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 maintain at least 6 feet of social distance

- 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

- Always use face coverings

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

- Assess your research space for the ability to meet physical distancing of 6 feet.

- Determine how many people can work safely in your research space at a single time while observing appropriate physical distancing.

  - Review the CDC’s guidance on social distancing, and ensure that all team members have done the same.
● Each individual working in the lab must at all times have at least 6 feet clearance on all sides from others.

● No more than one person should occupy a small space/room at any time. This includes, but is not limited to, interview rooms, tissue culture rooms, microscopy rooms, or other small instrument rooms.

● Consider placing a colored tape on the ground around the workspaces indicating boundaries between workers – highly recommended for shared spaces.

☐ Review UCI’s recommendations for 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

☐ Ensure your department/building/facility representatives confirm your space assessment and the number of personnel you are proposing to allow in the space at a single time.

☐ For shared research space, work with the other faculty and facility representatives to establish definitive guidelines for the area.

☐ Communicate with employees via emails, texts, automated phone calls, texts, websites, and signage

☐ Create a team calendar to track who will work at what time. Develop flexible work hours so personnel can work at different hours/days to minimize population density in a laboratory space.

☐ If your unit requires it:
  ☐ Share this calendar with the appropriate unit representatives.
  ☐ Post occupancy limits on the door, visible to those outside.
  ☐ Post calendar on the door, visible to those outside.

Startup Checklist:

Before arriving in the research space

☐ Plan your research as much as possible beforehand and minimize the time needed to spend at the lab

☐ 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](#).

### Biologicals

- 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 seven 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/
Appendix A

Cleaning Procedures for General Laboratories in Response to COVID-19
Updated July 2, 2020

This guidance document provides recommendations on cleaning and disinfecting areas. It is aimed at limiting the survival of SARS-CoV-2 in key environments. These recommendations will be updated as additional information becomes available.

GENERAL RECOMMENDATIONS

When entering all spaces, employees should:

- Don the following PPE prior to entering:
  - Safety glasses or goggles (if applicable)
  - Face covering
- Maintain a minimum 6 feet distance from others whenever possible;
- 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.

If you have a confirmed COVID-19 case, contact EHS at (949) 824-6200 for decontamination strategies.

Routine Surface Cleaning
EH&S recommends that employees follow normal cleaning procedures AND follow the manufacturer’s instructions for all cleaning and disinfection products. Employees should follow instructions for appropriate product concentration, application method, contact time, and increase the frequency of cleaning commonly used areas to at least once a day and as needed. Wash areas with soap and water to remove contamination, and follow with a disinfectant. Commonly used surfaces include:

- Laboratory Fixtures
- Tabletops
- Media/Reagent bottles
- Sashes of all ventilated cabinets (BSC, CFH)
- Equipment Handles (Refrigerators, Incubators, Freezers, etc...)
- Railings
- Doorknobs
- Light switches & plates
- Countertops
- Handles
- Desks
- Phones
- Keyboards and Mouse (Pointing devices)
- Chairs
- Faucets
- Sinks
- And all other frequently touched surfaces

Cleaning frequency: It is recommended that you clean your laboratory space at the beginning, middle, and end of each day.

For recommendations for cleaning and disinfecting general workspaces please click here.

Disinfecting Surfaces
For Electronics, use alcohol-based wipes with at least 70% alcohol. When not available, spray disinfectant on paper towel and wipe down surfaces. List of Chemical Disinfectants.
## Chemical Disinfectants Against SARS-CoV-2

**Updated April 3, 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** – **Visibly 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 **isopropyl alcohol**. 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, isopropyl alcohol</td>
<td>T0%</td>
<td>Hard, non-porous surfaces 5 minutes</td>
<td>Highly flammable and could form explosive vapor mixtures. ▪ May react violently with strong oxidants, reducing agents, halogen acids/bases, peroxides, and halogenated solvents. ▪ Alcohols may dry the skin and cause dermatitis. ▪ Inhalation of concentrated alcohol vapor may cause irritation of the respiratory tract and effects on the central nervous system.</td>
<td>Prevention/Precaution: ▪ Use in well-ventilated areas away from ignition sources. ▪ Wear PPE and coveralls. ▪ Disposable nitrile gloves, lab coat, safety glasses. ▪ Long pants and close-toe shoes. ▪ Additional considerations: ▪ Do not mix with strong oxidants, reducing agents, halogen acids, bases, peroxides, and halogenated solvents.</td>
<td>- Clorox® 1 (w/Quat), RTU ▪ Clorox® 2 (w/Quat) ▪ Clorox® 3 (w/Quat), RTU ▪ Clorox® Max-Wipes (w/Quat) ▪ Clorox® Max Disinfectant Cleaner (w/Quat), RTU ▪ Clorox® San-Cloth Germicidal Disposable Wipes (w/Quat).</td>
</tr>
<tr>
<td><strong>Chlorine Compounds (hypochlorites)</strong></td>
<td>Sodium hypochlorite</td>
<td>Make fresh daily 2-10% bleach solution. 2% bleach solution (1000 ppm free Cl) 1 part bleach to 9 parts water. 10% bleach solution (6000 ppm free Cl) 1 part bleach to 9 parts water.</td>
<td>Hard, non-porous surfaces 2-10 minutes, recommended</td>
<td>Mixing hypochlorites with strong acids may result in violent chemical reactions that could release toxic gases. ▪ React explosively with ammonia, amines, or reducing agents. ▪ May cause skin irritation. Concentrated hypochlorite solutions can cause chemical burns of the skin. ▪ May cause serious eye irritation.</td>
<td>Prevention/Precaution: ▪ Use in well-ventilated areas. ▪ Wear PPE and coveralls. ▪ Disposable nitrile gloves, lab coat, safety glasses. ▪ Safety goggles where splash potential exists. ▪ Long pants and close-toe shoes. ▪ Additional considerations: ▪ Do not mix with ammonia-based cleaners or disinfectants. ▪ Do not mix with acids, amines, or reducing agents. ▪ Perform a secondary water rinse to minimize surface damage.</td>
<td>- Clorox® Clean-Up Cleaner + Bleach, RTU ▪ Clorox® Disinfecting Bleach, 2% ▪ Clorox® Bleach, RTU ▪ Clorox® San-Cloth Bleach Germicidal Disposable Wipes.</td>
</tr>
</tbody>
</table>
Addenyes (NOT RECOMMENDED)

Enh-S DOES NOT recommend use of Gluta na/daily dis-based products for disinfection

Glutaraldehyde cycle

See EPA-approved products (List N) for application in contact surface...

- Con centre in epoxide solutions are reactive and plosive.
- Irrit:- na cause chemical burns of the skin and eyes when no. onfused.
- I 1d damage to penricidual materials and rubber due to compatibility (esp. al/um. um
andized citric) becomes dul.
- F 1r h drog en penrodes ac to ths and non-

Engineering/Fact BY

- Causes contact dermatitis
- May trig gar auth
- Causes eye and m. scw u s in es
- Oral and gastrointestinal injuries from swallowing solution.

Phenols

Jml.wJ

See EPA-approved products (List M) for application and contact time.

- Phenols cause skin and e. irritation
- Phenol compounds in n. e. micals are harmful to h. solants.

Quaternary Ammonium

Alky I dine thyl benzyl... ammonium chloride

See EPA-approved products (List M) for application and contact time.

- Causes contact dermatitis
- May trig gar auth
- Causes eye and m. scw u s in es
- Oral and gastrointestinal injuries from swallowing solution.

Engineering/Disinfect

- Causes contact dermatitis
- May trig gar auth
- Causes eye and m. scw u s in es
- Oral and gastrointestinal injuries from swallowing solution.

TB RTU

Biophase

EPA list J: Dom-fact select for use

Other disinfectants include:

- Biovidw
- Disinfectant
- Disinfectant for SARS-CoV-2
- Disinfectant S. Typhi RTU

<table>
<thead>
<tr>
<th>Hydrogen peroxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>See EPA-approved products (List M) for application and contact time...</td>
</tr>
</tbody>
</table>

- Use w. f. gloves on e. are of IPPE and attire
- Dispos. natrile gloves, lab coat, safety glasses
- Saf. h f. mm splash p. to inh. exists
- Long pants and closed-toe shoes

- Add local use of disinf to ns

- Do not add h. ns without w.ashing h. hood after use.