



Research Process Overview

Date:		Lab Location:		Principal Investigator (PI):	
Lab Safety Representative:				EHS Representative:	
Facilities Representative:				Other Review Team Members:	
Reason for POSHER:	<input type="checkbox"/> Initial Review <input type="checkbox"/> New Chemical or Process <input type="checkbox"/> Response to Audit/Inspection <input type="checkbox"/> Specific Request				
Brief Overview of Research/Laboratory Process:					
Brief Description of Primary Hazards:					

Facilities Services Requirements & Equipment Review

What Type of Facilities Services Do You Need?	Yes	No	If Services Don't Exist, Then List Actions Required	Action Owner
House compressed air?	<input type="checkbox"/>	<input type="checkbox"/>		
House laboratory vacuum?	<input type="checkbox"/>	<input type="checkbox"/>		
House natural gas?	<input type="checkbox"/>	<input type="checkbox"/>		
House RO/DI Water?	<input type="checkbox"/>	<input type="checkbox"/>		
Process cooling water?	<input type="checkbox"/>	<input type="checkbox"/>		
Are there special electrical requirements for your equipment beyond a standard 120V receptacle?	<input type="checkbox"/>	<input type="checkbox"/>	If so, please explain.	
Are hazardous compressed gases (flammable, toxic, corrosive, etc.) planned to be used?	<input type="checkbox"/>	<input type="checkbox"/>	These hazards may require a gas cabinet.	
Are there other non-hazardous compressed gases used? If yes, describe the types of gases and size of cylinders that will be used.	<input type="checkbox"/>	<input type="checkbox"/>		
Is a fume hood required?	<input type="checkbox"/>	<input type="checkbox"/>		
Is there a need for a local process exhaust other than fume hood?	<input type="checkbox"/>	<input type="checkbox"/>		
Is a walk-in Cold Room required?	<input type="checkbox"/>	<input type="checkbox"/>		
Will a biosafety cabinet/tissue culture hood be required?	<input type="checkbox"/>	<input type="checkbox"/>		
Will a glove box/anaerobic chamber be required?	<input type="checkbox"/>	<input type="checkbox"/>		
Will you be using any other specialized equipment that we should be aware of? If so, please explain.	<input type="checkbox"/>	<input type="checkbox"/>		

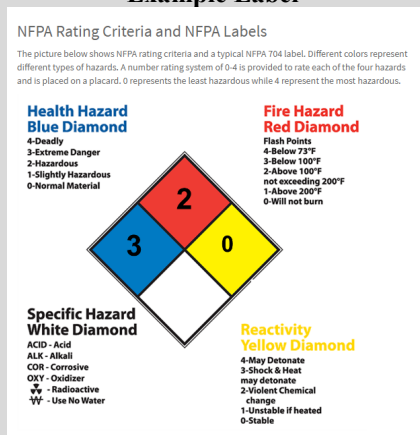


Section A – Chemical Hazard Review

Section A.1 – Hazardous Chemical Use Information, based on SDS data and OSHA definitions of hazardous chemicals, 29CFR 1910.1200

List: All hazardous chemicals, biological agents, and by-products associated with your laboratory that present a significant health hazard (i.e. a rating of 3 or 4 in the blue square on the NFPA chemical hazard label shown below or some other similar means of warning label):

Example Label



Identify:
 Solid
 Liquid
 Gas

Indicate:
 Storage capacity, size of container

Indicate if:
 Toxic
 Pyrophoric
 Flammable/Combustible
 Oxidizer
 Dust source
 Corrosive
 Odor detectable
 Volatile organic compound
 Radioactive
 Asphyxiant
 Carcinogenic
 Reproductive toxin



Section A.1 – Hazardous Chemical Use Information (continued)

Section A.2 - Chemical Hazard Review Questions/Action Items

Chemical Process Details	Yes	No	Engineering Controls / Details	Action Owner
Do any of the lab processes have pressurized liquids? (i.e. pumped chemical lines, hydraulics, etc.)	<input type="checkbox"/>	<input type="checkbox"/>		
Will the chemical process require the use of an external heating or cooling source?	<input type="checkbox"/>	<input type="checkbox"/>		
Will lab processes involve unmonitored reactions?	<input type="checkbox"/>	<input type="checkbox"/>		
Will reactions result in the evolution of gases, vapors or heat?	<input type="checkbox"/>	<input type="checkbox"/>		
Will operations require Schlenk lines or vacuum manifolds?	<input type="checkbox"/>	<input type="checkbox"/>		
Will solvent stills be used?	<input type="checkbox"/>	<input type="checkbox"/>		
Do you use chemical inventory software or maintain chemical inventories for your research spaces?	<input type="checkbox"/>	<input type="checkbox"/>		

Section B – Biological Hazard Review

Biological Process Details	Yes	No	Engineering Controls / Details	Action Owner
Does your lab work involve the use of hypodermic syringes or needles?	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> If yes, then the individual or department (preferably) must have a Certificate of Need issued by the NYS Department of Health, http://www.health.state.ny.us/forms/doh-2278.pdf. Unused stocks and supplies of hypodermic needles and syringes must be secured in a locked cabinet or drawer. The lab must keep a log of supplies and distribution. 	
Does your lab work involve occupational exposure to blood, human body fluids, unfixed tissues or organs, HIV/ HBV containing cell or tissue cultures?	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> If yes, Bloodborne Pathogen training is required. Register in CULearn for course EHS 1070 - Bloodborne Pathogens Certification - Research and Diagnostic Personnel 	



Section B – Biological Hazard Review

Biological Process Details	Yes	No	Engineering Controls / Details	Action Owner
Does your lab work involve the use of controlled substances?	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> If yes, then you must comply with state and federal regulations including New York State Department of Health (NYSDOH) licensing and the federal Drug Enforcement Agency (DEA) registration. Contact Environmental Health and Safety for any work involving controlled substances prior to applying for NYSDOH license and DEA registration. 	
Does your lab work involve the use of non-human vertebrates?	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Before purchasing animals or using animals for research, teaching or testing, you must have an approved Institutional Animal Care and Use Committee (IACUC) protocol. For more information, please go to https://researchservices.cornell.edu/compliance/live-vertebrate-animal-research 	
Does your lab work involve the use of human subjects?	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> If you are conducting research with human participants (e.g. surveys, interviews, blood draws, secondary data analysis), you will need to obtain approval from the Cornell Institutional Review Board for Human Participants (IRB) before starting your research. For more information, please go to https://researchservices.cornell.edu/compliance/human-research 	
Does your lab work involve the use of recombinant or synthetic nucleic acid molecules (r/sNA) or biohazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> If yes, then you must secure Institutional Biosafety Committee (IBC) approval by submitting a Memorandum of Understanding and Agreement (MUA) with the IBC. See more details on the IBC Application Submission, Review and Approval page. 	
Does your lab work involve the centrifugation, blending, sonication or maceration of infectious or biohazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	If yes, you must perform these operations in a certified biological safety cabinet or utilize other suitable secondary containment (e.g. centrifuge safety cup).	
Does your lab work involve use of pesticides?	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Any employee who works with plants that may be treated with pesticides must attend <i>Worker Protection Standard</i> training, unless s/he is a certified pesticide applicator. Any employee who works with pesticides, with the exception of laboratory-scale experiments with pesticides, must become a licensed pesticide applicator in New York State. For more information, please go to https://oeh.cals.cornell.edu/training-workshops/ 	



Section C – Radiation Hazard Review

Section C.1 – Ionizing Radiation Hazards

Radiation Process Details	Yes	No	Engineering Controls / Details	Action Owner
Does your lab work involve the use of ionizing radiation devices (i.e. Radiation Producing Equipment)? RPE includes accelerators; x-ray equipment such as diffraction, fluorescence, cabinet, radiology, etc.; ion implanters; some plasma systems; and transmission electron microscopes (TEM). In general, electron beam equipment operating above 10-15 kV may be categorized as RPE.	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> The operation and use of RPE requires a permit from EHS and individual users must be listed on the permit as authorized users. Procedures, requirements, and guidance are provided through the Radiation Safety Manual link below. https://sp.ehs.cornell.edu/lab-research-safety/radiation/radiation-producing-equipment 	
Does your lab work involve the use of radioactive material?	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> All possession and use of radioactive material requires a formal written authorization issued by the Radiation Safety Officer (RSO) or Radiation Safety Committee (RSC). A permit or registration is required for the use of sealed sources of radioactive material. https://sp.ehs.cornell.edu/lab-research-safety/radiation/radioactive-materials/ 	

Section C.2 – Non-ionizing Radiation Hazards

Radiation Process Details	Yes	No	Engineering Controls / Details	Action Owner
Do you have any equipment with a source of RF/Microwave energy that can present a hazard in normal use or in service?	<input type="checkbox"/>	<input type="checkbox"/>	If yes, are there interlocks or other user protection?	
Do you have any equipment that involves the use of high hazard (Class 3B or 4) lasers?	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> If yes, then please contact the RSO with E&HS to review your equipment set up. Cornell follows the requirements and guidelines provided in ANSI Standard Z136.1 and Z136.8 for the Safety Use of Lasers, which have been incorporated into the Cornell Laser Safety Program documentation. Please see the following web link for more information: https://sp.ehs.cornell.edu/lab-research-safety/radiation/laser-safety 	
Are there any other sources of non-ionizing radiation that require controls to ensure personnel safety? (e.g. magnetic fields >5 gauss, UV, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> If yes, then please contact the RSO with E&HS to review your equipment set up. Please see the following web link for more information: https://sp.ehs.cornell.edu/lab-research-safety/radiation/magnetic-safety/ 	



Section D – General Equipment/Process Hazard Review

General Equipment/Process Issues	Yes	No	Engineering Controls / Details	Action Owner
Are there processes or equipment that should have “off hour” use restrictions or a “buddy system” for normal use or service? Describe and explain.	<input type="checkbox"/>	<input type="checkbox"/>		
Is equipment specific training required for users?	<input type="checkbox"/>	<input type="checkbox"/>	If yes, How are training records maintained?	
Are there noises over or approaching 85db?	<input type="checkbox"/>	<input type="checkbox"/>	If yes, then hearing protection and appropriate signage will be required.	
Are there exposed sources of electrical voltage?	<input type="checkbox"/>	<input type="checkbox"/>		
Are there exposed hot surfaces?	<input type="checkbox"/>	<input type="checkbox"/>		
Is personal protective equipment required for the user/operator for any particular lab operations?	<input type="checkbox"/>	<input type="checkbox"/>		
Is mechanical guarding required for any equipment?	<input type="checkbox"/>	<input type="checkbox"/>		
Are there vibration sources?	<input type="checkbox"/>	<input type="checkbox"/>	If so, is vibration mitigation required?	
Are there ergonomic concerns with any processes or equipment?	<input type="checkbox"/>	<input type="checkbox"/>		
Will the lab work produce chemical waste, regulated medical waste, biological waste, radioactive waste, or other hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	If yes, then lab personnel will need to be trained on how to collect and dispose of the waste (red bags, sharps, burn boxes, etc.).	
Will the lab work involve the shipping or transfer of any hazardous materials (e.g. dry ice)?	<input type="checkbox"/>	<input type="checkbox"/>	If yes, then please work with the Weill Hall Building Coordinator for all shipments since dry ice is regulated by the FAA as a hazardous material	

Training Assessment

Minimum Training Requirements	Yes	No	Comments/Action Items	Action Owner
The following training is required for your lab regardless of the type of process or research utilized. <ul style="list-style-type: none"> • RSRCH -WHFS 1001 Weill Hall Orientation • EHS 2555 - Laboratory Safety • EHS 2716 - Chemical Waste Disposal • EHS 5330 - Fire Safety 	X X X X			
Additional Training Requirements	Yes	No	Comments/Action Items	Action Owner
Identify the additional training required for laboratory personnel based on the hazards involved. Examples of additional training are Radiation Safety, Laser Safety Training, Formaldehyde Awareness, HF Acid Awareness, etc.	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>		



Final Review & Assessment

Emergency Requirements	Yes	No	Engineering Controls / Details	Action Owner
Are there adequate eyewashes and safety showers?	<input type="checkbox"/>	<input type="checkbox"/>		
Are there adequate chemical spill kits present?	<input type="checkbox"/>	<input type="checkbox"/>		
Are Local Alarms/Indications Required?	<input type="checkbox"/>	<input type="checkbox"/>		
Are there any special lab shutdown procedures?	<input type="checkbox"/>	<input type="checkbox"/>		

Summary of Attachments: *List all documents and SOPS that are or will be provided in association with the POSHER*

Examples include: IBC MUA, IACUC Protocol #, Radiation Permit, Equipment Operating Procedure including emergency shut down start up, Equipment Information Sheet, etc.

Conclusion

Given what is currently known and assuming all open actions are closed, can this research and associated processes be safely conducted in Weill Hall?

Yes

No

Action Registry

Issue	Action Required	Action Owner	Status