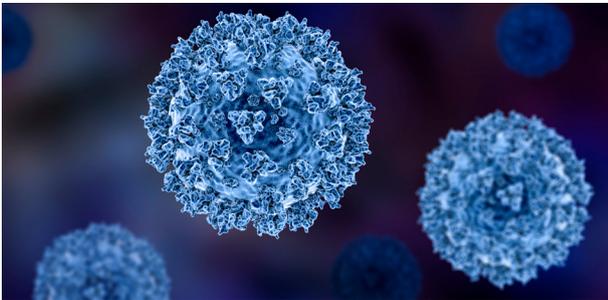


Two key pre-requisites for food safety and Covid-19 control.

DEBRA SMITH - GLOBAL HYGIENE SPECIALIST, VIKAN A/S



Restaurants, bars, cafes, contract catering and food services providers have been some of the hardest hit by the current Covid-19 global pandemic. Many have been forced to close their operations and now await further advice on when and how they should re-open.

When they do there will be many things to consider, including how to ensure food safety and control of Covid-19 in relation to both their staff and customers.

Current legislation and guidance

The following key legislation and guidance is available to food businesses in relation to food safety and control of Covid-19.

Legislation

- Food safety
 - [European Regulation \(EC\) No 178/2002 - Food safety;](#)
 - [European Regulation \(EC\) 852/2004 - Food hygiene; and](#)

- [European Regulation \(EC\) 1169/2011 - Allergen control.](#)
- Covid-19
 - [The Health Protection \(Coronavirus\) regulations 2020](#)

Note: New regulations in relation to control of Covid-19 are in continuous development. Please refer to your local government website for updates. This white paper is based on UK guidelines.

Guidance

- Food safety
 - [Food safety Guidance](#)
- Covid-19
 - [WHO guidance for food businesses](#)
 - [WHO guidance for hotels](#)
 - [ECDC cleaning guidance](#)
 - [UK government guidance to food businesses 1](#)
 - [UK government guidance to food businesses 2](#)
 - [UK FSS guidance for food businesses](#)
 - [UK Hospitality guidance](#)
 - [UK CIEH guidance for food takeaway/delivery](#)

Two key pre-requisites for food safety and control of Covid-19.

Many food businesses will be familiar with control of food safety through use of a Food Safety Management System¹ (FSMS).

This FSMS will be based on application of Hazard Analysis and Critical Control Point (HACCP) principles² which, in turn, are underpinned by pre-requisite programmes related to good hygienic practice³. These include [personal hygiene](#), and [cleaning and disinfection](#).

When it comes to control of Covid-19 there are a limited number of options. These can be ranked in order of their impact on infection risk,

1. Avoid all personal contact.
2. Health surveillance and exclusion; Social distancing; Personal hygiene; and Workplace cleaning.
3. Use of personal protective equipment.
4. Workplace ventilation.

Avoiding all personal contact is not a realistic option for any customer facing business, and the impact of using personal protective equipment and workplace ventilation in a public setting is minimal compared with the controls listed at level 2. Fortunately, these level 2 controls - personal hygiene, and workplace cleaning (and disinfection), are common to both food safety and control of Covid-19.

[Personal hygiene](#)

Health status

Regarding food safety, it is well established that food businesses must not allow anyone to handle food or enter a food handling area if they:

- are suffering from or carrying a disease likely to be transmitted through food;
- have infected wounds, skin infections or sores;
- have diarrhoea.

Any member of staff suffering from any of these must tell their manager about it immediately. Staff with diarrhoea or vomiting should not return to work until they have had no symptoms for 48 hours.

Regarding control of Covid-19, all employers and employees should be aware of the symptoms of Covid-19. These are⁴,

- fever;
- cough;
- chest tightness / shortness of breath (dyspnoea)
- muscle pain (myalgia) and fatigue

Any employee who is symptomatic of Covid-19 should not be at work and should follow government guidance and stay at home. They should report sick by phone or email, and not by coming into work.

If anyone starts to exhibit Covid-19 symptoms in the workplace they should be sent home.

Members of staff that help someone taken unwell with Covid-19 symptoms do not need to go home unless they develop symptoms themselves, and it is not necessary to close the business or workplace or send staff home.

Consequently, food businesses should consider adding Covid-19 related health checks to their usual food safety related health check, e.g.

- Pre-return to work health check / declaration;
- Regular 'good health' declarations once back to work;
- Workplace testing for high risk staff;
- In-work protocols for detailing with someone who develops symptoms;
- Health declarations for visitors / contractors.

Food businesses accessible to the public should also use signage to ask customers not to enter the premises if they have Covid-19 symptoms.

Personal Hygiene measures

To keep food safe from microbial and foreign body contamination, every person working in food-handling must maintain a high level of personal hygiene.

They must wear appropriate protective clothing; not

touch their face and hair, smoke, spit, sneeze, eat or chew gum; and must wash their hands regularly. Personal hygiene measures can also help protect against Covid-19

The primary route of coronavirus transmission is via inhalation of the aerosols and droplets created when an infected individual coughs or sneezes⁴. A single sneeze can produce up to 40,000 droplets⁵.



Good respiratory etiquette is already used by the food industry regarding food safety, and the same practices can be used for the control of Covid-19. Remind staff to,

- cough and sneeze into their elbow.
- cover their mouth and nose with their hand when coughing or sneezing, and to wash their hands immediately afterwards; or
- cough and sneeze into a tissue and dispose of it immediately after use.

Similarly, **hand washing** for food safety is a well-established practice. In relation to control of Covid-19, hands may need to be washed, dried and/or sanitised more often. Wash hands:

- on leaving home;
- on arrival at work;
- between different tasks;
- on entering the kitchen;
- before handling ready-to-eat food;

- after handling raw food;
- after clearing a table;
- after touching anything that guests may have contaminated;
- after touching hand contact surfaces such as handrails, door handles;
- always after using the toilet or going into the toilet areas;
- after cleaning;
- after touching bedding and towels;
- after doing laundry;
- before and after a smoking or vaping break;
- after handling refuse or recycling;
- after handling money;
- after opening packaging and decanting;
- after removing gloves and before putting new gloves on; and
- any time when hands could become contaminated.

Additionally, for control of Covid-19 consider,

- installation of **additional hand hygiene stations**, especially at entrances and exits;
- implementing a disposable **gloving** policy. Careful consideration must be given to when the gloves are used and removed, to ensure that the gloves themselves do not become a vector of viral transmission;
- **use of hand sanitiser or wipes**. These should contain alcohol (min 60%); and only be used where hand washing facilities are limited, for example, by delivery drivers;
- **asking guests to disinfect their hands** with disinfectant gel when entering and leaving the food or drink service area.
- **Avoid touching surfaces**.
- **Don't share equipment**.
- **Provide training and information** to aid compliance, and signage to re-enforce the message.



STOP CORONAVIRUS

WASHING HANDS PROPERLY



Gloving and the use of hand sanitisers and wipes should not replace good hand washing and drying practices.

Cleaning and disinfection

Food Safety

Cleaning and disinfection are an essential part of any food businesses Food Safety Management System.

Good cleaning and disinfection practices,

- remove harmful microorganisms (pathogens), helping to prevent food poisoning;
- help prevent infestation of pests such as mice, rats, flies, cockroaches and birds;
- remove food debris, which attracts pests and can contaminate other food products.
- reduce the risk of cross-contamination by pathogens, e.g., from raw to ready to eat foods;
- reduce the risk of cross-contamination by allergens;
- reduce the risk of physical contaminants e.g., hairs or packaging materials;
- reduce the risk of accidents, such as slipping on spillages and food waste/debris;

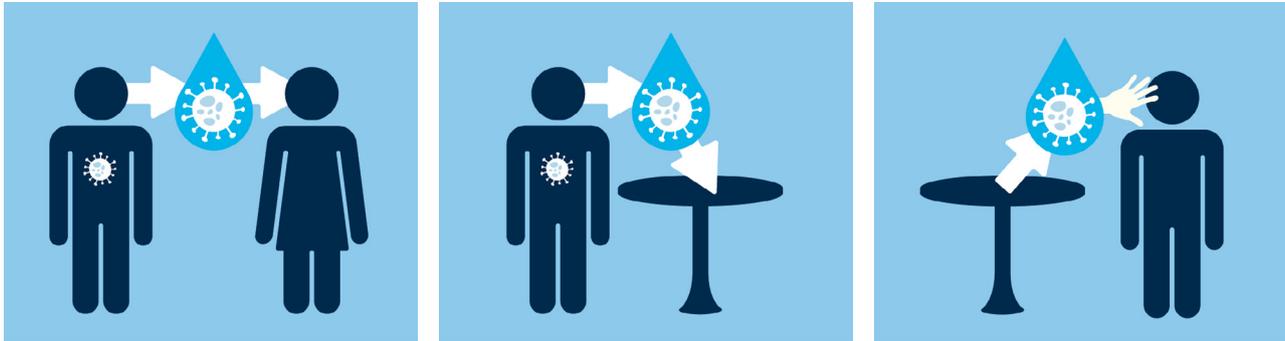
- aid compliance with the food safety and hygiene regulations and standards; and
- creates a pleasant working environment.

Not conducting good cleaning and disinfection can result in consumer illness or even death, and prosecution and loss of business/reputation for the food business operators deemed responsible.

Control of Covid-19

Good cleaning and disinfection practices can also be of benefit regarding the control of Covid-19.

The aerosols and droplets created when an individual infected with Covid-19 coughs or sneezes can land on the surrounding surfaces. Transmission of the virus can then occur through touching of the contaminated item, and subsequent touching of the mucous membranes of the mouth, nose or eyes⁴.



Laboratory studies have shown that the Covid-19 virus, SARS-CoV-2, (specifically) can remain viable⁶ on surfaces for 2-3 days. However, the viability of any virus in the environment depends on many things including, the type of surface they are on; the temperature; relative humidity; presence of organic matter, e.g. food, biological fluids, biofilm; and the specific strain of virus.

Fortunately, viruses are effectively removed from surfaces through good cleaning practices, and enveloped viruses, such as SARS-CoV-2, are among the least resistant to disinfection. Many disinfectants achieve their inactivation within minutes^{7,8,Appendix}.

Consequently, routine cleaning and disinfection practices, using existing procedures, chemicals, and cleaning equipment, should continue as usual, with consideration to a few additional measures.

Cleaning

To minimise the risk of virus harbourage and transfer,

- choose cleaning methods that maximise the removal of the virus and minimise its spread.
- Choose cleaning equipment/materials/PPE that are single use; or
- hygienically designed, i.e., easy to clean and disinfect.
- Clean re-useable cleaning equipment and PPE before first use;

- Clean surfaces prior to disinfection using either,
 - wet cleaning with water and detergent, by scrubbing or wiping; or
 - dry cleaning with a brush, scraper, cloth or vacuum cleaner.

Microfibre for cleaning

Microfibre has been shown to be effective at removing viruses from surfaces^{9,10} in the same way as it is for bacteria, i.e., through either electrostatic attraction (when used dry); or capillary action (when used damp).

Microfibre (both re-useable and disposable) used damp or dry, without the use of chemical disinfectants, is likely to remove the virus from the surface but not inactivate it. Consequently, Vikan recommends the following,

- **Disposable microfibre:** Use a separate disposable microfibre cloth or mop for each different surface cleaned and dispose of immediately after use.
- **Re-useable microfibre:** Change frequently, and launder after use, using a minimum wash cycle of 56°C for 15 minutes (or thermal equivalent), to ensure destruction of the virus before re-use.
- Clean and disinfect hands and equipment, e.g., floor mop frames, thoroughly after use.



Disinfection

Chemical disinfection

Many disinfectants are active against coronaviruses and achieve their effective inactivation within minutes^{7,8,Appendix}.

- Alcohol based products (60 - 85%)
These disintegrate the viruses protective lipid coating and can be used for rapid disinfection of relatively small surfaces, including hands. They can be applied using a spray bottle/dispenser, or a cloth (preferably disposable), impregnated with the alcohol. Use a fresh cloth for each piece of equipment/surface disinfected.
- Sodium hypochlorite/Bleach (NaClO: 1,000 - 5,000 ppm)
Bleach and other strong oxidisers will also break down the essential components of the virus and inactivate it. Guidance from the European Centre for Disease Prevention and Control (ECDC) states that a 1:50 dilution of household bleach = 1,000ppm NaClO. The hypochlorite solution can also be applied to small surfaces using a spray bottle or cloth. For disinfection of larger equipment and surfaces it can be applied through use of a larger spray system or manually using a cloth or wash brush.
- Peracetic acid and hydrogen peroxide
are also both very effective and in food and beverage production facilities they may be more appropriate, as they will reduce the risk of food taint caused by chlorine.

- Gaseous hydrogen peroxide
Has been shown to be effective against viruses¹¹ and can be used for whole room disinfection. This technique can be used to reduce the level of micro-organisms in the air and on surfaces. Whole room disinfection can be used in addition to normal cleaning and disinfection practices but should not replace them.
- Quaternary Ammonium disinfectants
These attack the protein and lipid structures of the virus and disrupt its ability to infect.

For those in Europe and countries using the EN norms, use a disinfectant that has approval (partial approval for enveloped viruses) to EN 14476:2019.

Whichever disinfectant you choose, speak to chemical suppliers for details of in use concentrations, as these vary from formulation to formulation. In all cases the contact time of the disinfectant needs to be sufficient to allow it to inactivate the virus prior to rinsing. This can range from 30 seconds to 10 minutes and should be checked with the chemical supplier.

Microfibre used with a chemical disinfectant

If microfibre (both re-useable, and single use, disposable cloths and mops) is used in combination with a chemical disinfectant for control of SARS-CoV-2, the disinfectant should be one that is effective against viruses. These can either be applied directly to the surface and then wiped off with a mop/cloth or dosed onto the mop/cloth.

Note:

Microfibre efficacy is based on the ability of the microfibres to attract and hold contamination through electrostatic (when dry) and capillary (when damp) action. The use of chemicals that contain

alcohol, chlorine and strong acids and alkalis may damage the fibres and effect their efficacy.

Thermal disinfection

Heat (56°C for 15 mins or thermal equivalent) can also be used to inactivate SARS coronavirus¹². Use wash/rinse water at >56°C or steam disinfection after cleaning.

Small, washable equipment and utensils can be decontaminated using an industrial or domestic dishwasher using minimum wash cycle of 56°C for 15 mins or thermal equivalent.

Laundry (including re-useable protective clothing and cleaning cloths and mops), and small plastic cleaning tools and utensils, can also be decontaminated using a washing machine with the same minimum wash cycle settings.



Do not shake dirty laundry as this could spread virus particles through the air. Clean and disinfect the items used to transport the dirty laundry/equipment to the washer.

Antimicrobial surfaces

The antimicrobials impregnated into some surfaces and equipment may also serve to protect against virus transmission, but no studies have yet been conducted involving SARS-CoV-2.

Surface antimicrobials work well on relatively clean surfaces and provide an additional 24/7 antimicrobial action. However, organic matter (e.g., food; biofilms, biological fluids) shields the virus from the antimicrobial.

Antimicrobials also need time (hours) to work effectively, by which time the virus may have already been transferred.

Standard cleaning and disinfection techniques are faster and more effective for minimising the risk of virus transmission, especially for frequently touched surfaces.

What to clean and disinfect

Even in the absence of Covid-19 cases in an establishment, it is recommended that hygiene services be enhanced. Clean and disinfect **all communal and frequently used areas** more frequently. These include,

- computer works stations;
- service points;
- receptions;
- tills;
- toilet facilities;
- changing rooms;
- offices;
- canteens; and
- vehicle interiors.

Special attention should also be given to the cleaning and disinfection of **frequently touched surfaces** more often. These include,

- handrails;
- trays;
- elevator buttons;
- key cards;
- door push plates;
- switches;
- vending machines and drinks dispensers;
- instrument panels;

- touch screens/lpads;
- taps;
- toilet flush mechanisms;
- cleaning tools;
- food preparation and service utensils; and
- condiment containers.

Cleaning staff should be instructed accordingly.

Drivers and other staff delivering goods should be supplied with a suitable disinfectant and paper towels/disposable cloths for cleaning and disinfection of items such as steering wheels, door handles and mobile devices.

Disposable containers and packaging should be used to avoid the need for cleaning of any returns.

Also consider cleaning and disinfecting personal items, e.g., car keys, coins and payment cards, phones etc..

When to clean and disinfect

This should be based on risk but the following cleaning and disinfection frequencies have been suggested,

- high frequency touch points every 15-30 mins;
- medium frequency touch points every 2 hours; and
- low frequency touch points at end of shift (~8 hours).

Additional cleaning if an individual is symptomatic of Covid-19.

If a food worker becomes unwell in the workplace with typical symptoms of Covid-19, they should be removed to an area away from other people.

All surfaces that the infected employee has encountered must be cleaned and disinfected.

All staff should wash their hands thoroughly for 20 seconds with soap and water after any contact with anyone with coronavirus symptoms.

Maintenance of cleaning equipment and PPE

Cleaning equipment/materials and the PPE used during cleaning, can themselves become vectors of contamination. To minimise the risk of hazard harbourage and transfer, clean re-useable equipment,

- before first use;
- between use by different employees;
- after final use for the day.
- Regularly inspect and replace.



For further information on cleaning tool and utensil maintenance please see Vikan whitepaper: [Optimising Food Safety Through Good Cleaning Tool Maintenance](#)



Keep a record

Always document your food safety and Covid-19 control procedures, and why you have made the decisions you have so you can show and explain these to an auditor.



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APPENDIX 1

Summary table of research into disinfectant efficacy in relation to coronavirus

Courtesy of Christeysn - Technical Information Briefing on Cleaning and Disinfection regime with regards to Novel Coronavirus

Active	Concentration	Time	Viricidal action	Source
Peracetic acid	0,01 %	1 min	Activity against enveloped viruses (EN14476 - Vaccinia)	[4]
Peracetic acid	0,15 %	5 min	General viricidal activity (EN14476 – Poliovirus, Adenovirus and Murine Norovirus)	[5]
Benzalkonium chloride	0,05 – 0,1 %	10 min	Activity against coronaviruses of animal origin. Activity against SARS-CoV-2	[6,7]
Didecyl dimethyl ammonium chloride	0,0125 %	10 min	Activity against enveloped viruses	[8]
Ethanol	70 %	1-5 min	General viricidal activity. Activity against SARS-CoV-2	[7,9]
Sodium hypochlorite	0,1 – 0,5 %	1 min	SARS-CoV-2 decontamination on surfaces, Activity against coronaviruses of animal origin	[6,10]
Isopropanol	50 %	10 min	Activity against coronaviruses of animal origin	[6]
Glutaraldehyde	0,5 %	1 min	Activity against SARS-CoV	[11]
Hydrogen peroxide	0,5 %	1 min	SARS-CoV-2 decontamination on surfaces	[10]
Hydrogen peroxide	0,5 %	1 min	Activity against Human coronavirus (HCov 229E)	[11]

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WHITE PAPER