Checklist for Research Activities
Revised: June 22, 2021

In order to resume research operations, faculty members and independent researchers (Plan Owners) are required to conduct a detailed risk assessment and implement a site-specific protection plan that addresses compliance monitoring and procedures for returning to an earlier phase, if required. The material provided in this job aid is intended to provide criteria to consider when conducting a Pre-start and Startup checklists, which is to be utilized to assure a safe return to research activity.

Pre-Start Checklist for Safety Considerations:

The following criteria should be evaluated and included in your risk assessment and control measure implementation.

General Guidance**
**UCI acknowledges Stanford University and their laboratory checklist document as the foundation of this document created for use at UCI.

- Check your health status before coming to work. It is recommended to check your temperature and any potential symptoms of COVID-19. If you share a living space with another person, monitor their health status as well.
- Always practice respiratory etiquette by covering your cough or sneeze. If you get the urge to sneeze or cough, cover your nose, mouth, and face covering with a towel or handkerchief.
- Avoid touching your face
- Wash your hands frequently with soap and water for 20 seconds or use alcohol-based hand sanitizer, which can be more convenient when a sink is not readily available. At a minimum, employees should clean their hands upon arrival to work, before and after touching their face or face covering or any common contact surfaces, and when leaving work.
- Practice situational awareness, immediately report potential exposures to supervisors

Work with your building/facilities/department representatives, as needed.

- Review UCI’s Executive Directive on Face Coverings and ensure that all team members have done the same.
- Review UCI guidance working alone in a lab and share it with team members
- Communicate with employees via emails, texts, automated phone calls, texts, websites, and signage
Startup Checklist:
Before arriving in the research space

- Review the information on the Laboratory & Research Safety webpage
  - View the PI Safety Responsibilities video
  - Review and complete the PI Research Safety Checklist
  - Review the PPE and Hazard Assessment for Laboratory Workers webpage
    - View the “Why I Wear a Lab Coat” video

Arriving to the Lab
- When you arrive for the first time, turn on lights, observe the space briefly before entering, then proceed with caution.

Before You Begin Work, Evaluate Supplies
- Evaluate PPE – Do you have an appropriate lab coat, safety glasses, disposable gloves (including face coverings) on hand to perform the work you intend to do?
  - What amount do you already have on-hand in the lab?
  - What is your expected weekly “burn rate” of PPE and do you have enough for the next 6 months?
  - Can you perform your research with existing quantities of PPE?
- Review the EH&S COVID-19 Cleaning Procedures for General Laboratories, and ensure that all team members have done the same. (Appendix A)
- Review the Chemical Disinfectants Against SARS-CoV-2 matrix, and ensure that all team members have done the same. (Appendix B)
- Evaluate cleaning materials available to sanitize/disinfect the space.
  - Do you have a sufficient quantity, quality?
  - Is it compatible with the equipment and the research conducted in the space?
- Evaluate other supplies needed to complete your research tasks.
- If PPE or other supplies in your lab are low and you are unable to obtain them through normal routes, work with your department to coordinate with Procurement Services.

Before You Begin, Evaluate Support Services
- Verify the availability of support services needed for your work:
  - Compressed gasses
  - House services (compressed air, house gas, DI water)
  - Glass washing services
  - Hazardous chemical or biological waste pick-up
  - Supply deliveries
  - Other halted services (lab coats, etc.)
  - Regular custodial services
Animals
- Contact ULAR for any animal-related questions.

Chemicals
- Walk through the space to check if there has been a chemical spill. If you are not comfortable with cleaning up the spill, call EH&S at (949) 824-6200 for assistance.
- Inspect hazardous waste storage and coordinate with EH&S.

Biologics
- Disinfect surfaces before/after conducting work.
- Label your biological materials clearly.
- Dispose of all biological wastes properly and contact EH&S Hazardous waste for pick up, if necessary.

Radiation
- Upon returning to the labs, account for all radioactive material (RAM) possessed by the lab. Contact Radiation Safety at (949) 824-6200 if you cannot account for all RAM.
- If your lab will be using RAM or radiation producing machines, ensure your survey instruments are calibrated, if applicable. Contact Radiation Safety at (949) 824-6200 if calibrations are needed.
- If any lab radiation and contamination surveys are required and due to be performed, complete them as soon as possible.

Equipment
- Turn on essential equipment.
  - If a cryogen fill is needed, perform it with assistance from another team member.
- If CO₂ is needed for incubators, contact your building manager to place an order for gas.
- Check that equipment restarts and functions appropriately.
  - Is calibration needed?
  - Do safety devices operate properly?

Procedures for confirmed and suspected COVID-19 cases:
- Contact Human Resources (HR) to report confirmed and suspected COVID-19 cases: https://hr.uci.edu/disaster-relief/report-known-cases.php
- Contact Workers’ Compensation (wcdm@uci.edu) for potential work-acquired COVID-19 exposure.
- Contact Environmental Health and Safety (EH&S) at (949) 824-6200 for decontamination strategies. Departments may choose to use an EH&S-approved cleaning and disinfection contractor or Facilities Management Custodial Services to disinfect spaces.
- According to the Centers for Disease Control (CDC), if it has been more than three days since the person with suspected/confirmed COVID-19 visited or used the space, additional cleaning and disinfection are not necessary: https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html

Additional COVID-19 Resources:
- UCI website: https://uci.edu/coronavirus/
Cleaning Procedures for General Laboratories in Response to COVID-19

This guidance document provides recommendations on cleaning and disinfecting laboratory areas. It is aimed at minimizing the transmission of COVID-19. These recommendations will be updated as additional information becomes available.

General Recommendations for Routine Surface Cleaning

When entering all spaces, employees should:

- Don the following PPE prior to entering:
  - Safety glasses or goggles (if applicable)
  - Face covering (avoid touching face)
- Practice situational awareness, immediately report potential exposures to supervisors;
- Disposable gloves should only be used before and after handling chemicals that require gloves

Before leaving laboratory, employees should:

1. Wash hands with soap and water for 20 seconds, as soon as possible. Or, if hands are not visibly soiled and not recently in contact with chemicals that should be rinsed off, alcohol-based hand sanitizer can be used to clean hands.

Routine Surface Cleaning

EH&S recommends using disinfectant for normal cleaning procedures AND following the manufacturer’s instructions for all cleaning and disinfection products.

Employees should follow instructions for appropriate product concentration, application method, and contact time, and increase the frequency of cleaning for frequently touched surfaces to at least once a day and as needed. If surfaces are visibly dirty, wash with soap and water to remove dirt, and then follow with a disinfectant.

Frequently touched surfaces include:

- Countertops, Tabletops, and railings
- Media/reagent bottles
- Equipment handles
- Light switches & plates
- Desks and chairs
- Keyboards and mouse (pointing devices)
- Faucets and sinks
- Laboratory fixtures
- Sashes of all ventilated cabinets (BSC, CFH)
- Doorknobs
- Handles
- Phones
- And all other commonly touched surfaces.

Cleaning frequency: It is recommended that you clean your laboratory space at least once a day.

For Electronics: Use alcohol-based wipes with at least 70% alcohol. When not available, spray disinfectant on a paper towel and wipe down surfaces.

PPE Use as Part of Research Operations
Continue wearing Personal Protective Equipment (PPE) as identified in your lab research Standard Operations Procedures (SOPs), including the appropriate glove type, and eye protection.

If you have a suspected or confirmed positive COVID-19 case:
Notify Human Resources via UCI's Coronavirus Response Center at (949) 824-9918, email covid19@uci.edu, or report the case via the HR website: https://hr.uci.edu/disaster-relief/report-known-cases.php

To ensure cleaning of suspected or confirmed positive COVID-19 case:
Contact FM Services desk at (949) 824-5444 or at fm-servicedesk@uci.edu to submit a request to clean and disinfect the space. FM will coordinate with EHS to convene staff to determine the scope of the cleaning and disinfecting. EHS will provide clearance prior to any cleaning and disinfecting work begins. EHS will consult with the department/unit on decontamination strategy and next steps. If the area cannot be safely cleaned by UCI staff, EH&S will schedule a 3rd party vendor to decontaminate the area.

The space should be left unoccupied and entry barricaded for at least 24 hours after initial notification (any exceptions to this requirement must be coordinated with EH&S). After 3 days or longer, per the CDC, no special cleaning or disinfecting is necessary if the space is left unoccupied.

Contact EHS at (949) 824-6200 or at safety@uci.edu for additional assistance.

Follow the flowchart to request COVID-19 disinfection and cleaning:

- Is there a suspected/confirmed COVID-19 case?
  - Yes
  - Has the space been unoccupied for 3 days or longer?
    - Yes
      - Per CDC guidance, no special cleaning or disinfecting is necessary.
    - No
  - Can the area be left unoccupied for at least 24 hours?
    - Yes
    - No
      - Routing cleaning is sufficient as stated above.
      - Contact Environmental Health and Safety (EH&S) at (949) 824-6200 to discuss decontamination options.

COVID-19 Resources:
UCI Forward website, UCI EH&S, CDC website, OC Health Care Agency website
# Chemical Disinfectants Against SARS-CoV-2

**Updated April 8, 2020**

Refer to the EPA website for List N - a list of disinfectants with label claims to be effective against SARS-CoV-2: [https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2](https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2)

Clean surfaces prior to disinfection - Waxy, soiled surfaces should be cleaned using a detergent or soap and water prior to disinfection. Inorganic and organic materials on the surfaces of equipment and other materials may interfere with the effectiveness of the chemical product.

For electronics - Consider the use of wipe-on covers. If no manufacturer guidance for disinfecting the product is available, consider the use of alcohol-based wipes or sprays containing at least 70% alcohol. Dry surfaces thoroughly to avoid pooling of liquids.

<table>
<thead>
<tr>
<th>Category</th>
<th>Active Ingredient</th>
<th>Concentration / Solution Prep</th>
<th>Application / Contact Time</th>
<th>Potential Hazards</th>
<th>Controls</th>
<th>Examples of EPA-approved products (RTU = Ready to Use solution)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alcohols</strong></td>
<td>Ethyl alcohol</td>
<td>70%</td>
<td>5 minutes</td>
<td>Highly flammable and could form explosive vapor/mist mixture.</td>
<td>Use well-ventilated areas away from ignition sources</td>
<td>Clorox 1 (w/Quat), RTU</td>
</tr>
<tr>
<td></td>
<td>Isopropyl Alcohol</td>
<td></td>
<td></td>
<td>May react violently with strong oxidants, reducing agents, hydroxides, acids, bases, peroxides, and amines.</td>
<td>Disinfectant sponges, lab coat, safety glasses, long pants and closed toe shoes</td>
<td>Clorox 2 (w/Quat), RTU</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Alcohol may be fatal to the skin and cause dermal irritation.</td>
<td>Additional considerations:</td>
<td>Clorox Disinfectant Wipes (w/Quat), Clorox Disinfectant Cleaner (w/Quat)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inhaling concentrated alcohol vapor may cause irritation of the respiratory tract and effects on the central nervous system.</td>
<td></td>
<td>Super Sani-Cloth Germicidal Disposable Wipes (w/Quat)</td>
</tr>
</tbody>
</table>

**Chlorine Compounds (bleaches)**

<table>
<thead>
<tr>
<th>Category</th>
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<th>Application / Contact Time</th>
<th>Potential Hazards</th>
<th>Controls</th>
<th>Examples of EPA-approved products (RTU = Ready to Use solution)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sodium hypochlorite</td>
<td></td>
<td></td>
<td>Making hypochlorite solutions with strong acids may result in violent chemical reactions that could release toxic gases.</td>
<td>Use in well-ventilated areas, face shield and protective equipment</td>
<td>Clorox Clean-Up Cleaner + Bleach, RTU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-10% bleach solution</td>
<td></td>
<td>Read dilute with ammonia, amines, or reducing agents.</td>
<td>Safety glasses, gloves, lab coat, safety glasses, long pants and closed toe shoes</td>
<td>Clorox Disinfecting Bleach 2, Clorox Bleach, RTU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2% bleach solution (~1000 ppm free Cl)</td>
<td>1 part bleach to 9 parts water</td>
<td>May cause skin irritation.</td>
<td>Additional considerations:</td>
<td>Clorox Bleach Germicidal Disposable Wipes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10% bleach solution (~3000 ppm free Cl)</td>
<td>1 part bleach to 9 parts water</td>
<td>Concentrated hypochlorite solutions can cause chemical burns of the skin.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>May cause severe eye irritation.</td>
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<td></td>
</tr>
</tbody>
</table>

Note: All products listed are EPA-approved for use against SARS-CoV-2 as of April 8, 2020.
<table>
<thead>
<tr>
<th>Compound</th>
<th>Description</th>
<th>Precautions and Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen Peroxide</td>
<td>May cause irritation and irritation to the skin.</td>
<td>Use in environments where it is safe to do so.</td>
</tr>
<tr>
<td>Phenol</td>
<td>Causes skin and eye irritation.</td>
<td>Use in environments where it is safe to do so.</td>
</tr>
<tr>
<td>EDB, S</td>
<td>Does NOT recommend use of glutaraldehyde.</td>
<td>Use in environments where it is safe to do so.</td>
</tr>
</tbody>
</table>

**REFERENCES:**

- EPA List U: Disinfectants for Use: [https://www.epa.gov/pesticide-registration/list-u-disinfectants-for-use](https://www.epa.gov/pesticide-registration/list-u-disinfectants-for-use)