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# HOCl emerges as first line of defence in fight against Covid

*A powerful oxidizing agent that can kill 99.99 per cent of viruses and other pathogens in just 15 seconds, hypochlorous acid, unlike alcohol-based disinfectants, is non-toxic, all-natural and completely safe for human use.*

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By **Saransh Chaudhary**

The Covid-19 pandemic has given way to a new normal where masks, [sanitisers](#) and vaccines offer the first line of defence. While vaccination, though effective in containing the severity of the disease, is not a guarantee against contracting the infection, masks and sanitisers are by far the best

safeguards. Since it has been established that Covid-19 can also be transmitted through your hands and fomites, referred to in scientific parlance as inanimate objects that can carry and spread disease and infectious agents, the need for effective sanitisers and [disinfectants](#) has not been felt more acutely before.

While most sanitisers available commonly are alcohol-based, their ingredients can have serious ill-effects in the long term. Addressing this problem, Hypochlorous Acid (HOCl)-based disinfectants are emerging as the preferred option in the fight

An organic and harmless substance that occurs naturally in the body, HOCl is generated when white blood cells called neutrophils attack invading bacteria. A core component of the internal defence systems of living beings, HOCl bio-mimics the killing activity of white blood cells. When produced outside the body, it works as an electrolyzed, antimicrobial, biocide solution that neutralises practically all pathogens, including the dreaded novel coronavirus.

A disinfectant recommended by the [US Environmental Protection Agency \(EPA\)](#), [Centre for Disease Control and Prevention \(CDC\)](#) and the WHO against emerging pathogens and SARS-CoV-2, specialised HOCl-based disinfectants in the form of spray can even be used for fumigation as well as sterilisation of hospitals and quarantine facilities. Besides, it also control responses to injury and enhances healing with its anti-inflammatory properties. Its indisputable efficacy in healing and disinfecting has been recorded in over 500 peer-reviewed published research papers.

However, what has come in the way of the universal adoption of HOCl, the remarkable disinfectant qualities of which were discovered over a century ago, is its lack of stability. Simplified in layman's language, this implies that when chemically produced outside the body, HOCl tends to have a limited shelf life. However, researchers have now addressed this major concern by employing the novel Electrochemical Activation Technology that generates neutral pH and stable HOCl. The mechanism of HOCl production from salt in the body involving intracellular enzymes can now be mimicked outside the body as well by using controlled application of electrical energy, referred to as Electrochemical Activation.

A powerful oxidizing agent, HOCl kills the pathogen by tearing down the cell membranes and proteins. Capable of killing 99.99 per cent of viruses and other pathogens, HOCl, unlike its alcohol-based counterparts, is non-toxic, all-natural, completely safe for human use and, yes, much more effective as it kills all germs in just 15 seconds. These attributes have made HOCl the most prevalent disinfectant in South Korea, which is widely used to disinfect everything from food and surfaces to hospital wards and mass transit systems. Unlike alcohol-based sanitisers, HOCl also kills bacterial spores. It is skin-friendly and non-flammable, which means it can be stored and used safely without the fire hazards associated with alcohol-based sanitisers. Given its distinct advantages, it is only a matter of time before HOCl emerges as a first-choice disinfectant in India as well.

HOCl also fares better than common non-alcohol disinfectants like bleach. While

viruses, bleach has its disadvantages in that it can cause irritation to eyes, skin and lungs, and inhaling it over long periods can have carcinogenic effects too. In contrast, HOCl has a mild, temporary chlorine-like smell that dissipates quickly, minus all the side-effects associated with bleach.

Much in contrast to alcohol-based sanitisers and bleach, what works in the favour of HOCl is that it does not block pores or dries skin, is food contact-safe, non-corrosive and free from harsh chemicals, carcinogenic oils, residue, artificial fragrances, harmful parabens, sulphates and other preservatives. HOCl is so safe that you can even use it to disinfect your masks and reduce maskne! (acne caused by wearing masks). But what can turn it into a real game changer in the fight against Covid-19 is its efficacy as a disinfectant in sanitising public places, offices and even hospitals where the viral load is much higher.

With the WHO and the CDC now pointing towards the most likely possibility that SARS-CoV-2 could be an airborne-infection that can be transmitted through tiny microbes discharged from infected people, particularly in closed spaces, the powerful properties of HOCl as an air disinfectant gives it a definite edge.

For public places, HOCl solutions can be delivered airborne through electrostatic misting or spraying equipment for maximum disinfection. Unlike harsh chemicals and bleach, HOCl solutions can be safely used for fogging to eliminate the possibility of airborne infection. Fogging with HOCl can cover larger areas with a dry mist, allowing tiny droplets to take effect in both open and closed surroundings.

All bottled up and readily available for personal use, HOCl-based disinfectants can do the trick with a simple spray nozzle.

The writer is CEO of the Venus Medicine Research Centre and President, Global Critical Care, Venus Remedies

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