UCI Environmental Health & Safety

Checklist for Research Activities

Revised: March 24, 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 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)
  [move up to line above] 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 membershave 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 withyour 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 CO_2 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/
- EH&S website: https://ehs.uci.edu/public-health/covid-19/index.php
- CDC website: https://www.cdc.gov/coronavirus/2019-nCoV/index.html
- OC Health Care Agency website: https://occovid19.ochealthinfo.com/

Appendix A

Cleaning Procedures for General Laboratories in Response to COVID-19
Updated December 16, 2020

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
- 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.

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

Cleaning frequency: It is recommended that you clean your laboratory space at least once a day. This can be performed at the beginning, middle, or end of each 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.

EH&S recommends using EPA-approved disinfectants for use against COVID-19: https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2-covid-19

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

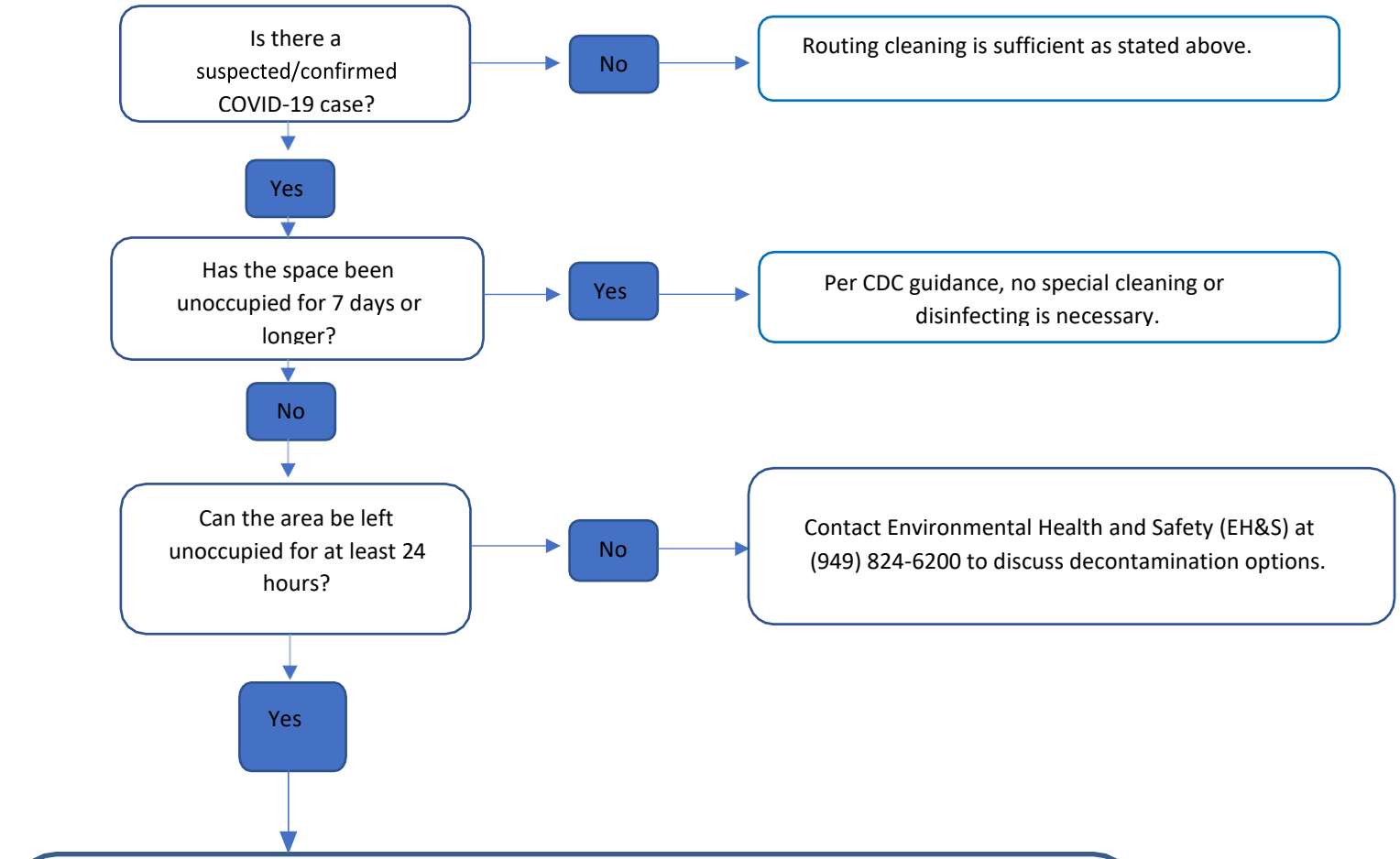
To ensure cleaning of suspected or confirmed positive COVID-19 case:

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 7 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:



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 and EH&S will evaluate the area to determine the scope of cleaning.

For laboratory workspace, FM will contact EH&S for clearance prior to disinfection and cleaning. EH&S will consult with department/unit on decontamination strategy and next steps.

COVID-19 Resources:

UCI website, UCI EH&S, CDC website, OC Health Care Agency website

Appendix B

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

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 wipeable 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.*

Category	Active Ingredient	Concentration / Solution Prep	Application / *Contact Time*	Potential Hazards	Controls	Examples of EPA-approved products (RTU = Ready to Use solution)
Alcohols	Ethyl alcohol Isopropyl Alcohol	70%	Hard, non-porous surfaces *5 minutes*	• Highly flammable and could form explosive vapor/air mixtures. • May react violently with strong oxidants, reducing agents, halogens, acids, bases, perchlorates, and trimethylaluminum. • Alcohols may de-fat the skin and cause dermatitis. • Inhalation of concentrated alcohol vapor may cause irritation of the respiratory tract and effects on the central nervous system.	Engineering/Facility • Use in well-ventilated areas away from ignition sources PPE and attire • Disposable nitrile gloves, lab coat, safety glasses • Long pants and closed-toe shoes Additional considerations • Do not mix with strong oxidants, reducing agents, halogens, acids, bases, perchlorates, and trimethylaluminum.	• Caviicide 1 (w/ Quat.), RTU • Caviwipes 1 (w/ Quat.) • Opti-cide 3 (w/ Quat.), RTU • Opti-cide Max Wipes (w/ Quat.) • Opti-cide Max Disinfectant Cleaner (w/ Quat.), RTU • Super Sani-Cloth Germicidal Disposable Wipe (w/ Quat.)
Chlorine Compounds (Hypochlorites)	Sodium hypochlorite	***Make fresh daily*** 2-10% bleach solution **2% bleach sol'n** (~1000 ppm free Cl) 1 part bleach to 49 parts water **10% bleach sol'n** (~5000 ppm free Cl) 1 part bleach to 9 parts water	Hard, non-porous surfaces *≥10 minutes, recommended* Liquid waste (not mixed with incompatible chemicals) *≥30 minutes*	• Mixing hypochlorite 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.	Engineering/Facility • Use in well-ventilated areas PPE and attire • Disposable nitrile gloves, lab coat, safety glasses • Safety goggles where splash potential exists • Long pants and closed-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	• Clorox Clean-Up Cleaner + Bleach, RTU • Clorox Disinfecting Bleach2 • Caviicide Bleach, RTU • Sani-Cloth Bleach Germicidal Disposable Wipes

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