**Cleaning and Disinfecting Guidance for a COVID-19 Confirmed Case at a Manufacturing Site or Distribution Center**

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**Purpose**

This document provides guidance for cleaning and disinfection of the equipment, production and warehouse building as well as non-production facilities after a confirmed case for an employee. The purpose is to ensure the non-affected personnel are protected from cross-contamination.

This document needs to be adapted by the local crisis committee according to the type of factory/distribution center affected and the instructions provided by the local authorities. If the requirements from local authorities are different from this guidance – the one from local authorities must be always followed.

**What to do when a person is found positive**

The person found positive as well as all suspected cases and close contacts should not enter the premises and should follow the guidance from the local authorities for quarantine. Stop the affected production line as well as all activities in the affected area (e.g. warehouse). Perform risk assessment for extension beyond affected area based on people and air flow in the premises. Prepare for cleaning of the affected area. Clean and disinfect following the guidance below. If required by the local authorities, leave the location undisturbed pre and/or post cleaning for a limited period of time. Restart operations with non-affected personnel.

**What to do with finished products**

Products are safe for consumption. There is no risk of contamination with Coronavirus through packed food as the virus cannot survive food processing and storage. All finished products in final customer packaging should be transferred to finished goods warehouse in restricted status and follow the regular procedure for product release.

**What equipment and chemicals do we use when cleaning (protective equipment, disinfectants, and tools)?**

PPE for Cleaning Crew

All cleaners wear protective clothing:

* Full body cover with disposable gowns
* Facemask (N95, if available), caps, protective eyewear and disposable rubber gloves, avoiding touching mouths, eyes, nose during cleaning process.
* If there is a likelihood of splashing during cleaning, then a waterproof apron and safety boots should be worn.

Cleaning materials, disinfectants and equipment

**Commonly used disinfectants currently used in our factories kill the virus.**

* Disinfection of floors/walls/equipment & product contact surfaces: Various disinfectants such as chloride-containing disinfectants (e.g. sodium hypochlorite), alcohol-based, iodine-based, quaternary ammonium compounds and peroxides can kill the virus upon exposure for a short time (e.g. secs/mins.).
* Disinfection of articles: various disinfectants containing chloride can be used to wipe surfaces or as a soaking solution (at the concentration indicated by the manufacturer). Alcohol wipes or equivalent can also be used.
* No specific cleaning tools are required, all towels (e.g. paper/cloth) should be disposed as waste after the cleaning. Tools used (brushes, scrapers, brooms, etc.) need to be disinfected post cleaning operation. Disposable mop heads may also be used for one-off cleaning/disinfection.
* We should continue to use, when available, the cleaning/sanitizing agents normally used for cleaning and disinfection.
* If these are not available, then you should seek advice from your cleaning agent/disinfectant provider for suitable substitutes that have equivalent performance.
* In exceptional situations where the substitute agents must be used, then factories may use cleaning/disinfectant agents that contain active agents or components that are on our ‘Banned chemical’ list in St-31.125.  In these situations, factories must perform some form of validation to ensure substitute agents are effective and should increase verification testing where there is an MRL for the active agent e.g. quat/quacs in EU. Finished products must be compliant with any legislation (i.e. chemical residues below MRL).

**How to clean equipment, utensils and tools**

* The standard procedure (CIP, COP, equipment in place) for cleaning, similar to major changeover or an End-of-the-cycle cleaning needs to be followed (empty the line and properly dispose all waste, return unused packaging, empty all containers, trolleys, thoroughly clean product contact surfaces, etc.).
* All small items, that could have been extensively handled manually (pens, binders, boards, calculators, papers etc.) should be either disposed or disinfected.
* Special focus for disinfection is required for parts of equipment/utensils possibly touched by infected operator(s) such as equipment buttons, touch screens, handles, hand tools, depending on which part of plant/DC/warehouse the affected person may have frequented.
* Equipment parts and surfaces out of reach by the operators do not require special treatment (e.g. overhead tanks and piping)

**How to handle waste from cleaning/disinfection event**

* Waste from possible cases and cleaning of areas where possible cases have been (including cleaning crew PPE, disposable cloths, paper towels, mop heads, open packaging leftovers (labels and cartons)) should be put in a plastic rubbish bag and tied when full. If considered necessary, the plastic bag can then be placed in a second rubbish bag and tied.
* Seek advice from local authorities before depositing waste bags in normal waste stream. Some authorities advise to store such waste in a secure place for up to 72hrs before putting in normal waste stream. Others require it to be sent into special clinical waste stream.

**How to clean the offices, building/warehouse and production area**

Cleaning office areas should include either the use of in-house staff chemicals and procedures or janitorial agency chemicals and procedures. A meeting should be scheduled with the janitorial agency to assure additional cleaning of common areas including door knobs/handles, turnstiles, breakroom tables, microwaves, cooler handles, vending machines, restrooms, hallways, offices, conference rooms, touch screen televisions, remotes, computer keyboards/mouse etc. are cleaned.

After in-house staff or the janitorial agency has completed the cleaning, the following sanitizing options need executed. These options include:

* + The purchase of minimum 70% isopropyl alcohol applied via disposable cloth/towel and allow to air dry
  + For factories using Diversey,
    - Oxivir Five 16 Concentrate, Water and Bucket (Oxiver Five 16 is a hospital grade sanitizer) applied via disposable cloth/towel according to label directions and allow to air dry
  + For factories using Ecolab
    - Synergex is 1oz/6 gallons applied via disposable cloth/towel and allow to air dry

Determine what items in area need hand cleaning and disinfection prior to wet cleaning operations, e.g. control panels, portable equipment, containers, lugs, jacks, etc.

* For hand cleaning of common areas, gather the following cleaning supplies to start cleaning and disinfection process:
  + Disinfectant, water and bucket
  + Various disinfectants such as chloride-containing disinfectants (e.g. sodium hypochlorite), alcohol-based, iodine-based, quaternary ammonium compounds and peroxides can kill the virus upon exposure for a short time (e.g. secs/mins.). Sani Wipes or Eco Wipes (these wipes contain alcohol and quaternary ammonium, which is effective in killing viruses, such as COVID-19)
  + Nitrile Gloves
  + For factories using Diversey,
    - Oxivir Five 16 Concentrate, Water and Bucket (Oxiver Five 16 is a hospital grade sanitizer) according to label directions
  + For factories using Ecolab
    - Oxonia Active is 2oz/4 gallons or
    - Synergex is 1oz/4 gallons

Dry Cleaning Process

Determine what items in area need hand cleaning and disinfection prior to wet cleaning operations, e.g. control panels, portable equipment, containers, lugs, jacks, etc.

* Follow local cleaning procedures
* Sanitize with an EPA approved sanitizer for CoVid19
  + For Diversey Factories: Oxivir Five 16 concentrate and water according to directions
  + For Ecolab Factories:
    - Oxonia Active is 2oz/4 gallons or
    - Synergex is 1oz/4 gallons

Controlled Wet Cleaning Process

Determine what items in area need hand cleaning and disinfection prior to wet cleaning operations, e.g. control panels, portable equipment, containers, lugs, jacks, etc.

* Wear disposable nitrile gloves when cleaning and disinfecting surfaces.  Gloves must be discarded after each cleaning.
* Wash hands with soap and water immediately after gloves are removed!  Remember to wash hands for 20 seconds.
* If the area the employee came in contact with is soiled, clean with detergent and water prior to disinfecting.
  + Fill bucket with water and detergent.
  + Use clean rag and wipe down soiled areas
  + Discard rag after use.
  + Discard detergent, water and bucket.
* Wipe down all surfaces with Sani Wipes or EcoWipes.  This includes equipment, key boards, computer screens, workstations, forklifts, walkies, etc.
* Clean floors in impacted area with
  + For Diversey Factories: Oxivir Five 16 concentrate and water according to directions
  + For Ecolab Factories:
    - Oxonia Active is 2oz/4 gallons or
    - Synergex is 1oz/4 gallons
* For Locker Room:
  + Personnel locker:
    - Seal-off the affected employee’s locker. Clean and disinfect from the outside. Upon employee’s return special precaution (using appropriate PPE) must be taken to empty the locker for cleaning and disinfection. Ensure personal uniform/work wear is disinfected and laundered (at highest tolerable temperature for fabric).
* Contact janitorial agency to assure additional cleaning of common areas including door knobs/handles, turnstiles, breakroom tables, microwaves, cooler handles, vending machines, restrooms, hallways, offices, conference rooms, touch screen televisions, remotes, computer keyboards/mouse etc.

For Wet Cleaning Processes

Determine what items in area need hand cleaning and disinfection prior to wet cleaning operations, e.g. control panels, portable equipment, containers, lugs, jacks, etc.

For factories using Diversey:

* Follow current cleaning procedures in place
* In addition, environmental area, all equipment, floors, walls, including all surrounding areas sanitize with G-5 and/or Divosan Spectrum and/or an EPA approved sanitizer for CoVid19
  + G-5 is diluted at 3 ounces to 5 gallons of water or
  + Divosan Spectrum is diluted at 4 ounces to 5 gallons water

For factories using Ecolab:

* Disinfect (Use Boost 3200/3201 application per label). May have overnight delivery or order in advance if not on hand.
  + Recommend to order in advance and have appropriate training on application
* Rinse
* Follow factory SSOP for cleaning with a chlorinated alkaline detergent
* Rinse
* Flood Sanitize all surfaces from top to bottom with
  + Oxonia Active is 2oz/4 gallons or
  + Synergex is 1oz/4 gallons.
  + Allow 10-minute contact time. May have overnight delivery or order in advance if not on hand.
  + Recommend to order in advance and have appropriate training on application
* Rinse
* Viricidal Intervention (use Boost 3200/3201 application per label)
* Rinse
* Flood Sanitize all surfaces from top to bottom with
  + Oxonia Active is 2oz/4 gallons or
  + Synergex is 1oz/4 gallons. Do Not Rinse.

Additional Information

* Follow label instructions for disinfecting for all chemicals
* Other chemicals may be used as needed to disinfect.  Please contact QA if additional guidance is required.

**Overhead structures** out of reach by the operators do not require special treatment (e.g. overhead cable racks, conveyors, etc.).

**Air handling units**: Technical personnel should risk assess whether AHU require cleaning/disinfection., Given that the virus is contained in air droplets or dust particles, any virus will be captured by the filters in air-handling systems and not transmitted through the AHU. Cleaning/disinfection of AHUs will inactivate any virus.

**Continuing operations after cleaning of the production line or DC area:**

* All cleaning crew should wash hands with soap and warm water (min 30 s) after removing PPE, upon finishing all tasks. Hand sanitizer (alcohol-based) is recommended after hand cleaning.
* After all cleaning and disinfection activities have been completed, the line or premise supervisor visually checks that procedures were followed and confirms that the processing line can be restarted as per the usual start-up procedure.
* No extra protective equipment is required to operate the processing line.
* Ensure all employees/contractors are aware of self – reporting requirements of ill health/symptoms and that strict monitoring is maintained.
* In all instances, follow the instructions of the authorities to restart work. This can vary from country to country.

Source: American Society of Safety Professionals (ASSP) Copyrighted Fennnelly & Perry 2020