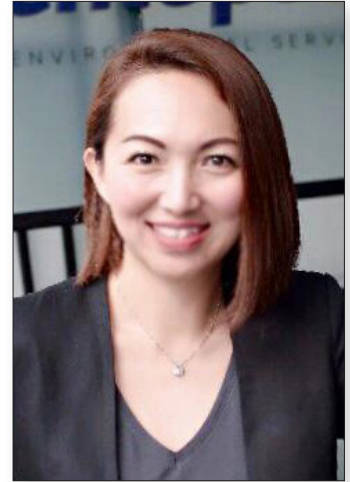


We Sanitize, We Protect, Against COVID-19



How one Malaysian company is fighting the pandemic

Regine Lim

Malaysia's Prime Minister announced a two-week national movement control order (MCO) on 18th March 2020 in an effort to mitigate the COVID-19 pandemic. During the MCO, overseas travelling is banned, offices and commercial buildings are to be shut down, excluding those categorized under Essential Businesses or Services. The military was deployed to assist the police to ensure Malaysians complied with the Order.

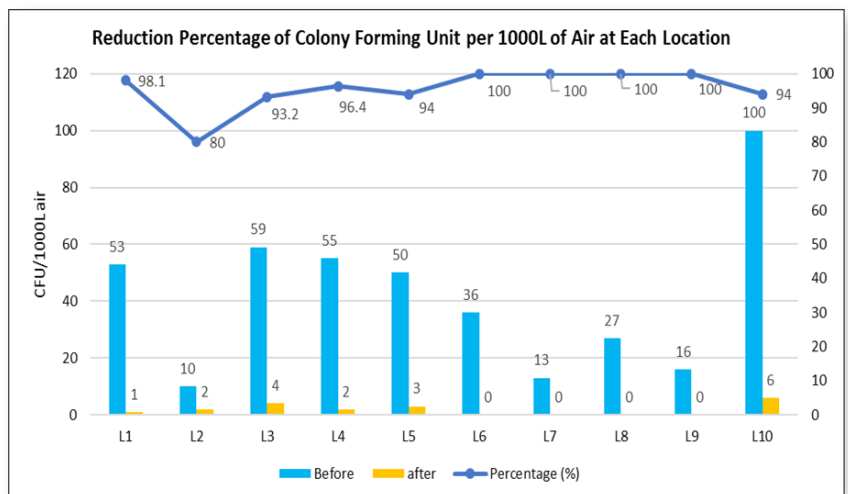
Pest Control Services was exempted to operate under the Order, additionally, those with Hygiene Divisions, especially with the capability to carry out Sanitization Services, continue to operate under the Public Health category which is an Essential Service. Entopest Environmental Services (Entopest) heeded the call and geared up for battle during the MCO.

We started receiving many enquiries from the commercial and industrial sector to carry out Space and Surface Sanitization for prevention purposes. Surface cleaning is carried out prior to the treatment. All work stations and common high risk locations such as reception desks, door knobs and handles, buttons, railing and pantry

areas, need to be wiped down with sanitizers. Space and Surface Sanitization is carried out next to enhance the effectiveness of eliminating the microbes in the treated environment. Air sampling with SAS Air Sampler can be used to verify the treatment efficiency against microbes in the treated room.

The graph below shows the result from a treatment carried out in a corporate office (with approximately 20 staff) using Quaternary Ammonium Compound at 1.0% against non-virological microbes.

The selection of the sanitizer played an important part in the treatment. Therefore,





Entopest prefers Quaternary Ammonium Compound, which has National Sanitation Foundation (NSF) and United States Department of Agriculture (USDA) approval for Space and Surface Sanitization treatment. The product is also HALAL certified by the Department of Islamic Development, Malaysia. This is relevant as the treatment is also designed for food establishments to manage microbes, yeast and mould for their routine treatments. For the dairy industry, bakeries and other food processing and storage facilities, Surface and Space Sanitization treatment is used successfully to control microbes (bacterial, viral, and micro-fungi including yeast and moulds). Entopest has more than 10 years of experience where we also treat childcare centers and medical facilities to manage and protect their environment. Quaternary Ammonium compound is also identified as one of the active ingredients effective against Coronavirus by the National Environmental Agency of Singapore (*NEA Singapore Feb 2020. Interim List of Household Products and Active Ingredients for Disinfection of Novel Coronavirus - 2019-nCoV*: see following pages). Entopest has been actively involved in carrying out Space and Surface Sanitizing treatment professionally during the COVID-19 pandemic.

We are pleased and honoured to be able to provide professional services and play our part

during this COVID-19 pandemic. More importantly, we should ensure our front line workers are well protected when carrying out their duties. Proper PPE, regular health monitoring and risk assessment prior to entering the site are of upmost priority at this critical time.

Looking at the current COVID-19 situation, a collective effort is required to fight against the virus that is damaging our industry and the global economy. We believe in generously sharing our knowledge and constantly exchanging information on the best and latest methodology

with pest management professionals around the world. Leaders from FAOPMA have always presented useful facts and created a strong network within the industry. As a new member, I would like to extend my appreciation to Professor Dr Lee Chow Yang (USA), Dr Raymond Lee (Malaysia), Khun Su-Chart Lee (Thailand), Junichiro Katayama San (Japan), Taro Kanazawa San (Japan), Mr Viren Merchant (India), and last but not least the FAOPMA President, Mr Vasili Tsoutouras (Australia). Their selfless support and sharing have helped me connect with the world of Pest Control beyond Southeast Asia, especially during this critical period. There must be a continuous effort from all of us while undertaking the responsibility to continually provide professional services for a pest free and safe environment. COVID-19 is not the only 'pest' we are fighting against Dengue cases and other diseases brought on by vectors continue to threaten the world. Keep up the good work and let's win this together.

Pray for the end of COVID-19 and a better healthier world! ■

For an example of a sanitizing and disinfection procedure, see pages 16-17.

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Interim List of Household Products and Active Ingredients for Disinfection of Novel Coronavirus (2019-nCoV)

Many general household products contain the appropriate concentrations of active ingredients (A.I.) that are known to inactivate coronaviruses. For general precautionary cleaning, detergent and water are adequate. For disinfection of areas that are very likely to be contaminated with 2019-nCoV (e.g. bedroom of a person confirmed to have a 2019-CoV infection), disinfectant/cleaning products listed in Table 1 can be used. The product list is based on currently available data and active ingredients known to be effective against coronaviruses (Table 2). Both tables will be updated as data from more products are gathered, and as more products are assessed to be appropriate.

In addition to the use of cleaning agents, other treatments effective against coronavirus include steam and heat treatment.

Important points to note:

1. Check the labels and use according to instruction, and be aware of the potential hazard of each product.
2. For disinfection of highly contaminated surfaces or material, avoid the use of spray, and allow appropriate time needed for disinfection (refer to product instruction).
3. 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.

Table 1 List of Household Disinfectants/Cleaning Products Effective Against Coronaviruses

	Product Name	Active Ingredients
1	Simple Green Clean Finish	Alkyl dimethyl benzyl ammonium chlorides 0.15% Alkyl dimethyl ethyl benzyl ammonium chlorides 0.15%
2	Clorox Disinfectant Wipes	Alkyl dimethylbenzyl ammonium chloride 0.13%
3	Clorox Scentiva Disinfectant (Various Scents)	Alkyl dimethyl benzyl ammonium chloride 0.3%
4	Dettol Anti-bacterial Surface Cleanser Trigger Spray	Benzalkonium chloride 0.096%
5	Dettol Healthy Clean Kitchen	Benzalkonium chloride 0.1%
6	Dettol Healthy Clean Bathroom	Benzalkonium chloride 0.1% Hydrogen peroxide 1%
7	Mr Muscle 5 in 1 Multi-Purpose Cleaner (Various Scents)	Quaternary ammonium compounds 0.16%
8	Dettol Laundry Sanitiser	Chloroxylenol 2%
9	Walch Laundry Sanitiser	Chloroxylenol 2.3-2.5%

10	Walch Antiseptic Germicide	Chloroxylenol 4.5-5.5%
11	Dettol Antiseptic Germicide	Chloroxylenol 4.8%
12	Dettol Antiseptic Disinfectant Liquid	Chloroxylenol 4.8%
13	Kao Bleach Liquid	Hypochlorite > 1%
14	Clorox Clean-Up Cleaner + Bleach	Sodium hypochlorite 1.84%
15	Clorox Toilet Bowl Cleaner with Bleach	Sodium hypochlorite 2.40%
16	Essential Waitrose Thick Original Bleach	Sodium hypochlorite 2.5-5.0%
17	Budget Bleach	Sodium hypochlorite 3.25%
18	Giant All Purpose Household Bleach	Sodium hypochlorite 5.25%

Each of the disinfectant product typically comprises one of three active ingredients namely, quaternary ammonium compounds, chloroxylenol and sodium hypochlorite. Avoid contact with eye and skin. When sodium hypochlorite is used on metal, wipe away residues after 10 minutes with wet cloth as it is corrosive to metals.

Table 2. Active Ingredients and their Working Concentrations Effective Against Coronaviruses

	Active Ingredient (A.I.)
1	Sodium hypochlorite (0.1 – 0.5%) ¹
2	70% ethyl alcohol ¹
3	Povidone-iodine (1% iodine) ¹
4	Chloroxylenol (0.24%) ²
5	50% isopropanol ³
6	0.05% benzalkonium chloride ³ (Quaternary Ammonium Compound)
7	50ppm iodine in iodophor ³
8	0.23% sodium chlorite ³
9	1% cresol soap ³ (sodium alkyl-ben-zene sulfonate)
10	Hydrogen peroxide (0.5-7.0%) ⁴

¹ 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.

² Wood A, Payne D. (1998) The action of three antiseptic/disinfectants against enveloped and non-enveloped viruses. *Journal of Hospital Infection.* 38:283-295; Tested against human coronavirus