

HOCLOMAC:

Low-Cost On-Site Hypochlorous Acid Generator for Sanitation and Disinfection



THE PROBLEM

As regular disinfection of frequently touched surfaces is highly advised to prevent the spread of COVID-19, there has been an increased demand for disinfectants. Households and private and public facilities commonly use bleach as a disinfecting agent. Hypochlorite or chlorine-based disinfectants (bleach), however, are often classified as irritants and can cause potential health hazards. Continued use of these common disinfectants can also be quite costly. Based on a market survey, a hospital spends roughly around PhP 600,000.00 annually on disinfectants alone.

THE SOLUTION

In response to the need for a safe and affordable disinfectant, USHER Technologies, Inc., the first startup company of Mapua University founded by Dr. Francis Aldrine A. Uy, developed HOCLOMAC. This is a device that can generate safe and effective disinfectant using only raw materials that can be sourced from local grocery stores. Enhancements on the current HOCLOMAC prototypes were supported by the DOST-Philippine Council for Health Research and Development.

Using electrolysis technology, the device can generate hypochlorous acid (HOCl) solutions. This is a weak acid and chemical variant of hypochlorite that was shown to be a more reactive component in chlorination reaction than hypochlorite or bleach, and thus is a better agent for disinfection. HOCl is also classified as non-hazardous by the Environmental Protection Agency. It is non-irritant to eyes, skin, and the respiratory tract and does not alter the appearance or characteristics of plastics, fabrics, stainless steel, or finished aluminum.

Compared to similar devices that are available in the market, HOCLOMAC is easier to install and use, and is more affordable. The proponent estimates that a hospital can cut its costs on disinfectants by around PhP 500,000.00 per year through the use of HOCLOMAC.



TECHNOLOGY GENERATOR

USHER Technologies, Inc.
Project Leader: Engr. Febus Reidj Cruz

TECHNOLOGY DEVELOPMENT

HOCLOMAC is currently at technology readiness level (TRL) 7 and already has filed patent applications for both the small-scale and large-scale prototypes. USHER Technologies, Inc. is actively looking for adopters for HOCLOMAC. Interested parties may send a letter of intent to the mailing/contact details provided below.

Interested technology adopters may send a letter of intent addressed to:



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