**ARES Lab Sanitation Standard Operating Procedures**

**Purpose**

To standardize sanitization and cleaning practices in the ARES laboratory to ensure proper cleaning of the benchtops, equipment and working areas. This document can also be used as a training resource for new lab members.

**Materials & Equipment**

* CONTEC PREempt Hydrogen Peroxide Wipes (Fisher Catalog no. 19-039-936)
* Decon CiDehol 70 Isopropyl Alcohol Solution, ready to use (Fisher Catalog no. 04-355-42)
* Kimberly Clark WypAll Multipurpose clothes (Fisher Catalog no. 19-045-449)
* Medline Micro-Kill Bleach Germicidal Bleach Wipes (Medline Catalog no. MSC351400AN)
* Thermo Scientific DNA AWAY Surface Decontaminant (Fisher Catalog no. 21-236-28)

Note on all disinfectants: Please ensure that disinfectants are not expired prior to use.

**Cleaning Protocols**

1. **Benchtops** 
   1. Bench tops are to be cleaned first by using a saturated PreEmpt hydrogen peroxide wipe such that the entire working surface is coated. Let the disinfectant sit on the surface for at least one entire minute, to ensure sufficient bactericidal effects.
   2. Follow up by spraying the bench with ≥ 70% isopropyl alcohol and wipe down using a disposable WypAll towel. Allow alcohol to evaporate before continuing to use work surface.
2. **Equipment**
   1. **Plate Readers & PCR Instrumentation**
      1. Dust should not be allowed to accumulate on the surfaces of instrumentation, and if allowed to do so, can interfere with experimentation. These instruments should be regularly wiped with alcohol (sprayed onto a WypAll cloth and not the instrument directly), avoiding any touchscreen surfaces.
   2. **Pipettes**
      1. Pipettes should be cleaned after each use.
      2. Wipe the entirety of the pipette(s) with hydrogen peroxide wipe and allow to sit for at least an entire minute.
      3. Follow up by spraying a WypAll cloth with 70% isopropyl alcohol and wiping down the pipette(s) entirely before returning to the rack.
      4. For pipettes in molecular work areas, see section C.a.
3. **Other Working Areas**
   1. **Molecular Work Areas;** **Note**: These are designated “clean areas” and are marked for use for different steps of a molecular workflow. Please use the correct workstation.
      1. **Pre-PCR/Extraction**: a designated biosafety cabinet with its own set of pipettes and a centrifuge where nucleic acids are to be extracted. PCR reagents and amplified products are not to be manipulated in this area.
         1. First wipe the entire working surfaces (including centrifuge & pipettes) with hydrogen peroxide and let sit on the surface for at least an entire minute.
         2. Wipe the surface with DNAaway using a Kimwipe and follow up by wiping with 70% alcohol.
      2. **Pre-PCR/PCR Set Up**: a designated workstation with its own set of pipettes where PCR plates are to be set up. PCR reagents can be added to reactions in this area. **Note**: Human specimens nor bacterial culture are not to be manipulated in this area.
         1. Wipe the entire working surface and pipettes with DNAaway followed by 70% isopropyl alcohol.
         2. Engage the workstation’s UV light and set the timer for 10 minutes. Close the workstation door. **Note**: Avoid looking at the UV light source directly.
      3. **Post-PCR**: n/a
   2. **Biosafety Cabinets**
      1. BSC working surfaces are to be cleaned first by using a saturated PreEmpt hydrogen peroxide wipe such that the entire working surface is coated. Let the disinfectant sit on the surface for at least one entire minute, to ensure sufficient bactericidal effects.
      2. Follow up by spraying the bench with ≥ 70% isopropyl alcohol and wipe down using a disposable WypAll towel. Allow alcohol to evaporate before continuing to use work surface.
4. **Sinks**
   1. Sink surfaces should be regularly cleaned with isopropyl alcohol such that bleach used in the area does not accumulate on the counter.
   2. Keep area around eye wash station clear of any equipment or debris.
5. **Note on *CLOSTRIDIUM DIFFICILE***: Surfaces that have been or have the potential to have been contaminated with *C. difficile* require an alternative cleaning protocol that includes a sporicidal cleaning agent registered with the EPA (List K).
   1. First, wipe down the surface with a bleach wipe and allow to sit on the contaminated surface for a minimum of three minutes.
   2. Follow up by wiping the surface with 70% isopropyl alcohol. **Note**: Bleach will corrode stainless steel if allowed to accumulate on the surface. This includes BSC working surfaces and pipettes parts.
   3. **Note**: **Do not use bleach on any surface contaminated with guanidine thiocyanate**, a common reagent used during molecular protocols. The combination of these materials causes the release of a toxic gas.

**References**

Centers for Disease Control & Prevention. Strategies to prevent Clostridioides difficile Infection in Acute Care Facilities. <https://www.cdc.gov/cdiff/clinicians/cdi-prevention-strategies.html>.

Centers for Disease Control & Prevention. 2020. Biosafety in microbiological and biomedical laboratories (BMBL). 6th ed.