Research

High-level disinfectant can kill human coronavirus in 30 seconds

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Kuantan, 18 August 2020 - Researchers from the Faculty of Civil Engineering Technology (FTKA), Universiti Malaysia Pahang (UMP) successfully developed a high-level disinfectant (HDL), Diaclean Pera Sterilant which contains the active ingredient peracetic acid from food vinegar that can kill 99.99% of microorganisms such as bacteria, viruses, fungi and protozoa.

Professor Dato' Dr. Zularisam Ab Wahid, who led the research, said this disinfectant has been tested for its effectiveness by an international laboratory Viroxy Lab.

"Diaclean Pera Sterilant could kill human coronavirus strain 229E through the method EN 14476: 2013 + A1: 2015 (E) in just 30 seconds.

"Based on the report from Viroxy Lab, Pera Sterilant can achieve virus reduction > 4log10 or can kill human coronavirus strain at 99.99% in all the test times of 30 seconds, 1, 2, 5 and 30 minutes.

"Viroxy Labs is the only accredited laboratory in Malaysia that can conduct the virus test EN 14476: 2013.

"This product has also been tested for its effectiveness as an antibacterial substance through in vitro test in Makmal Bioserasi Klinikal Healthmedic Research Sdn. Bhd. and in vivo biocompatibility test in Makmal Bioserasi, Centre for Research and Instrumentation Management (CRIM), Universiti Kebangsaan Malaysia (UKM), Bangi," he said.

He added that this innovative product is not only organic and food grade but also very user friendly, non-toxic, non-corrosive, non-flammable and does not leave any adverse effects on the surface of contaminated materials.

"Pera Sterilant is environmentally friendly and will decompose in the form of oxygen gas, food vinegar and water after 8 hours of use.

"Meanwhile, peracetic acid is one of the disinfectants that has been listed as effective on the Covid-19 virus by the US Environmental Protection Agency.

"This innovative product that meets the ISO 13485 standard (International Quality Management System for Medical Devices) is also alcohol- and aldehyde-free," he said.

It has also been registered with the Medical Device Authority (MDA), Ministry of Health Malaysia (MOH) as a medical device disinfectant and obtained Halal Certification from the Department of Islamic Development Malaysia (JAKIM).

This product also meets the Conformity to Requirement in the Third Schedule of Medical Device Regulation 2012 by TUV SUD Malaysia.

The research and production of food vinegar-based disinfectant containing the active ingredient peracetic acid were started in 2008 before being commercialised in 2015 under UMP Renal Care Sdn. Bhd. and has been used by more than 50 dialysis centres in Malaysia to sterilise synthetic kidney filters and hemodialysis machines.

The application of this disinfectant was extended as a surface disinfectant spray for household items, office space, schools, factories, vehicles, fruits, food processing industry and public sanitation.

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