample at OUAVM. Please note: The Committee treated NaDCC as a substance categorized into HAW (nonelectrolytically-generated), but the results of the NaDCC solution was herein described separately from HAW for the following reason. While an aqueous solution of NaDCC contains a certain amount of hypochloric acid, free chlorine is released from dichloroisocyanurate by the dissociation equilibrium reaction. Thus, an aqueous solution of NaDCC has different properties from conventional HAW. **(Final Report on Efficacy Assessment of Disinfecting Substances Alternative to Alcohol for Use Against Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) - National Institute of Technology and Evaluation (NITE) – Japan)**

NaDCC is different than bleach, and has a lower pH, meaning that its antimicrobial capabilities are different. There are benefits to NaDCC in that it has a reserve disinfecting capability, but it's simply not used as a primary cleaner within the U.S. as it requires larger concentrations. Ultimately, the U.S. Centers for Disease Control and Prevention (CDC) recommend bleach, like Clorox.

So although hospitals in the U.K. stopped using bleach years ago, it's important to note that this study was not carried out with the same disinfectants that we use in the U.S., and comparing them apples to apples would be misleading.

Although this study sheds light on how easily gowns can become contaminated with *C. diff* spores, the takeaways regarding types of disinfectants should be taken in context. **(Breaking Down Resistant Rumors and C. diff Disinfectants - August 29, 2019 | Saskia v. Popescu, PhD, MPH, MA, CIC, Senior Hospital Infection Prevention Epidemiologist, HonorHealth)**

Bleach (sodium hypochlorite) is no longer used in any British hospital for surface cleaning and disinfection, yet contrary to popular myth, bleach has never been "banned" by the National Health Service (NHS). In evaluating disinfectants used in UK hospitals, the NHS made a determination that an alternate to bleach based on Sodium Dichloroisocyanurate (NaDCC) was just as effective as a disinfectant, including when used as a sporicidal, but did not have the same level of health risk or cause as much damage to hospital equipment and the environment as bleach. The in use dilution product presents a pH of between 6 and 7 presenting a neutral range and hence reducing both the potential damage to equipment and the environment. With all those benefits, NaDCC still presents a very broad spectrum efficacy with EPA registered claims to address *Clostridium difficile* spores, Norovirus, HIV, HBV, gram negative bacteria, gram positive bacteria, a number of non-enveloped viruses and *Mycelium tuberculosis* in the US. Further, the EPA has registered NaDCC for sporicidal use at 4300 ppm compared to most bleach registrations that are between 8,500 and 10,000 ppm when used as a sporicidal - less chemistry results in less damage and less health risk. **(Why British and Irish Hospitals Dumped Bleach - NEWS PROVIDED BY - Medentech, Ltd - Nov 17, 2015, 08:45 ET)**

Samples were collected on 5 days over a 2-week period. One patient's room was sampled before routine cleaning and 2 patients' rooms after routine cleaning. Twice-daily cleaning of high-touch areas was done using 5000 ppm of sodium dichloroisocyanurate. The floor was cleaned daily using 1000 ppm of sodium dichloroisocyanurate. **(Air, Surface Environmental, and Personal Protective Equipment Contamination by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) From a Symptomatic Patient - 2020 American Medical Association)**



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