HIGHER HEALTH

Higher Education and Training
Health, Wellness and Development Centre

Protocol on Routine Cleaning for COVID-19 Prevention within Post School Education & Training (PSET) Institutions

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Background
The virus that causes COVID-19 – SARS-CoV-2 – is mainly spread by respiratory droplets. When someone infected with COVID-19 coughs or sneezes, respiratory droplets that contain the virus are expelled and can be breathed in by someone nearby.

Although the virus cannot enter the body through the skin, the respiratory droplets carrying the virus can get into your airways or mucous membranes of your eyes, nose, or mouth to infect you.

The virus can also be spread if you touch a surface contaminated with the virus and then touch your eyes, nose or mouth, although this is not the primary way the virus spreads. As a result, institutions need to have cleaning protocols to limit SARS-CoV-2 spread.

Purpose of document
The purpose of this document is to guide cleaning and disinfecting in the Post School Education and Training (PSET) sector.

These guidelines have been modified from various sources, including the SA National Institute for Communicable Diseases (NICD), the World Health Organization, and the US CDC.
https://www.nicd.ac.za/covid-19-environmental-health-guidelines/

https://www.who.int/news-room/q-a-detail/q-a-coronaviruses

https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html

Cleaning vs disinfecting
Routine cleaning and disinfecting is key to maintaining a safe environment for faculty, students, and staff.

- Cleaning removes dirt and most germs and is usually done with soap and water.
- Disinfecting kills most germs, depending on the type of chemical, and only when the chemical product is used as directed on the label.

Cleaning should be an ongoing routine activity with disinfecting taking place daily, or as the need arises after the obvious soiling of an area.

How long does SARS-CoV-2 last on surfaces?
According to the WHO, studies have shown that the SARS-CoV-2 can survive for up to 72 hours on plastic and stainless steel, less than 4 hours on copper, and less than 24 hours on cardboard.

Different surfaces that need cleaning
There is a wide range of items and surfaces that require cleaning and disinfecting in the PSET environments, and these include hard surfaces, soft surfaces, electronics, and laundry.

- Doorknobs and handles
- Stair rails
- Classroom desks and chairs
- Countertops
- Handrails
- Light switches

- Handles on equipment
- Pushbuttons on vending machines and elevators
- The pushbuttons/depressors of the alcohol hand solution for COVID-19 prevention
- Shared equipment, machinery, etc
- Shared remote controls
- Shared desktops
- Shared computer keyboards and mice

Note: Computer keyboards are difficult to clean. Shared computers should have signs posted instructing proper hand hygiene before and after using them to minimize disease transmission. To facilitate cleaning, consider using covers that protect the keys but enable the use of the keys.

It is not necessary to routinely apply disinfectants to surfaces that are not high-touch or high-risk (e.g. floors, bookcases, tops of filing cabinets). Soft surfaces such as carpets, rugs, and drapes can be cleaned using soap and water or a cleaner appropriate for the material.

Special areas not included in guidance

This guidance does not include specialized areas, such as laboratories, animal houses, chemical stores, waiting areas, libraries, admin areas and other restricted environments that may require specialist cleaning processes and cleaning solutions. Each institution will need to assess their specific environments and clean these specialised areas accordingly.

What to do when cleaning as a routine

- Regular cleaning staff can clean and disinfect community spaces. Ensure they are trained on the appropriate use of cleaning and disinfection chemicals.
    - Wear disposable gloves and gowns for all tasks in the cleaning process, including handling trash. Additional personal protective equipment (PPE) might be required based on the cleaning/disinfectant products being used and whether there is a risk of splash.
    - Gloves and gowns should be removed carefully to avoid contamination of the wearer and the surrounding area.
- Wash hands often with soap and water for 20 seconds.
    - Always wash hands immediately after removing gloves and after contact with a person who is sick.
    - Hand sanitiser: If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer that contains at least 60% alcohol may be used. However, if hands are visibly dirty, wash hands with soap and water.
- Additional key times to wash hands include:
    - After blowing one's nose, coughing, or sneezing.

- After using the restroom.
- Before eating or preparing food.

Special areas:

Residence rooms

These should be cleaned according to normal household protocols within residence rooms.

Outside the confines of each resident's room, the general protocol for cleaning of all surfaces in common areas, apply.

Lecture Rooms

Lecture rooms should be cleaned daily when teaching and learning has ended for the day. After cleaning, the hand sanitiser dispenser that is stationed outside each lecture room should be refilled so that the lecturer and students can sanitise before re-entering the lecture room the next day.

Cafeterias

Cafeterias in general campus environments as well as within residences are potential areas where spread may occur at a higher rate. This is on account of many people being in a limited space, the same people using tables, chairs, etc; as well as the possibility that staff preparing the food may be spreading the virus through droplet spread.

Thus, it is important that, in addition to the social distancing regulations, for there to be very regular cleaning of tables, surfaces, trays, chairs, etc. throughout the day within cafeterias.

Students and staff using these facilities should be encouraged to sit outside to consume food and drink, and where they do use the tables provided, to clean them before and after use.

Cleaning after someone attending the institution is confirmed with COVID-19

In cases where a positive student is identified on campus, based on information about where on campus the student was over the prior two days, it would be best to close off those areas if it is not possible to immediately clean and disinfect those spaces.

Cleaning outdoor areas

Outdoor areas generally require normal routine cleaning, but do not require disinfection.

- Do not spray disinfectant on outdoor items - it is not an efficient use of supplies and is not proven to reduce the risk of COVID-19 to the public.
- The exception - frequently touched surfaces made of plastic or metal, such as grab bars and railings should be cleaned routinely.
- Cleaning and disinfection of wooden surfaces (benches, tables) is not recommended.
- Sidewalks and roads should not be disinfected.
- Spread of COVID-19 from these surfaces is very unlikely and disinfection is not effective.

Capacity building of cleaning staff
HIGHER HEALTH will support every PSET Institution with Capacity Building of Cleaning Staff. Each institution must educate and train all cleaning staff, so that they understand more about SARS-CoV-2 and how it is spread, so that they are capacitated to clean effectively.

If cleaning services are a contractor service, the PSET institution should ensure that cleaning staff are adequately trained by the contractor, and that they are provided with up to date information.

Cleaning staff should receive training on what cleaning solutions should be used in different circumstances. Staff also need to be capacitated on protecting themselves, and why most routine cleaning does not need any specialized PPE. Educate workers performing cleaning to recognize the symptoms of COVID-19. Provide instructions on what to do if they develop symptoms.

Develop policies for worker protection and provide training to all cleaning staff on-site before providing cleaning tasks.

Training should include when to use PPE, what PPE is necessary for specialized cleaning, how to properly don (put on), use, and doff (take off) PPE, and how to properly dispose of PPE. Ensure workers are trained on the hazards of the cleaning chemicals used in the workplace

Personal Protective Equipment (PPE)
Guidance from national protocols should be used as per the links below:

Protocols for PPE: https://www.cdc.gov/coronavirus/2019-ncov/downloads/A_FS_HCP_COVID19_PPE.pdf

https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html

Strategies to Maximise PPE: https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html

Tool to Measure Burn Rate of PPE: https://www.cdc.gov/coronavirus/2019-ncov/downloads/hcp/PPE-Burn-Rate-Calculator.xlsx

Fact Sheet for Putting on and Removing PPE: https://www.cdc.gov/coronavirus/2019-ncov/images/A_FS_HCP_COVID19_PPE.jpg

Poster for Putting on and Removing PPE: https://www.cdc.gov/coronavirus/2019-ncov/images/A_FS_HCP_COVID19_PPE_11x17.jpg

In general, areas without a documented COVID-19 patient need limited additional PPE.

The role of students and staff in cleaning
All students and staff must understand the importance of washing hands and of cleaning their environments.

Students should be encouraged to carry hand sanitizers to wash their hands regularly.

Students and staff should always have a dilute bleach solution and cloth with them, and clean the working area, keyboard, machine, etc. before starting to work, as well as on completion and leaving the space.

Cleaning and disinfecting a building or facility if someone is found Positive for COVID-19
It is important to note that the same cleaning solutions are used in this setting for routine cleaning. Cleaning after a confirmed COVID-19 person has been present is a more meticulous version of routine cleaning.

Close off areas used by the person who has been found positive for COVID-19. Institutions do not necessarily need to close operations if they can close off affected areas. As we learn to "live with this virus" it is anticipated that only affected components of organisations will close, rather than the entire organisation.

Regarding the affected room/building:

- Open outside doors and windows to increase air circulation in the area.
- If possible, wait 24 hours before cleaning/disinfecting. If 24 hours is not feasible, wait if possible.
- Clean and disinfect all areas used by the person who has COVID-19, such as offices, bathrooms, common areas, shared electronic equipment like tablets, touch screens, keyboards, remote controls, and ATMs.
    - Hypochlorite should be the solution that is used over wide areas, such as floors, desks, chairs, steps, etc.
    - Since 60-70% alcohol solutions are far more expensive, it should be used for other smaller areas and items that corrode. Thus, all metals and electronic goods, keyboards, door handles, laptops, etc. should be cleaned with an alcohol solution.
- Once the area has been appropriately disinfected, it can be opened for use.
- If there is any linen or laundry in the area (e.g. tablecloths), these should be washed in a heating cycle in the washing machine.
- Workers without close contact with the person who has COVID-19 can return to work immediately after disinfection. Those who have had exposure – according to the national guideline definition – should be in self-isolation, according to national guidelines.

If it is more than 7 days since the person who has COVID-19 visited or used the facility, additional cleaning and disinfection is not necessary.

Continue routine cleaning and disinfection after the special clean, as per this document. This includes everyday practices that businesses and communities normally use to maintain a healthy environment.

Acceptable Cleaning Chemicals
See Addendum 1: Cleaning Solutions & Addendum 2: Use of Bleach

The Role of Vaporized Spraying Over Large Areas
Certain countries have sprayed disinfectants over large areas using machines that spray out dry chemicals.

These methods are not supported by any science concerning their efficacy and should not be used indoors nor outdoors.

Addendum 1: Cleaning Solutions

As the world understands more about SARS CoV-2, it is possible to recommend specific compounds. While there are thousands of possible solutions, we recommend the highlighted ones for different purposes, as above. In South Africa, sodium hypochlorite (bleach) can be found in the form of multiple commercial products, "Jik" (or equivalent).

Antimicrobial agents effective against different coronaviruses: human coronavirus 229E (HCoV-229E), mouse hepatitis virus (MHV-2 and MHV-N), canine coronavirus (CCV), transmissible gastroenteritis virus (TGEV), and severe acute respiratory syndrome coronavirus (SARS-CoV)1 Antimicrobial agent

	Concentration	**Coronaviruses tested**
Ethanol	70%	HCoV-229E, MHV-2, MHV-N, CCV, TGEV
Sodium hypochlorite	0.1–0.5%	HCoV-229E
	0.05–0.1%	SARS-CoV
Povidone-iodine	10% (1% iodine)	HCoV-229E
Glutaraldehyde	2%	HCoV-229E
Isopropanol	50%	MHV-2, MHV-N, CCV
Benzalkonium chloride	0.05%	MHV-2, MHV-N, CCV
Sodium chlorite	0.23%	MHV-2, MHV-N, CCV
Formaldehyde	0.7%	MHV-2, MHV-N, CCV

Addendum 2: Use of bleach

From: https://www.info.gov.hk/info/sars/en/useofbleach.htm

Bleach is a strong and effective disinfectant. Its active ingredient, sodium hypochlorite, denatures protein in micro-organisms and is therefore effective in killing bacteria, fungus, and viruses. Household bleach works quickly and is widely available at a low cost. Diluted household bleach is thus recommended for the disinfection of facilities.

As bleach irritates mucous membranes, the skin and the airway, decomposes under heat or light, and reacts readily with other chemicals, caution should be exercised in the use of it. Improper use of bleach may reduce its effectiveness in disinfection and also lead to accidents which can be harmful to health. Overuse of bleach or using a bleach solution that is too concentrated results in the production of toxic substances that pollute the environment and disturb the ecological balance.

Tools and Equipment

Before cleaning, get all the necessary tools and equipment ready. Cleaning tools, cleansers/disinfectants, measuring tools, and protective gear will be needed.

- **Cleaning tools**: Brush, mop, towel, spray can and bucket.
- **Cleansers/disinfectants**: Bleach and water.
- **Measuring tools:** Tablespoon and measuring cup.
- **Protective gear:** Mask, rubber gloves, plastic apron, and goggles (recommended).

Procedures for Preparing/Using Diluted Bleach

Keep windows open when diluting or using bleach to ensure good ventilation. Put on protective gear when diluting or using bleach as it irritates mucous membranes, the skin, and the airways. Cold water should be used for dilution as hot water decomposes the active ingredient of bleach and renders it ineffective. Bleach containing 5.25% sodium hypochlorite should be diluted as follows (demonstration short):

1:99 diluted household bleach (mixing 10ml of bleach with 1litre of water) can be used for general household cleaning.

1:49 diluted household bleach (mixing 10ml of bleach with 0.5litre of water) is used to disinfect surfaces or articles contaminated with vomitus, excreta, secretions or blood.

Adjust the amount of bleach added if its concentration of sodium hypochlorite is above or below 5.25%

Calculation: Multiplier of the amount of bleach added = 5.25 concentration of sodium hypochlorite in bleach

For example, when diluting a bleach-containing only 5% sodium hypochlorite, the multiplier is 5.25 5=1.05. That means 10 x 1.05 = 10.5ml of bleach should be used when preparing a bleach solution. For accurate measurement of the amount of bleach added, a tablespoon or measuring cup can be used. Rinse disinfected articles with water and wipe dry. Cleaning tools should be soaked in diluted bleach for 30

minutes and then rinsed thoroughly before reuse. Finally, wash hands with liquid soap, then dry hands with a clean towel or disposable towel.

Precautions

Avoid using bleach on metals, wool, nylon, silk, dyed fabric, and painted surfaces. Avoid touching the eyes. If bleach gets into the eyes, immediately rinse with water for at least 15 minutes and consult a doctor.

Bleach should not be used together or mixed with other household detergents as this reduces its effectiveness in disinfection and causes chemical reactions. For instance, a toxic gas is produced when bleach is mixed with acidic detergents such as those used for toilet cleaning. This could result in accidents and injuries. If necessary, use detergents first and rinse thoroughly with water before using bleach for disinfection.

As undiluted bleach liberates a toxic gas when exposed to sunlight, it should be stored in a cool and shaded place out of reach of children. Sodium hypochlorite decomposes with time. To ensure its effectiveness, it is advised to purchase recently produced bleach and avoid over-stocking. For effective disinfection, diluted bleach should be used within 24 hours after preparation as decomposition increases with time if left unused.