



THE UNIVERSITY OF
MELBOURNE

—
Grimwade
Conservation
Services

31 to 41

CLEANING GUIDE

FOR COLLECTION SPACES AND HERITAGE INTERIORS IN THE CONTEXT OF COVID-19

12 October 2020

VERSION 1

CLEANING GUIDE FOR COLLECTION SPACES AND HERITAGE INTERIORS IN THE CONTEXT OF COVID-19

This guidance on cleaning of heritage interiors (including furniture) and collection spaces is based on currently available information about the COVID-19 virus (SARS-CoV-2). As information about the virus is constantly evolving **advice may change**. Further **consultation with conservators before implementing a cleaning program** in collection spaces and heritage interiors is recommended.

Target Audience

Organisations which do not have a dedicated conservation team on-site including historic properties, community collections, local government history collections as well as corporate and private historic interiors and collections.

General guidance

Current studies show that the virus can **persist on surfaces¹ from several hours up to several days**. This depends upon the amount of virus present, the type of surface, and environmental factors such as temperature and humidity.

According to current guidelines from Safe Work Australia and the US Centre for Disease Control, areas unoccupied for 7 or more days may only need routine cleaning. It is possible that this timeline will be altered with new research.²

Where areas will be occupied within 7 days, cleaning followed by disinfection of surfaces that will be touched is recommended as the most effective method in reducing risks posed by the COVID-19 virus.

If a surface cannot be touched it does not need to be disinfected.

Collection items should only be **cleaned by a trained professional**.

Definitions: Cleaning vs. Disinfection

Cleaning: Involves physical removal or reduction of bacteria, viruses, dirt and grime from surfaces using a detergent and water solution combined with mechanical action.

Disinfection: Involves the use of chemical compounds to kill any bacteria and viruses that remain on surfaces after cleaning. Some commercial disinfectants are only designed to kill bacteria and won't be effective against the COVID-19 virus.

Current Guidance on environmental cleaning in Heritage or Collection spaces

Preliminaries

What can you do? Stop, plan and think before rushing in.

Develop procedures and policies to help ensure that cleaning and disinfection do not compromise your collections, or staff, contractor and visitor health. Update your emergency or disaster plan to include a section on epidemics/pandemics.

Ensure all staff, volunteers and contractors are briefed on the special needs of heritage and collection spaces when cleaning.

Assess the risk³ for each proposed cleaning activity this can be in the form of a risk assessment including routine cleaning, contamination events, chemicals, PPE, personnel required and application methods. **Ensure your assessments consider the potential for cleaning and disinfection to damage heritage surfaces** (e.g. furniture, handrails, doorknobs, tabletops etc.).

Ensure personnel have access to appropriate PPE to protect themselves against the virus. Follow the guidelines outlined by your local health department. Additional PPE may be needed to protect staff against some cleaning chemicals. Consult the Safety Data Sheet (SDS) for each product and follow the recommendations.⁴

Quarantine items or areas⁵ that are suspected of having been contaminated with the COVID-19 virus. Quarantine items that are at risk of damage from cleaning and disinfection. **See Important notes below.**

Consider alternatives measures to reduce the need for increased cleaning of heritage interiors such as providing gloves to visitors in order to reduce direct contact with heritage surfaces, covering the surface with a material that can be easily removed, cleaned and/or replaced, leaving doors open to reduce the need to handle doorknobs, or rotating access to spaces. This may include fitting foam protectors where people have to touch historic handrails to use stairs safely, covering handles with acid-free tissue and then cling film, and/or covering furniture with tightly woven fabrics (like Tyvek™). Coverings should not be left on for extended periods of time as this could cause a build-up of moisture on surfaces. **Limit the handling of collections.**

Even the recommended detergents and disinfectants will damage heritage surfaces if used too often. Cleaning and disinfection of heritage surfaces should be done as little as possible.

Restrict access⁶ to areas that cannot be cleaned/disinfected completely after use.

Cleaning

Avoid contact with heritage surfaces when cleaning and disinfecting non-heritage surfaces.

Make sure that detergents and disinfectants do not damage the surface being cleaned. Always test both detergent⁷ and disinfectant solutions on discrete areas before full application. In some cases, cleaning can remove important historic varnish, in other cases it can remove residues of modern spray polishes or waxes, in other cases it can remove important original coatings. If needed, ask a conservator to assist with interpreting the results.

Conservators can train your staff on the appropriate products and methods to use in collection/heritage spaces and near objects on display. With the conservator's guidance create cleaning kits for each type of surface. See *Important Notes*.

Use HEPA⁸-filter vacuums to remove dust from interiors regularly.

Additional cleaning and disinfection of minimal touch surfaces (e.g. artefacts) and areas are not required.

Important notes

Many household cleaning / disinfecting products contain volatile chemicals that are harmful to collections and should not be used.

Vapours from products used to clean floors can become trapped within showcases.

Disinfectants, wipes and hand sanitisers should not be used on absorbent historic surfaces (fabric, leather, wallpaper), raw timber, shellacked and varnished surfaces, painted surfaces, historic plastics, porous stone, and uncoated plaster.

- Disinfectants can result in damage such as dyes bleeding and colour change.
- Disinfectant wipes and sanitisers can leave residues.

Read the ingredients on the cleaner/disinfectant packaging before use. See the table: *Heritage Surface and Product Types* below.

Consultation with a conservator before undertaking cleaning and disinfection of high-touch heritage surfaces is recommended.

Heritage Surface and Product Types:

Surface or Material Type	Avoid	OK to use
Varnished timber with furniture wax coating	QACs ⁹ , Household Bleach, Peroxides, Chlorides, Hypochlorites, Alcohols, Ammonium	Dilute hand dishwashing or wool wash detergents followed by rinsing <i>Note: Re-apply furniture wax after cleaning</i>
Raw timber	QACs, Household Bleach, Peroxides, Chlorides, Alcohols, Ammonium	Do not clean – isolate
Uncoated metals	QACs, Acids, Household Bleach, Chlorides, Hypochlorites, Peroxides, Ammonium	Alcohols
Plastics	QACs, Alcohols ¹⁰ , Acids, Household Bleach, Chlorides, Ammonium	Do not clean – isolate or contact a conservator
Tiles	Household Bleach, Chlorides, Hypochlorites, Ammonium, Detergents	Alcohols
Glass	Household Bleach, Chlorides, Hypochlorites, Ammonium	Alcohols, detergent
Stone	Household Bleach, Chlorides, Hypochlorites, Acids, Alkali cleaners, Chelating agents, Ammonium, Detergents (porous surfaces)	Alcohols on impermeable surfaces (marble, granite, hard polished limestone), do not apply excessively Alabaster – Do not clean – isolate (<i>Note that alabaster can look like marble</i>) Porous surfaces – Do not clean – isolate
Plaster	Household Bleach, Chlorides, Hypochlorites, Acids, Alkali cleaners, Chelating agents, Ammonium, Detergents (porous surfaces)	Coated plaster – Alcohols (if coating is not soluble in alcohols), detergent Uncoated plaster – Do not clean – isolate
Shellacked and Varnished surfaces	Alcohols, Household Bleach, Chlorides, Hypochlorites, Ammonium	Do not clean – isolate or contact a conservator
Painted surfaces	Alcohols, Household Bleach, Chlorides, Ammonium	Do not clean – isolate or contact a conservator <i>Avoid anything aqueous as it may cause swelling of acrylic painted surfaces or colour change</i>

CLEANING GUIDE FOR COLLECTION SPACES AND HERITAGE INTERIORS IN THE CONTEXT OF COVID-19

General notes

If disinfection goes ahead, **cleaning before applying disinfection solutions is essential** as the presence of grime may reduce the effectiveness of disinfectants.

Do not mix cleaning and disinfecting products, as this may cause the release of hazardous gases.

Disinfectants will have varying recommended **dilutions and contact times** required to be effective in inactivating viruses. **Follow the manufacturer's advice.**

The World Health Organisation (2020) states that the likelihood of the virus being spread on shoes is very low.

Practising good **hand and respiratory hygiene** should still be used as the **primary prevention method**.

Do's and Don'ts

Do:

- **Follow the advice from local health authorities** if positive COVID-19 cases are identified.
- **Consult with a conservator** before implementing your cleaning program.
- **Consider alternatives** to increased cleaning / disinfection where possible.
- **Quarantine and restrict access** to items and areas suspected of contamination from the COVID-19 virus and or where cleaning/disinfection is not suitable.
- **Complete a risk assessment** for people, collections, and heritage surfaces before implementing your cleaning program.
- **Wear the appropriate PPE**, such as gloves and masks, for the products and situation.
- **Choose a cleaning/disinfectant method appropriate to the surface.**
- **Train staff and volunteers** on appropriate products and methods to use.
- **Ensure contractors are briefed** on the special needs of heritage and collection spaces.
- **Follow manufacturer's advice** regarding contact times for disinfectants. If no time is specified, disinfectants should remain active for 10 minutes.
- **Avoid contact with heritage surfaces when cleaning and disinfecting non-heritage surfaces.**

Don't:

- **Don't use disinfectant fogging or misting solutions.**
 - These methods **have not been recommended** by either Australian public health authorities, Safe Work Australia and the World Health Organisation for COVID-19 related environmental cleaning.
 - This application method is shown to be largely **ineffective**, there are many **health and safety risks** associated with it, and these methods could result in **interiors and collections** being damaged.
- **Don't use** cleaning methods that risk dispersing/aerosolising the virus or creating droplets.
 - This includes **pressurised water, air and dry dusting**.

Additional Resources

The Australian Government Therapeutic Goods Administration (TGA) has a list of products for use against COVID-19: <https://www.tga.gov.au/disinfectants-use-against-covid-19-artg-legal-supply-australia>

See Appendix 1.0 to ascertain if the recommended products can be used within a heritage setting.

Feedback and questions are welcome can be sent to gsc-info@unimelb.edu.au

Grimwade Conservation Services would like to thank all of the conservators both internal and external to the organisation for their contributions to the guide.

Endnotes

- 1 The risk of surface transmission and disinfection requirements outside of health care settings is currently under investigation. Surface contamination has been linked with cases of infection for other coronaviruses (World Health Organisation 2020a).
- 2 A new Australian study (October 2020) conducted by the CSIRO has found that the virus can remain infectious on surfaces for up to 28 days. This may result in changes to advice regarding safe work practices.
- 3 For more information on COVID-19 related risk assessments refer to Safe Work Australia's key considerations for undertaking a risk assessment - COVID-19 (see *General Government Resources under Further Reading*).
- 4 Companies such as 3M make respirators for use with solvents which can have anti-viral HEPA particulate filters added.
- 5 As SARS-CoV-2 is a newly discovered virus, research in this area is ongoing. Current advice on quarantine periods from Arts and Heritage organisations range from 0 – 10 days depending on context (e.g. circulating library collections vs. contamination event) and when that information was published. In order to provide further guidance on this matter, a research partnership between the OCLC, the Institute of Museum and Library Services and Batelle has been developed to determine viral persistence on common collection materials. More information on the project can be found here: <https://www.webjunction.org/explore-topics/COVID-19-research-project.html>
- 6 *ibid.*
- 7 Mild detergents such as very dilute hand dishwashing or wool wash detergents may be suitable for cleaning some heritage surfaces. Detergents should be pH neutral and non-perfumed. Rinsing is required to minimise residues. Consult with a conservator.
- 8 High-efficiency particulate air
- 9 Quaternary ammonium compounds (QACs, "quats"): These products have the combined properties of detergents and disinfectants, leave residues, and are not appropriate for use on many heritage surfaces.
- 10 Follow cleaning instructions provided for specialist Museum Acrylics products such as Tru Vue. A 70:30 ethanol and water solution may be suitable for disinfection of acrylic display materials (e.g. showcases) however testing needs to be conducted to ensure the integrity of any coatings and the acrylic surface itself.
- 11 Due to current government restrictions in Victoria, this document is no longer accessible. Creative Victoria will review and republish the document once restrictions have eased.

Further reading

Conservation and Collection Care Resources

American Alliance of Museums 2020, *Managing collections care during pandemics*, American Alliance of Museums, viewed 12 June 2020, <https://www.aam-us.org/programs/about-museums/reviewing-cleaning-and-collections-care-policies/>

Canadian Conservation Institute 2020a, *Caring for Heritage Collections during the COVID-19 Pandemic: Version 1*, Government of Canada, viewed 30 June 2020, <https://www.canada.ca/en/conservation-institute/services/conservation-preservation-publications/canadian-conservation-institute-notes/caring-heritage-collections-covid19.html>

Canadian Conservation Institute 2020b, *Caring for Heritage Collections during the COVID-19 Pandemic: Version 2*, Government of Canada, viewed 10 August 2020, <https://www.canada.ca/en/conservation-institute/services/conservation-preservation-publications/canadian-conservation-institute-notes/caring-heritage-collections-covid19.html>

Historic England 2020, *COVID-19: Cleaning historic surfaces*, Historic England, viewed 11 August 2020, <https://historicengland.org.uk/coronavirus/historic-places/cleaning-historic-surfaces/>

Historic England 2020, *COVID-19: Cleaning and Disinfecting Historic Surfaces*, Historic England, viewed 2 October 2020, <https://historicengland.org.uk/coronavirus/historic-places/cleaning-disinfecting-historic-surfaces/#a6a5d468>

International Council of Museums (ICOM) 2020, *Conservation of museum collections*, ICOM, viewed 12 June 2020, <https://icom.museum/en/covid-19/resources/conservation-of-museum-collections/>

International Council of Museums (ICOM) 2020, *Museums and end of lockdown: Ensuring the safety of the public and staff*, ICOM, viewed 12 June 2020, <https://icom.museum/en/news/museums-and-end-of-lockdown-ensuring-the-safety-of-the-public-and-staff/>

Minnesota Historical Society 2020, *MNHS Historic/Adjunct Properties Workplace Enhanced Cleaning Guidance for COVID-19*, Minnesota Historical Society, viewed 12 June 2020, [https://www.culturalheritage.org/docs/default-source/resources/emergency-resources/mnhs-workplace-historic-properties-enhanced-cleaning-guidance-for-covid-19-\(1\).pdf?sfvrsn=c420a20_0](https://www.culturalheritage.org/docs/default-source/resources/emergency-resources/mnhs-workplace-historic-properties-enhanced-cleaning-guidance-for-covid-19-(1).pdf?sfvrsn=c420a20_0)

National Park Service 2003, 'Safer Cleaning Alternatives For the Museum & Visitor Center', *Conserve O Gram*, No 2/21, viewed 12 June 2020, <https://www.nps.gov/museum/publications/consveogram/02-21.pdf>

Tru Vue 2020, *Care and Handling*, Tru Vue, viewed 06 July 2020, <https://tru-vue.com/products/care-handling/>

Western Australian Museum 2017, 'Stone and Geological Collections', in *Conservation and Care of Collections*, Western Australian Museum's Department of Materials Conservation, viewed 29th June 2020, <https://manual.museum.wa.gov.au/conservation-and-care-collections-2017/stone-and-geological-collections/treatments>

CLEANING GUIDE FOR COLLECTION SPACES AND HERITAGE INTERIORS IN THE CONTEXT OF COVID-19

Government Resources

Creative Victoria 2020¹¹, *Arts and Culture Return-to-Business Guidelines*, State Government of Victoria, viewed 12 June 2020, <https://creative.vic.gov.au/coronavirus/return-to-business>

Safe Work Australia 2020, *How to clean and disinfect your workplace – COVID-19*, Safe Work Australia, viewed 12 June 2020, <https://www.safeworkaustralia.gov.au/doc/how-clean-and-disinfect-your-workplace-covid-19>

Safe Work Australia 2020, *COVID-19 Information for Workplaces*, Safe Work Australia, viewed 12 June 2020, <https://www.safeworkaustralia.gov.au/covid-19-information-workplaces>

Safe work Australia 2020, *Key considerations for undertaking a risk assessment associated with COVID-19*, viewed 2nd October 2020, <https://www.safeworkaustralia.gov.au/doc/key-considerations-undertaking-risk-assessment-covid-19>

Safe Work Australia 2020, *Template/example COVID-19 risk register*, viewed 2nd October 2020, <https://www.safeworkaustralia.gov.au/doc/template-and-example-covid-19-risk-register>

Health Department Resources

Centre for Disease Control 2020, *Cleaning and Disinfection for Community Facilities*, U.S. Department of Health & Human Services, viewed 12 June 2020, <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html>

Department of Health 2020, *Coronavirus (COVID-19) Information about routine environmental cleaning and disinfection in the community*, Australian Government, viewed 12 June 2020, <https://www.health.gov.au/resources/publications/coronavirus-covid-19-information-about-routine-environmental-cleaning-and-disinfection-in-the-community>

Department of Health and Human Services 2020, *Cleaning and disinfecting to reduce COVID-19 transmission: Guide for local councils*, State Government of Victoria, viewed 12 June 2020, <https://www.dhhs.vic.gov.au/preventing-infection-workplace-covid-19#cleaning-and-disinfecting-for-business-and-constructions-sites>

World Health Organization (WHO) 2020a, *Cleaning and disinfection of environmental surfaces in the context of COVID-19*, WHO, viewed 12 June 2020, <https://www.who.int/publications/i/item/cleaning-and-disinfection-of-environmental-surfaces-inthe-context-of-covid-19>

World Health Organization (WHO) 2020b, *Q&A: Considerations for the cleaning and disinfection of environmental surfaces in the context of COVID-19 in non-health care settings*, WHO, viewed 12 June 2020, <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/q-a-considerations-for-the-cleaning-and-disinfection-of-environmental-surfaces-in-the-context-of-covid-19-in-non-health-care-settings>

World Health Organization (WHO) 2020c, *Coronavirus disease (COVID-19) advice for the public: Myth busters*, WHO, viewed 12 June 2020, <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters>

World Health Organization (WHO) 2020d, *Transmission of SARS-CoV-2: implications for infection prevention precautions*, WHO, viewed 10 July 2020, <https://www.who.int/publications/i/item/modes-of-transmission-of-virus-causing-covid-19-implications-for-ipc-precaution-recommendations>

Other Resources

Riddell, S, Goldie, S, Hill, A, Eagles, D & Drew T 2020, 'The effect of temperature on persistence of SARS-CoV-2 on common surfaces', *Virology Journal*, Volume 17 (145), pp. 1 – 7, viewed 12 October 2020, <https://rdcu.be/b8m1t>

Scott, S 2020, 'Virus that causes COVID-19 survives up to 28 days on surfaces, Australian scientists find', *ABC News*, viewed 12 October 2020, <https://www.abc.net.au/news/2020-10-12/coronavirus-can-live-on-surfaces-28-days-australian-scientists/12752108>

Appendix 1.0: Examples of products listed in the Australian Government TGA list of disinfectants for use against COVID-19 and their chemical composition

Product	Ingredients (chemical composition)	Type	pH	Safe Use	Avoid
Clinell Universal Sanitising Wipes and Spray	Benzalkonium chloride, didecyl dimethyl ammonium chloride, polyhexamethylene biguanide	QAC	5-8	--	Do not use on Heritage objects
Clorox Commercial Solutions® Clorox® Disinfecting Wipes	Ethylene glycol monoethyl ether, n-Alkyl dimethyl ethylbenzyl and n-Alkyl dimethyl benzyl ammonium chloride	QAC	6-9	--	Do not use on Heritage objects
Clorox® Total 360 Disinfecting Spray	Tetrasodium ethylenediaminetetraacetate, alcohols, C12-15, ethoxylated, quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides, sodium hydroxide, ethanol, amines C12-18-alkyldimethyl	QAC, Alcohol	12	--	Do not use on Heritage objects
Clorox Healthcare® Fuzion Cleaner Disinfectant	Contains sodium hypochlorite	Sodium hypochloride + neutraliser	4.3 and 11.2 (5.7 when mixed)	--	Do not use on Heritage objects
Glen 20 Surface Spray Disinfectant - Hospital Grade	Ethanol (30-60% w/w), butane (10-30% w/w) and propane (10% w/w)	Alcohol	7-9	Un-coated metals	Lacquered or painted surfaces due to ethanol constituent
Nanocyn® Disinfectant & Sanitiser	Neutral oxidised saline (100% w/w), available Chlorine (0.0125% w/w)	Electrolysed oxidising water	Neutral	--	Chloride residues, requires testing
Netbiokem DSAM	N-(30aminopropyl-N-dodecyl-1.3-propanediamine and ingredients deemed not to be hazardous (including water)	Nitrogen-based disinfectant	10-11	--	Promising, however more research required to determine residue-free claims Laurylamine dipropylendiamine; https://safetowork.com.au/covid-19-new-disinfectants-for-the-new-normal/
Oasis Pro 65 Bathroom Cleaner Descaler Disinfectant	Phosphoric acid, poly(oxy-1, 2-ethanediyl), alpha-undecyl-omega-hydroxy	Phosphoric acid	1 (concentrate) 2-3.5 (diluted)	--	Very acidic. Do not use on Heritage objects
Oxivir FIVE16	Phosphoric acid, hydrogen peroxide, 2-hydroxybenzoic acid	Hydrogen peroxide	1 (concentrate) 1.9 (diluted)	--	Very acidic. Do not use on Heritage objects
Taskforce Commercial Grade Disinfectant	Sodium carbonate, alkyldimethylbenzylammoniumchloride, ethoxylated alcohol, disodium metasilicate	QAC	12.8	--	Do not use on Heritage objects
VIRACLEAN	Proportion Ethanol, <10% Ingredients deemed not to be hazardous.	Alcohol	7.0-7.4	Un-coated metals	Varnished, lacquered or painted surfaces due to ethanol constituent

Please note:

Quaternary ammonium compounds (QACs, “quats”): These products have the combined properties of detergents and disinfectants, leave residues, and are not appropriate for use on many heritage surfaces.

Grimwade Conservation Services does not endorse the use of specific products. The above table is a guide of what may be suitable in certain contexts based on their known chemical constituents.

To prevent damage, test products in a discrete area before full application.

Consultation with a conservator before undertaking cleaning and disinfection of high-touch heritage surfaces **is recommended.**



THE UNIVERSITY OF
MELBOURNE

Grimwade
Conservation
Services