

How to clean and disinfect after a COVID-19 case in the workplace

Information for cleaners, business owners and managers

28 July 2020

Introduction

This guide provides advice on cleaning and disinfecting for facilities or workplaces after an employee, resident or visitor* has been diagnosed with COVID-19. While this advice is primarily for facilities and workplaces, the same principles apply for schools, childcare centres, accommodation facilities#, factories and private homes.

Every workplace should already have an established routine cleaning schedule. The routine schedule should include cleaning of [frequently touched surfaces](https://www.health.gov.au/resources/publications/coronavirus-covid-19-information-about-routine-environmental-cleaning-and-disinfection-in-the-community) <<https://www.health.gov.au/resources/publications/coronavirus-covid-19-information-about-routine-environmental-cleaning-and-disinfection-in-the-community>>. Examples of these include light switches, door knobs, stair rails, lift buttons, phones and computers, EFTPOS machines, counters and desks.

COVID-Safe cleaning plans

It is a requirement that every facility and workplace prepare a COVID-Safe plan. This must include an action plan and protocols^ to manage cleaning and disinfection following notification of a confirmed COVID-19 case. Specific information may be found at [Safe Work Australia](https://www.safeworkaustralia.gov.au/covid-19-information-workplaces/industry-information/general-industry-information/cleaning) <<https://www.safeworkaustralia.gov.au/covid-19-information-workplaces/industry-information/general-industry-information/cleaning>>.

Your plan should include the following:

- Engagement of suitably qualified cleaning personnel.
- Building personnel responsible for overseeing the process.
- List of cleaning agents, disinfectants, tools and equipment.
- Validated method of disinfection.
- Processes for ensuring cleaning equipment is clean.
- Storage and accessibility of cleaning equipment.
- Availability of personal protective equipment (PPE).
- Education and training of cleaning personnel which should include the following:
 - knowledge of appropriate cleaning products and chemicals including safe handling
 - waste and laundry management
 - hand hygiene
 - how to safely put on and remove PPE.

*Visitor, for the purposes of this guidance may include students, children, residents, clients, patients and 3rd party providers.

#Accommodation facilities may include supported residential services, high rise towers, boarding houses, boarding schools and hotels

^Every facility should have clearly written protocols to direct cleaning staff.

Basic training for cleaners

The education and training of cleaning personnel engaged for carrying out decontamination cleaning should include:

- Basic infection control, hand hygiene and PPE training for [COVID-19](https://www.health.gov.au/resources/apps-and-tools/covid-19-infection-control-training)
<<https://www.health.gov.au/resources/apps-and-tools/covid-19-infection-control-training>>

Optional but highly recommended training:

- VET (Vocational Education & Training) training via an RTO (Registered Training Organisation):
 - The [Accredited training unit: HLTINFCOV001](https://training.gov.au/Training/Details/HLTINFCOV001)
<<https://training.gov.au/Training/Details/HLTINFCOV001>> - Comply with infection prevention and control policies and procedures.
 - [List of RTOs](https://training.gov.au/Search/SearchOrganisation?nrtCodeTitle=HLTINFCOV001) <<https://training.gov.au/Search/SearchOrganisation?nrtCodeTitle=HLTINFCOV001>> approved to offer this course

Why environmental cleaning is important

Commonly COVID-19 spreads through close contact with an infected person and is typically transmitted via respiratory droplets (produced when an infected person coughs or sneezes).

It can survive on surfaces, depending on the type of surface and the ambient temperature. Less likely than droplet transmission but possible, the employee may acquire the infection if they touch a contaminated object, then touch their mouth, nose or eyes.

What happens when there is a confirmed case with COVID-19

DHHS will contact the facility or workplace if an employee or visitor has been diagnosed with COVID-19 and has been considered infectious while on the premises. The facility or workplace will need to be thoroughly cleaned and disinfected before it can be re-opened and staff can return to work.

A member of the DHHS outbreak team will undertake an onsite assessment and, following discussions with the facility manager, establish which areas are required to be cleaned and disinfected (e.g. areas within the facility/workplace used/visited by the case, such as offices, bathrooms and common areas).

The area(s) will need to be closed to prevent ambulant traffic prior to and during cleaning and disinfection. When cleaning and disinfection begins, if possible, outside doors and windows should be opened to increase air circulation.

Information for cleaners

The importance of cleaning AND disinfection

Disinfectants may be inactivated by the presence of organic matter therefore physical cleaning must be undertaken prior to the application of a chemical disinfectant.

- **Cleaning** refers to the mechanical action, using a detergent and warm water to remove dirt.
- **Disinfection** is the use of chemicals to kill germs. It is important to remember to **clean** with detergent **before** a disinfectant is used.

Use of personal protective equipment (PPE) when cleaning

The risk of acquiring COVID-19 when cleaning is not as great as the risk when face to face with a sick person who may be coughing or sneezing.

- Avoid touching your face, especially your mouth, nose, eyes and the PPE (i.e. mask and eyewear) whilst cleaning.
- Recommended personal protective equipment (PPE):
 - Perform hand hygiene before and after removal of PPE.
 - Mask and eye protection such as protective goggles or a face-shield. These act to prevent you inadvertently touching your face with contaminated hands and fingers, whether gloved or not.
Prescription glasses are not protective.
 - Disposable gloves.
 - Plastic apron or a disposable gown should be worn to protect clothing from damage by the cleaning and disinfectant solutions.
 - Coveralls may be worn but only if training has been undertaken.
 - The Department of Education and Training has produced a [demonstration video](https://vimeo.com/420124799/030d5447f8) <<https://vimeo.com/420124799/030d5447f8>> of the steps to be undertaken when donning (putting on) and doffing (taking off) PPE with a gown and with coveralls.

Preparation

Prepare your equipment

- Gather all equipment (cleaning equipment, disinfectant solution, plastic bags). You may need signage to prevent unauthorised people from entering the cleaning area.
- Before you begin, make sure your equipment is clean. For example — wipe down your mop handles, use clean mop heads and make sure your buckets do not have residual dirt.

Prepare yourself

- Perform hand hygiene
- Put on your PPE

Prepare the area

- To facilitate cleaning and disinfection of all surfaces:
 - remove clutter and discard disposable items/waste
 - items that are not used repeatedly or frequently touched, that is within the last 24 to 72 hours should be placed in a clear plastic bag and stored (for example, paper documents).
- For items that require laundering, arrange for these to be sent to a commercial laundry or washed in an on-site washing machine (if available).
- Remove crockery and cutlery. Place in an on-site dishwasher (if available) or wash in warm soapy water.
- Identify soft furnishings which need to be cleaned with the steam cleaner.

Prepare the neutral detergent and the disinfectant solution:

- Follow manufacturer's instructions for appropriate dilution and use (see Appendix one).
- Wear gloves and eye protection when handling.
- Solutions should be made up as they are needed. Pre-diluted bleach solutions lose potency over time and on exposure to sun-light and as such need to be made up fresh daily.
- Only use bleach on non-porous surfaces as it may damage other surfaces.

Clean and disinfect

- Thoroughly clean surfaces using detergent and water.
- Apply disinfectant to surfaces using disposable paper towel or a disposable cloth. If non-disposable cloths are used, ensure they are laundered and dried before reusing.
- Ensure surfaces remain wet for the period of time required to kill the virus (this is known as contact time) as specified by the manufacturer. If no time is specified, leave on the surface for 10 minutes.
- Wipe disinfectant off surfaces to prevent damage.
- Remove and discard gloves. If gloves are reusable, wash with soap and water after use and leave to dry. Wash hands with soap and water or use an alcohol-based hand rub immediately after removing gloves.

2-in-1 products combine a detergent and TGA listed hospital grade disinfectant product with activity against viruses. These may be used as long as the manufacturer's instructions are followed regarding dilution, use and contact times for disinfection (that is, how long the product must remain on the surface to ensure disinfection takes place).

Swabbing surfaces for COVID-19 after cleaning, is not required. A visual inspection is sufficient.

Choice, preparation and use of disinfectants

Disinfectants containing $\geq 70\%$ alcohol, quaternary ammonium compounds such as benzalkonium chloride or diluted household bleach including products containing sodium hypochlorite are suitable.

If purchasing any product from a supplier always ask for a material safety data sheet (MSDS). If the product is purchased in store, carefully read the instructions on the label, follow the application and the safety instructions.

Disinfectants that may be used for COVID-19 can be found in the [Australian Register of Therapeutic Goods \(ARTG\)](https://www.tga.gov.au/disinfectants-use-against-covid-19-artg-legal-supply-australia) <<https://www.tga.gov.au/disinfectants-use-against-covid-19-artg-legal-supply-australia>>.

A household or commercial grade virucidal disinfectant is suitable to use in non-healthcare workplaces. It must be one that can kill viruses. This should be written on the label as virucidal or anti-viral.

- The most readily available disinfectants are chlorine-based products (household bleach). To achieve the correct dilution, follow the manufacturer's instructions or use the chlorine dilutions calculator to achieve a 1000 parts per million (ppm) dilution.
- For the chlorine dilutions calculator refer to [Appendix 1](#).
- Once diluted, bleach solutions lose potency over time and on exposure to sun-light and so must be made up prior to use.

Cleaning and disinfection of carpets and soft furnishings

Soft furnishings or fabric covered items (for example, fabric covered chairs or car seats) that cannot be wiped clean or washed in a washing machine should be steam cleaned.

Use hot water extraction cleaning equipment that releases at a minimum of 70 degrees Celsius under pressure must be used to ensure appropriate disinfection. Allow to dry thoroughly before re-use.

Management of linen, reusable cleaning equipment, crockery and cutlery

If there are items that can be laundered, such as towels, linen, mop heads, reusable cleaning cloths and toys launder them in accordance with the manufacturer's instructions using the hottest setting possible. Do not shake dirty laundry as this may disperse the virus through the air. Dry items completely.

Contain all linen and reusable cleaning equipment (that is, mop heads & cleaning cloths) before removal from the area in a plastic bag. Transport promptly for immediate washing.

Wash crockery and cutlery in a dishwasher on the hottest setting possible. If a dishwasher is not available, hand wash with hot soapy water and allow to air dry.

Waste

Dispose of PPE and single use cleaning equipment, such as wipes, in a leak proof plastic bag. When finished with the bag, tie it up and dispose in general waste.

Fogging (wet or dry)

DHHS does NOT RECOMMEND the use of dry or wet fogging for COVID-19 cleaning and disinfection.

- Dry fogging, under high pressure with a fine bore nozzle, produces uniformly fine droplets. The droplet size is less than 10 microns. This leaves surfaces dry.
- Wet fogging is a broad term and refers to systems which use significantly lower pressures and variation in the bore size of the nozzle. In some systems the droplet size is between 10-30 microns but other systems the droplet size is greater than 100 microns (misting). Surfaces are always left wet.

Fogging requires specialised training and equipment. While it may be used in some industries for routine environmental disinfection it is **not a recommended** disinfection process for COVID-19 for the following reasons:

1. Fogging alone does not achieve the mechanical action of cleaning (removing dirt and grime).
 - Physical removal of dirt is an important step prior to disinfection and should not be omitted.
2. There are potential health and safety risks associated with aerosolised chemical disinfectants including skin, eye, and respiratory irritation. This risk is increased with prolonged exposure experienced by cleaners and vulnerable occupants such as infants and asthmatics.
3. Fogging may leave high levels of toxic residues. Soft furnishings may continue to release the chemicals for a long time after treatment resulting in potential occupational exposure risks.
4. There is significant risk that fogging will not give the disinfectant sufficient contact with the surface to disinfect it effectively.
 - Factors that may inhibit adequate disinfection include the following: fogging is carried out too quickly, the mist is too fine and too close to the surface, or the air flow is too great.
5. Fogging chemicals, if allowed to go the HVAC system (heating, ventilation, air conditioning) may result in potential occupational exposures to other building users.

References

Australian Government. Environmental cleaning and disinfection principles for health and residential care facilities, Accessed June 2020, <https://www.health.gov.au/resources/publications/coronavirus-covid-19-environmental-cleaning-and-disinfection-principles-for-health-and-residential-care-facilities>

Australian Government, Coronavirus (COVID-19) Information about routine environmental cleaning and disinfection in the community, Accessed June 2020, <https://www.health.gov.au/resources/publications/coronavirus-covid-19-information-about-routine-environmental-cleaning-and-disinfection-in-the-community>

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Safework Australia, Accessed June 2020, <https://www.safeworkaustralia.gov.au/covid-19-information-workplaces/industry-information/general-industry-information/cleaning>

Health and Safety Executive, UK, Accessed July 2020, <https://www.hse.gov.uk/coronavirus/disinfecting-premises-during-coronavirus-outbreak.htm>

Example CHECKLIST (Page 1)

Personal Protective Equipment

Mark box with:

✓ / x/ NA

1. Hand Hygiene (HH) is available – Handwashing facilities or hand sanitiser	
2. Gloves – (May be reusable or disposable)—must perform HH before putting on and taking off	
3. Disposable face mask – Before removing perform HH. Do not touch the front. Use the ties or ear loops to remove.	
4. Protective eyewear or Face shield (May be reusable or disposable) – Prescription glasses are not protective	
5. Plastic apron or full-length disposable gown. Coveralls may be used if trained in donning and doffing. – This is precautionary to protect clothing from the chemicals used.	

Cleaning equipment

6. Large supply of disposable cleaning cloths – Reusable cloths may be used if the site has a process for laundering them. ○ This maybe a site-based washing machine & dryer or a pre-existing contract with a commercial laundry.	
7. Mop & bucket – Reusable mop heads may be used if the site or the cleaning contractor has a process for laundering them. – Disposable mop heads should be discarded in general waste.	
8. Extension pole for high level cleaning	
9. 2 Step clean Step 1: Neutral detergent Step 2: Bleach Solution or TGA approved disinfectant with virucidal activity – Read the product label to see if it is effective against viruses – Follow the directions for preparation – Strictly follow dilution requirements – Read the label for contact time – Wipe off residual disinfectant after contact time completed.	
OR	
10. 2-in-1 clean – Use a TGA approved 2-in-1 detergent/disinfectant product – Read the product label to see if it is effective against viruses – Follow the directions for preparation – Read the label for contact time	
11. Steam cleaner (basic requirement-- release steam at a minimum of 70°C under pressure) – For soft furnishings or fabric items that cannot be washed in a washing machine or withstand bleach	
12. Large supply of plastic waste bags – Check with site manager where these will go.	

Example CHECKLIST (Page2)

Area preparation

13. Define the area to be cleaned. <ul style="list-style-type: none"> – This will be determined in discussion with the DHHS outbreak team and the senior manager of the workplace. – They will include areas within the workplace used/visited by the COVID-19 positive case such as offices, bathrooms and common areas. 	
14. Close off area to be cleaned <ul style="list-style-type: none"> – Use signage to prevent accidental entry by others – If possible, open outside doors and windows to increase air circulation just prior to cleaning and disinfection. 	
15. Remove clutter and discard disposable items/waste into general waste bags, seal and dispose	
16. Quarantine items that need to be kept. <ul style="list-style-type: none"> – Place items in a clear plastic bag and store for 72 hours (e.g. paper documents). 	
17. Items that require laundering. <ul style="list-style-type: none"> – Do not shake laundry – Arrange for these to be sent to commercial laundry or washed in an on-site washing machine (if available). In workplaces where there are children i.e. schools or childcare centres, this may include dress up clothing. 	
18. Remove crockery and cutlery <ul style="list-style-type: none"> – Place in an on-site dishwasher (if available) or wash in warm soapy water. 	
19. Identify soft furnishings which need to be cleaned with the steam cleaner	

Cleaning and Disinfection

20. Using detergent and water, clean the furniture from cleanest to dirtiest (e.g. toilets are cleaned last) and high to low. <ul style="list-style-type: none"> – Walls and ceilings may not need to be cleaned unless there is evidence of gross contamination of respiratory secretions. Walls may only need to be cleaned to touch height and frequently touched areas. This should be discussed with the DHHS outbreak team. 	
21. Using TGA listed/bleach disinfectant solution, clean the furniture from high to low (as above)	
22. Allow for contact time of disinfectant (refer to product information)	
23. Wipe off residual disinfectant.	
24. Steam clean soft furnishings	

After

25. Clean all re-usable cleaning equipment with disinfectant solution <ul style="list-style-type: none"> – Wipe down mop handles, buckets and steam cleaner 	
26. Bag cleaning items that need to be laundered in a plastic bag and arrange to be laundered	
27. Remove all waste into general waste	
28. Site inspection with facility manager and DHHS outbreak team representative	

Appendix 1

The most readily available disinfectants are chlorine-based products (household bleach). To achieve the correct dilution, follow the manufacturer's instructions or use the chlorine dilutions calculator (see Table 1) to achieve a 1000ppm dilution. Once diluted, bleach solutions lose potency over time and on exposure to sunlight and so must be made up prior to use.

Chlorine dilutions calculator

Household bleach comes in a variety of strengths. The concentration of the active ingredient — hypochlorous acid — can be found on the product label.

Table 1. Recipes to achieve a 1000 ppm (0.1%) bleach solution

Original strength of bleach		Disinfectant recipe		Volume in standard 10L bucket
%	Parts per million	Parts of bleach	Parts of water	
1	10,000	1	9	1000 mL
2	20,000	1	19	500 mL
3	30,000	1	29	333 mL
4	40,000	1	39	250 mL
5	50,000	1	49	200 mL

For other concentrations of chlorine-based sanitisers not listed in the table above, a dilutions calculator can be found on the department's website.

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