

Interim List of Household Products and Active Ingredients for Disinfection of the COVID-19 Virus

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For general precautionary cleaning, detergent and water are adequate. Many general household products contain the appropriate concentrations of active ingredients (A.I.s) for disinfection of areas that are very likely to be contaminated with COVID-19 virus (e.g. bedroom of a person confirmed to have a COVID-19 virus infection).

The active ingredients and their effective concentrations listed in Table 1 have been shown to be effective against coronaviruses. In addition to the use of cleaning agents, other treatments effective against coronavirus include steam and heat treatment. As the COVID-19 virus is new, no study has been published on the virus. This assessment is thus based on published scientific studies on coronaviruses, a group to which the COVID-19 virus would belong.

Table 2 lists common household products that can be used as effective disinfectants.¹ Both tables will be updated as new data emerge and data from more products are gathered.

Important points to note when using disinfectants:

1. **Check the labels and use according to instructions, and be aware of the potential hazard of each product.**
2. Avoid contact with eye and skin when handling cleaning products, and keep them away from children.
3. Do not mix different cleaning products and use in a well-ventilated area.
4. For disinfection of highly contaminated surfaces or material, avoid the use of spray, and allow appropriate time needed for disinfection (refer to product instruction).
5. This product list should be read in conjunction with the Guidelines and Advisories issued by NEA with instruction and guidelines on how to conduct proper cleaning and disinfection of premises.

¹ The product either contains the appropriate active ingredients listed in Table 1 or is accompanied with data that shows efficacy against coronaviruses.

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Table 1. Active Ingredients and Their Working Concentrations Effective Against Coronaviruses

S/N	Active Ingredient (A.I.)
1	Accelerated hydrogen peroxide (0.5%) ^a
2	Benzalkonium chloride* (0.05%)^b - Alcohol-Free Hand Sanitiser 0.085-0.115% (Still safe at this level)
3	Chloroxylenol (0.12%) ^c
4	Ethyl alcohol (70%) ^d
5	Iodine in iodophor (50 ppm) ^b
6	Isopropanol (50%) ^b
7	Povidone-iodine (1% iodine) ^d
8	Sodium hypochlorite (0.05 – 0.5%) ^{d, e}
9	Sodium chlorite (0.23%) ^b

*Alternative name: alkyl dimethyl benzyl ammonium chloride

^a Omisbahakhsh, N., & Sattar, S. A. (2006). Broad-spectrum microbicidal activity, toxicologic assessment, and materials compatibility of a new generation of accelerated hydrogen peroxide-based environmental surface disinfectant. *American Journal of Infection Control*, 34(5), 251-2571

^b Saknimit M, Inatsuki I, Sugiyama Y, Yagami K. (1988) Virucidal efficacy of physico-chemical treatments against coronaviruses and parvoviruses of laboratory animals. *Jikken Dobutsu*. 37:341-5; Tested against canine coronavirus

^c Dellanno, C., Vega, Q., & Boesenberg, D. (2009). The Antiviral action of common household disinfectants and antiseptics against murine hepatitis virus, a potential surrogate for SARS coronavirus. *American Journal of Infection Control*, 37(8), 649-652. doi:10.1016/j.ajic.2009.03.012

^d Sattar SA, Springthorpe VS, Karim Y, Loro P. (1989). Chemical disinfection of non-porous inanimate surfaces experimentally contaminated with four human pathogenic viruses. *Epidemiol. Infect.* 102:493-505; Tested against coronavirus 229E.

^e Lai, M. Y. Y., Cheng, P. K. C., & Lim, W. W. L. (2005). Survival of Severe Acute Respiratory Syndrome Coronavirus. *Clinical Infectious Diseases*, 41(7), e67-e71.