RELY+ON VIRKON DISINFECTANT FOR CORONAVIRUS (UPDATE)

INTRODUCTION

Rely+On Virkon is a broad spectrum disinfectant manufactured by LANXESS Pte. Ltd. It consists of potassium peroxymonosulphate as an active ingredient, associated to peroxides, surfactants, an anionic surfactant, organic catalysts and buffers.[1] Rely+On Virkon oxidizes key structures and compounds, such as proteins, leading to widespread, irreversible damage and subsequent deactivation/destruction of microorganisms. Its efficacy was independently proven against over 100 strains of viruses in 22 viral families, over 400 strains of bacteria and over 60 strains of fungi and yeast. Rely+On Virkon is used to disinfect hard surfaces, furniture, floors, walls and doors in medical facilities, pathology and biosafety containment laboratories, treatment salons, residential homes and public areas. It can also be used in critical clinical facilities, such as operating theatres and intensive units, and body fluid spillage decontamination. However, it is not recommended to be used as sterilant for medical devices.[2]

Rely+On Virkon was claimed to be effective against coronavirus. In independent tests mentioned by the manufacturer, Rely+On Virkon inactivated a closely related surrogate of the currently spreading coronavirus strains at a 1:100 dilution rate with a 10-minute contact time. This corresponds to test conditions required by the United States Environmental Protection Agency (EPA) and proves the performance and suitability of Rely+On Virkon for practical use.[3]

Non-toxic and biodegradable, Rely+On Virkon is available in tablet, powder and solution. It is readily soluble in warm tap water and remains stable for up to five days as a 1:100 solution.[2]

Figure 1: Rely+On Virkon products

EVIDENCE ON EFFECTIVENESS, SAFETY AND COST-EFFECTIVENESS

EFFECTIVENESS

There was no relevant study retrieved from scientific databases namely Ovid Medline, PubMed and Cochrane Library on the effectiveness of Rely+On Virkon disinfectant for coronavirus. Most of the information regarding the product was obtained from the company websites.

However, there were two reports on virucidal test provided by the company demonstrating the efficacy of Rely+On Virkon disinfectant against SARS-CoV-2 and coronavirus.

The virucidal test was conducted on Rely+On Virkon disinfectant in the presence of a 5% fetal bovine serum organic soil load at dilution ratio 1:100 and room temperature (20.0°C). The test demonstrated a complete inactivation of SARS-CoV-2 in 60 seconds contact time and complete inactivation of human coronavirus (ATCC VR-740) in 10 minutes exposure time.[4,5]

Rely+On Virkon was a registered disinfectant under List N which meets the EPA's criteria for use against SARS-CoV-2. While surface disinfectant products on List N not all been tested specifically against SARS-CoV-2, EPA expects them to kill the virus because they demonstrate efficacy against a harder-to-kill virus; or demonstrate efficacy against another type of human coronavirus similar to SARS-CoV-2. All surface disinfectants on List N can be used to kill viruses on surfaces such as counters and doorknobs.[6]

SAFETY

There was no retrievable evidence on its safety. The major organic components are classified as readily biodegradable according to the Organisation for Economic Co-operation and Development (OECD) and EU (European Union) test. Diluted Rely+On Virkon disinfectant should not pose any threat to sewage treatment facilities when used as directed.[2]

COST-EFFECTIVENESS

There was no retrievable evidence on cost-effectiveness of Rely+On Virkon disinfectant for coronavirus.

CONCLUSION

There was very limited evidence retrieved on effectiveness and safety of Rely+On Virkon disinfectant for coronavirus. Virucidal test conducted on Rely+On Virkon demonstrated a complete inactivation of SARS-CoV-2 in 60 seconds contact time and complete inactivation of human coronavirus in 10 minutes exposure time. Rely+On Virkon disinfectant was a registered disinfectant under EPA for use against SARS-CoV-2.

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Based on available evidence up to 7th October 2020.

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Disclaimer: This rapid assessment was prepared to provide urgent evidence-based input during COVID-19 pandemic. The report is prepared based on information available at the time of research and a limited literature. It is not a definitive statement on the safety, effectiveness or cost effectiveness of the health technology covered. Additionally, other relevant scientific findings may have been reported since completion of this report.

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