

Information Sheet

Coronavirus and Disinfection

COVID-19 is a virus of the Coronavirus family which is believed to have originated in Wuhan, China and if contracted leads to a serious form of pneumonia. It has rapidly spread from personal contact and has led to thousands being infected with up to 3% leading to fatality.

Due to the recency of this particular strain of coronavirus virus and the complex nature of virus sensitivity to germicide testing we need to consider what has been previously established by scientists regarding the coronavirus family.

Key Facts

How COVID-19 is Spread – It is important to understand how it is spread so that we know what to disinfect. It is spread from person-to-person through droplets and can be deposited onto surfaces through respiratory droplets or body fluids. COVID-19 is not an airborne disease such as measles. So it will only be contracted by person-to-person contact or from a surface recently infected. <https://www.cdc.gov/coronavirus/2019-ncov/about/transmission.html>

COVID-19 on Surfaces – Viruses typically die quickly once outside the host body. Although conflicting reports are given, COVID-19 could survive on an inanimate porous surface for 3-6 hours and on a smooth shiny surface eg glass for several days.

Sensitivity to Biocides – COVID-19 is of the Coronavirus family which fall into the family of **enveloped virus**, lipid or medium size viruses. Other more familiar viruses in this family are Herpes, HIV and Ebola Virus. By definition, enveloped viruses offer the least resistance to germicidal chemicals of microorganisms. And are less resistant than vegetative bacteria such as p. Aeruginosa, s. Aureus and salmonella. It is important to note that enveloped viruses are a completely different family of microorganisms to **non**-enveloped which are significantly more difficult to kill.

DISINFECTION of Hard Surfaces

There are a variety of disinfectant solutions which are effective in inactivating (killing) Coronavirus. Some of the more common solutions are:

- 70% Ethanol (Methylated Spirits) blend with water
- 65-75% Ethanol gel (Instant Hand Sanitiser)
- A 1000ppm chlorine mix (dilute 65ml 4% household chlorine bleach per litre of water)
- Benzylkonium / Quaternary Ammonium chloride disinfectants
- Hydrogen Peroxide 3% solution

The US Centre for Disease Control recommends household grade disinfectants for domestic and commercial areas. And hospital grade disinfectant for healthcare.

Community, residential and public areas

Use a household grade disinfectant. If extra assurance is wanted note that the strength of the solution made and/or the length of contact time provided, significantly increase biocidal efficacy. For example, mixing the solution to double strength to what's recommended by the product label and increasing the contact time to 20 minutes.

Healthcare Facilities (with COVID-19 infected victims)

Use a hospital grade disinfectant with virus claims.

Hard Water Cleanable Surfaces

Clean dirty surfaces and disinfect as a second step.

Disinfect using Biosan II at a dilution of 1:64. Allow at least 10 minutes dwell time.

For additional protection, allow the Biosan solution to air-dry on the surface.

Trigger spray bottles are great for small areas and pump up sprayers for large area surfaces.

Do not over wet surfaces. Surfaces should remain shiny wet for only 10 minutes. Surfaces which have been treated with Biosan II solution should dry within 20-40 minutes. Longer drying times indicate excess solution has been used.

Carpets and Fabrics

Clean dirty carpets and fabrics and disinfect as a second step.

Apply a hydrogen peroxide blend to the carpet in one of two ways;

Prespray (per 1Lt)

- 500ml water (best if warm/hot)
- 15-30ml Performance Plus / Gold
- 60ml Perox (Hydrogen peroxide 50)
- Fill to 1Lt with water (best if warm/hot)

Apply to the carpet, in usual manner. Agitate and allow 10 minutes dwell times. Extract rinse in normal manner.

Hydrogen Peroxide at this level 3% is regarded as safe for carpets and fabrics however always pretest in an inconspicuous location if uncertain of the fibres sensitivity.

Encapsulation (per 1Lt)

- 500ml water (best if warm)
- 30ml Encap Plus / Pro
- 60ml Perox (Hydrogen peroxide 50)
- Fill to 1Lt with water (best if warm)

Apply to the carpet, in usual manner. Agitate and allow to dry time.

Note: If the carpet is only mildly soiled or if disinfecting is being carried out on a clean carpet then 30ml Perox can be used.

Hydrogen Peroxide at this level 3% is regarded as safe for carpets and fabrics however always pretest in an inconspicuous location if uncertain of the fibres sensitivity.

Electronics

Disinfect using a 70% solution of ethanol

- 700ml methylated spirits
- 300ml filtered water

Apply to phones, screen, keyboards etc and ensure the surface stays shiny wet for at least 1 minute. To minimise damage to sensitive electronic equipment wet out a disposable cloth (eg chux cloth) of paper towel with the solution and wipe down the target surface.

Fogging

Fogging rooms and large areas is a great method of applying Biosan II solution to all surfaces. It enables the minimum amount of solution to be applied to prevent overwetting and extended drying times. Surfaces which have been treated with Biosan II solution should dry within 20-40 minutes. Longer drying times indicate excess solution has been used.

- Use a cold / wet fogger
- Dilute to 1:64
- Wear respiratory equipment

Allow surfaces to air-dry where possible for added protection.

AP439 Biosan II – TGA listed hospital grade disinfectant

Use at dilutions of 1:64 for clean surfaces and 1:32 for dirty.

An easy-to-calculate and use dilution is 1:50 (20ml/Lt water) for all hard surface disinfection.

- It is non-toxic and non-hazardous when diluted 1:50
- Safe for use on all water cleanable surfaces when diluted 1:50
- It is safe on food preparation surfaces when diluted 1:50
- Does not need to be rinsed except when used on food preparation surfaces.
- Ideal for use in a spray n wipe form for hard surfaces.
- Ideal dwell time is 10 minutes.
- Best if left to air-dry if possible. This maximizes dwell time and leaves a disinfectant residual.
- Stable when diluted for 6 months.

AP610 Percide – TGA listed hospital grade disinfectant

Percide contains 7,9% Hydrogen Peroxide with a secondary biocide. For many resilient hard and soft surfaces, Percide can be used at a dilution of 1:1 with clean water. If used undiluted a dwell time of 1 minute is sufficient. If used diluted 1:1, allow 10 minutes dwell time.

Always pretest in an inconspicuous location if uncertain of the fibres sensitivity.

- Do not return unused solution to the original container
- Use mixed solutions within 4 hours
- Do not boost with Percide Boost if disinfection is the only requirement

Disclaimer - The guideline provided in this document are given in good faith based on information from CDC and established disinfectant technology. Users should satisfy themselves as to the accuracy and suitability of these guidelines and products described for any particular situation by conducting their own research and by obtaining independent written professional advice. Applied Products Australia and the author of these guidelines will not be held responsible for any claims of any description as a result of these guidelines.