1. **Hand Washing**

* Hand washing stations should be always refilled with water and soap,
* Disposable paper towel may be provided, if budget allows, and if air dryers are not a feasible solution (consider an average of 10 hand washing per day per person).

1. **Cleaning and Disinfection of surfaces**
   1. PPE (Personal Protective Equipment)

* Cleaners should always wear PPE while on duty (included also when preparing disinfectant solutions). PPE are worn by cleaner to protect them from direct contact and splashes of both coronavirus contaminated fluid/material and disinfectant solutions/product.
* Disposable PPE should safely be disposed at the end of their use or when deteriorated.
* Reusable PPE should be cleaned and disinfected at the end of each cleaning session as explained in the kits documents. Reusable PPE should be disposed when deteriorated.
* All cleaners should be trained on the above points and specific IEC material should be printed and stuck in key points as a daily reminder for cleaners. Reference to IEC material is made in the kits composition files.
  1. Cleaning of surfaces
* Once every day (for schools, twice in case of 2 daily shifts of students), all highly touched surfaces (desks, chairs, doors handles, taps, rails…) should be washed with detergent (only when visible soiled) then disinfected. If not visibly soiled, direct disinfection using a cleaning cloth with disinfectant solution can be done. Those surfaces should be cleaned and disinfected before starting cleaning/disinfecting the floor.
* Once every day (for schools, twice in case of 2 daily shifts of students), floors and toilets should be washed with detergent and then disinfected. Before starting to clean with detergent, floors must be dusted. It is recommended to dust the floors using wet mop rather than using the broom, this to limit the movement and spread of dust and microorganisms.

To clean surfaces, the “2 buckets method” must be used (figure 1):

|  |  |
| --- | --- |
| Fill one bucket with detergent and water (cleaning solution bucket) and the other bucket with water only (rinse bucket).   1. Dip the mop pad or mop head into bucket of cleaning solution, 2. Wring out with the wringer above the rinse bucket, 3. Clean the room beginning at the end opposite the entrance (do not go back over an already mopped area, because this re-deposits dirt on the floor, figure 2); work moving backward, making an “S” or “8” shape (figure 3), 4. Rinse the mop pad or mop head in the rinse bucket, 5. Wring out over the rinse bucket before dipping it back in the cleaning solution. | Figure 1 |
| Change the cleaning and rinsing solutions as soon as they become saturated with dirt.  It is important to properly clean surfaces before disinfection because inorganic and organic materials that remain on the surfaces interfere with the effectiveness of disinfectant. | |
| Figure 2 | Figure 3 |

* 1. Disinfection of surfaces

After wet mopping and cleaning of floors with detergent, disinfection can start.

Disinfection using buckets and mop is preferred against use of a sprayer, as it is a safer procedure: cleaners will be less exposed to the disinfectant solution and possible splashes from the soiled surface or floor.

* When disinfecting using buckets and mop, the same “2 buckets method” described above should be used. The 2 buckets previously used for cleaning solution and for rinsing solution should be emptied from their content, washed and rinsed and then filled with 0.1%[[1]](#footnote-1) chlorine solution (instead of detergent solution) and water (as rinsing solution).
* Once surfaces have been mopped with 0.1% chlorine solution, floors should not be rinsed nor dried but be allowed to air dry. Natural air dry will allow an adequate contact time (contact time is estimated to be 15 minutes to guarantee the effectiveness of disinfectant solution).
* Disinfection should happen in absence of other persons. In case of public institutions, schools or offices, disinfection should happen ideally in the afternoon after the end of the lessons/working day or early in the morning before lessons/working day start. After disinfection, the environment should be well ventilated, windows should be kept open to allow chlorine do dry and leave the environment.
  1. Preparation and storage of disinfectant solution and disinfectant products
     1. Calculations for preparing the disinfectant solution

Calculation for preparing 0.1% chlorine solution with widely available household bleach (Jik) or powder product such as HTH and NaDCC. The below formula should be used to calculate the right amount.

1. Using liquid bleach. Chlorine in liquid bleach comes in different concentrations. Any concentration can be used to make a dilute chlorine solution by applying the following formula: [% chlorine in liquid bleach ∕ % chlorine desired] − 1 = Total parts of water for each part bleach

* To prepare 0.1% chlorine solution, from a given X% liquid bleach we should add to each part of liquid bleach [(X/0.1)-1] part of water.

For example, by using a 5% bleach product we should add to each glass of 5% bleach product [(5/0.1)-1] = 49 glasses of water.

1. Using Calcium hypochlorite (HTH) granules 65-70% active chlorine or using Sodium dichloroisocyanurate (NaDCC) granules 55% active chlorine:

* To prepare 0.1% chlorine solution, add 2 level table spoons of product into 20 liters of water.
  + 1. Preparing and storing disinfectant solution
* Work in a well ventilated room or outside in the shade but protected from the wind.
* Wear personal protective equipment (suit, high filtration mask, gloves, goggles or shield, boots).
* Prepare solutions with clean, cold (or room temperature) water, in plastic containers only (corrosion of metal, inactivation of chlorine).
* Respect the recommended dilutions as described in kits files (an over-diluted product is less active; an over-concentrated product can cause irritation and corrosion).
* Use a clean, dry, plastic table spoon to measure the dose of product or the measurer (e.g. measuring spoon) provided by the manufacturer.
* Pour the amount of water required into a container then add the product (and not the other way round) without splashing. Mix well using a clean stirrer/stick used only for this purpose. It is recommended to prepare the 0.1% solution in 20 litres plastic buckets and then transfer the bucket content in the 200 litres drums with tap. Make sure to close the lid of the drum after each transfer. You should let the solution rest for 30 minutes before it becomes active and ready to be used.
* Do not add any other product (e.g. a detergent) to chlorine solutions.
* For HTH, after finished to stir for 10 seconds, leave the solution to rest for a few minutes and only use the supernatant. Transfer the supernatant into another receptacle and discard the calcium residue into a waste pit after each preparation (do not throw the residual in a latrine pit as this will kill the bacteria that helps decomposition in the latrine pit).
* Label the containers, specifying the chlorine concentration. Warning signs should also be stuck on the solution drum to make sure people won’t drink the content. The drum containing the solution should be placed in a shaded and ventilated place.
* Disinfectant solution (0.1%) must be prepared every day, at the end of each day the remaining unused solution should be disposed.
  + 1. Storage of HTH, NaDCC and Bleach
* Store in air-tight non-metallic containers, away from heat, light and humidity in a ventilated area,
* Carefully close containers after use (if containers are not closed properly, the percentage of chlorine of product may decrease),
* Never place the product in contact with water, acid, fuel, detergents, organic or inflammable materials (e.g. food, paper or cigarettes),
* Never throw water inside the product drum (risk of explosion),
* Never mix NaDCC with calcium hypochlorite (risk of toxic gas or explosion).

1. As disinfectant, 0.1% chlorine solution is currently suggested by [GWC- COVID-19 response, guidance #2](https://drive.google.com/file/d/1gaKJTphexXWIQoR8-Hja1oBj-UViXJXr/view) at schools, camps and household levels and by [WHO- Water, sanitation, hygiene, and waste management for the COVID-19 virus](https://apps.who.int/iris/bitstream/handle/10665/331846/WHO-2019-nCoV-IPC_WASH-2020.3-eng.pdf)  also for household hosting confirmed COVID-19 cases. [↑](#footnote-ref-1)