

 		Environmental Cleaning Standard Operating Procedure
Title: Module 6: Cleaning agents		
Authors: Clinical Excellence Commission, Environmental Cleaning Advisory Committee		
Lead: Infection Prevention and Control and Healthcare Associated Infections Program		
Active date: October 2024		Review date: October 2029
Applies to: Health workers undertaking cleaning tasks		Exclusions:
Purpose: This module sets out cleaning agents required in clinical and non-clinical areas.		
SHPN: (CEC) 240868 ISBN: 978-1-76023-980-0		

Introduction

[Cleaning of the Healthcare Environment \(PD2023_018\)](#) recommends using a neutral detergent and water for routine cleaning.

Use of disinfectants for routine cleaning is only recommended for:

- extreme risk areas
- as part of management of an outbreak or cluster of infections
- terminal cleaning following an MRO/infectious disease
- toilets.

When selecting a disinfectant or dual-purpose cleaner/disinfectant for a cleaning and disinfection task, the purchasing team/committee must check that the:

- disinfectant or dual-purpose cleaner/disinfectant is listed on the [ARTG](#).
- disinfectant or dual-purpose cleaner/disinfectant is effective against the targeted organism(s) including microbiological activity and contact time to kill microorganisms.
- intended purpose of the disinfectant or dual-purpose cleaner/disinfectant is as per the manufacturer's instructions.
- disinfectant or dual-purpose cleaner/disinfectant is suitable for the surface or setting.
- facility has the capacity to comply with the manufacturer's instructions.
- disinfectant or dual-purpose cleaner/disinfectant has the appropriate environmental sustainability credentials.
- disinfectant or dual-purpose cleaner/disinfectant's safety data sheet is available and accessible for health workers undertaking cleaning.
- facility has the capacity to ensure that health workers have access to the relevant cleaning equipment and have been appropriately trained in the correct usage of the personal protective equipment (PPE) to be used with the disinfectant or dual-purpose cleaner/disinfectant.

See also:

[Principles of environmental cleaning product selection](#)

[Flowchart – The process and product selection for routine environmental cleaning.](#)

Use of cleaning chemicals

Purpose

To safely and effectively use chemicals to clean clinical and non-clinical areas.

Cleaning chemicals include

- Bathroom/toilet cleaner
- Hospital grade disinfectant (TGA-listed)
- Neutral detergent
- Other chemicals as per local policy or advice of infection control professional.

Required standard

- Chemicals are used to clean spills
- Chemicals are used to clean areas known to have been contaminated by bacteria or other pathogens.

Equipment requirements for using chemicals

- Chemicals as per dilution rate/dispensing unit
- Cloth/disposable cloth/microfibre cloth (as per colour coding requirements)
- Mops (as per colour coding requirements)
- Personal protective equipment (gloves, gown/apron, protective eyewear, mask and head cover) as required
- Safety data sheet (SDS)
- Squeeze bottle or bucket (as per colour coding requirements).

Risks

Hazards	Controls
Contact injury	Wear the correct personal protective equipment for the task.
Incorrect chemical	- Check there is an SDS for each chemical. - Check there is a label on the chemical containers. - A chemical that is decanted and used completely and immediately does not require labelling – for example, a chemical poured from its original container into a bucket with water for mopping; once the floor is mopped the contents of the bucket are immediately disposed of. - Read the SDS for the chemicals that are going to be used. - Read the label on the container of the chemical that is used. - Dilute chemicals as per the manufacturer's instructions. - Ensure chemical dispensers are correctly calibrated for use. - Do not use unlabelled chemicals. - Do not mix chemicals. - When a chemical is decanted and not used immediately, the container is labelled with the product name, any risk, safety phrases and all the original information on the label of the original container. - Never decant chemicals into food and drink containers. - It is safer to purchase chemicals in appropriate sizes rather than decant them.
If you cannot comply with the controls	- Do not proceed with task. - Tag equipment 'out of order' and remove it from area if applicable. - Immediately inform the supervisor of the problem.
Key safety rules - Always adhere to standard precautions. - Adhere to transmission-based precautions if required/advised to do so. - Wear PPE that is correct for the cleaning task, and discard or clean and store PPE afterwards, as required. - Install appropriate signage and barriers to maximise public safety during the cleaning operation. - Use the correct manual handling techniques for the task required. - Operate equipment as per the manufacturer's instructions and facility requirements. - Always ensure hand hygiene is performed after each clean and after removing gloves.	

Procedure

Read the label

Step 1	Before starting to work with chemicals, read the label on the container to find out: • the trade name of the chemical • the proper chemical name and ingredients • any possible harmful effects • how to use the chemical safely.
Step 2	If there is no label or if you do not understand what the label says, ask your supervisor, safety officer or employer for advice before you start to use the chemical.
Step 3	Under the Work Health and Safety Regulation 2017 (WHS Regulation) containers of chemicals should have proper labels – vats and pipes should also have labels or signs to tell you what is in them.
Step 4	Make sure you know how to do the job safely – if you are not sure, ask for advice and/or training in safe work procedures.

Ask for the safety data sheet (SDS)

Step 1	More information about a chemical can be found on the SDS, which gives more detail about chemicals than the product label and should tell you: • the chemical and trade names • how the chemical may be a danger to health • how to use the chemical safely • how to handle the chemical safely • about first aid in case of an accident.
Step 2	Every chemical has an SDS. Under WHS regulation, everyone in the workplace must be allowed to see the current SDS for any chemicals they use.
Step 3	Having an SDS does not mean a chemical is safe to use – always read the directions for safe use, and always choose the safest chemical for the job.
Step 4	Chemicals can be relatively safe to use if used in accordance with the manufacturer's safe handling recommendations.
Step 5	There are four types of harms from chemicals: • Corrosive – causing chemical burns (for example, acids or alkalines) • Explosive – causing burns or fire (for example, nitroglycerine)

	• Irritant – causing allergic reactions (for example, epoxy glues, powders, liquids, solvents) • Toxic – causing poisoning (for example, cyanide, carbon monoxide).
Step 6	Containers of hazardous chemicals must have warning labels. Other chemical containers should provide warning labels which provide basic information and directions for: • first aid, explaining what to do if someone inhales fumes, comes in contact with the substance, is burned, and so forth • precautions, explaining the need to avoid getting the chemical in the eyes, to wash hands thoroughly, to keep away from sparks or open fire • handling, storage and disposal, explaining what personal protective equipment is needed, types of containers to be used and how to dispose of waste products • procedures to be followed, for instance, on how to clean up a spill or what type of fire extinguisher to use.

READ ALL WARNING LABELS AND FOLLOW THESE RECOMMENDATIONS

Ask questions

Step 1	The more detailed the question, the more useful the answer will be to you.
Step 2	Before asking for advice about a chemical, find out: • the correct name of the chemical, not just the trade name, from the label • if it has a 'dangerous goods' or 'poisons' label, or if the word 'hazardous' is on the label • the name of the manufacturer of the chemical • how you intend to use the chemical (for example, spray it on an item or dip the item in it) • the situation in which the chemical is used (for example, outdoors or in enclosed spaces) • the types of personal protective equipment that are to be worn when the chemical is used (for example, the type of respirator).

Safe storage, handling and disposal of chemicals

Step 1	The SDS provides advice on storage and handling of each chemical, and it is important to check that the chemicals you use are handled and stored according to those instructions.
Step 2	The SDS also contains information about disposal of chemicals, and it is important these are followed to ensure the safety of the user and others and to prevent possible damage to the environment.

Step 3	When disposing of any chemical in bulk, inform your supervisor before doing so.
Step 4	Chemicals identified as dangerous goods should be stored and handled in accordance with the Code of practice for the storage and handling of dangerous goods , and include signage that in the event of an emergency, alerts emergency services such as the Fire Brigade, to the hazards associated with the dangerous goods stored at the premises.
Step 5	If in any doubt about the safe handling, storage and disposal of any chemical, ask your supervisor for guidance.

Seeking first aid or medical attention

Step 1	If you feel unwell when working with a chemical, report immediately to your supervisor and/or the emergency department.
Step 2	If you feel unwell outside working hours, see a doctor – describe what you have been working with if you think you may be unwell due to a chemical exposure.

Cleaning agents

Detergents

Neutral detergents are intended for general cleaning, not for people or for specific medical devices.

Detergents can be acidic, neutral or alkaline. For most general cleaning tasks neutral detergent solutions (pH level close to 7) should be used.

Products without disinfectant claims or where the ingredients do not produce a microbicidal effect are not regulated by the Therapeutic Goods Administration.

Commonly used detergents include:

- Bathroom/toilet cleaners; cream cleansers; bathroom cleaning solutions; toilet bowl cleaners; disposable detergent wipes
- Carpet shampoos/cleaners
- Floor strippers
- Floor polishers – for floor buffing
- Descaling chemicals – for descaling (removing lime from) dishwashers and so forth
- Air fresheners/deodorisers – to suppress unpleasant odours.

Dual purpose cleaner/disinfectants

These are solutions or wipes combining a detergent and a hospital-grade disinfectant listed on the [Australian Register of Therapeutic Goods](#) with specific claims or a chlorine-based product such as sodium hypochlorite.

Dual purpose cleaner/disinfectants are designed to eliminate the need for separate cleaning and disinfection processes by combining them into a single process. Their most common use is for terminal cleans.

Dual purpose cleaner/disinfectants are also frequently used, for short, defined periods, for all routine cleaning in a ward or area where there is an outbreak of infection and for routine cleaning in extreme risk areas, on frequently touched surfaces and items.

Disinfectants used in environmental cleaning

In acute care settings where there is uncertainty about the nature of soiling on the surface (blood or body substances versus routine dust and dirt) or the presence of MROs or other infectious agents requiring transmission-based precautions or frequently touched surfaces and items in extreme risk areas, surfaces should be physically cleaned with detergent solutions followed or combined with a TGA registered disinfectant with label claims specifying its effectiveness against specific infectious organisms. This process must involve either a physical clean using:

- detergent followed by a chemical disinfectant (2-step clean)
- using a combined detergent and chemical disinfectant (2-in-1 clean).

Physical cleaning is the most important step in cleaning. Sole reliance on a disinfectant without mechanical/manual cleaning is not recommended.

The use of routine disinfectants as part of cleaning is only recommended in extreme risk areas, as part of outbreak management and for terminal cleaning following an MRO/infectious disease. For the use of a disinfectant in other areas of a healthcare facility, staff must contact the infection control professional for advice and approval for use, based on the risk of contamination to the patient and others.

Commonly used disinfectants include:

Alcohol

- Wipes impregnated with 70-90% alcohol (ethyl alcohol or isopropyl alcohol) are used to clean/disinfect small surfaces.
- Staff should be aware that alcohol can lead to deterioration of various materials, evaporates quickly, and is flammable.

Chlorine and chlorine compounds

- Common examples of [hypochlorites](#) include [sodium hypochlorite](#) (household bleach), [sodium dichloroisocyanurate](#) (NaDCC) and [calcium hypochlorite](#) (bleaching powder).
- Sodium hypochlorite is widely used in healthcare facilities, including for on the spot disinfection of floors and counter tops and disinfection of areas and rooms of patients with an infectious disease (see module 4).
- Staff should not use sodium hypochlorite on its own for combined cleaning and disinfection.

Hydrogen peroxide

- [Hydrogen peroxide](#) is a binary compound of hydrogen and oxygen (H₂O₂).

- Hydrogen peroxide is a stable and effective disinfectant on inanimate surfaces and is also effective in spot disinfecting fabrics.
- Hydrogen peroxide vapourised via a special generator at a safe concentration can destroy micro-organisms in rooms.
- A hydrogen peroxide concentration of 3%, at a minimum, is required to be effective against organisms such as *Clostridium difficile*.
- Staff should not use hydrogen peroxide on its own for combined cleaning and disinfection.

Quaternary ammonium compounds (QACs)

- [Quaternary ammonium compounds](#) (also known as QACs) are a group of chemicals used for a variety of purposes including as preservatives, detergents, antistatic agents, and as active ingredients in disinfectants and sanitisers.
- QACs are widely used for general environmental cleaning/decontamination of non-critical surfaces such as floors, walls and furniture.
- When using products containing QACs staff should always follow the instructions for use and use it only for its intended purpose.

Phenolic disinfectants

- [Phenolics](#) (also known as phenols) are a family of compounds that, when mixed with reagents, can be an effective disinfectant for toilets, floors, drains and other items.
- When using a phenolic disinfectant staff should always follow the instructions for use and use it only for its intended purpose.