Temple University
Environmental Health and Radiation Safety

LABORATORY HAZARD ASSESSMENT FOR CHEMCIAL HANDLING

The Laboratory Hazard Assessment for Chemical Handling identifies common chemical hazards to which laboratory personnel may be exposed and specifies minimum administrative controls, engineering controls and personal protective equipment (PPE) to protect against these chemical hazards during work operations in laboratories.

This document is required to be completed by the Principal Investigator, Laboratory Supervisor and/or their designee. The person must conduct a hazard assessment that is specific to their laboratory spaces. EHRS personnel are available to assist with the hazard assessment and can review the form. EHRS may be consulted by calling 215-707-0109. The PI is responsible for ensuring that all requirements are followed.

The Principal Investigator (PI) Laboratory Supervisor, Instructor or designee is required to conduct and certify the hazard assessment on an annual basis.

1. Review the Laboratory Personal Protective Equipment (PPE) section on the EHRS website.
2. Conduct a hazard assessment of the laboratory operations involving chemical handling using the form below. Refer to the General Guidance on PPE & Hazard Assessments for Lab for additional information.
    - This form will assist in identifying common operations involving chemicals that require the use of administrative controls, engineering control and personal protective equipment (PPE) to protect laboratory personnel from exposure to chemical hazards. For each task listed, check the “Yes” box if the work is performed in your laboratory. If not, check the “no” box. As needed. Add tasks to the list to customize for your laboratory.
3. Complete and sign the Certification of Laboratory Hazard Assessment for Chemical Handling at the end of the document. Maintain a copy of the completed form with your laboratory specific safety information.
4. Identify all applicable safety training courses, EHRS safety related documents (Chemical Hygiene Manual, Chemical guidance, etc.), Lab specific information (Standard Operating Procedures, Safety Data Sheets (SDS), High Hazard Operating Procedures (HHOP). etc.) and required controls (administrative, engineering and PPE)
5. The PI, Lab Supervisor, Instructor or designee is required to review the completed Laboratory Hazard Assessment for Chemical Handling with all laboratory personnel.
6. The Laboratory Hazard Assessment for Chemical Handling is required to be reviewed on an annual basis and updated when a new chemical hazard or process has been introduced into the laboratory.

LABORATORY HAZARD ASSESSMENT FOR CHEMCIAL HANDLING

Applies		Activity performed in Lab	Potential Hazard(s)	Controls		
Yes	No			Engineering	Administrative	PPE
☐	☐	• Working with small volumes (≤ 1L) of flammable or combustible liquids when no reasonable ignition sources are present.	• Skin damage • Eye damage • Toxic by skin contact	✓ Chemical Fume Hood ✓ Vacuum Protection	✓ Chemical Hygiene Manual ✓ General Guide for Flammables	✓ **Eyes:** Safety glasses ✓ **Hands:** Disposable nitrile or appropriate Chemical resistant gloves[1] ✓ **Body:** Lab coat; long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear
☐	☐	• Working with large volumes (>1 L) of flammable or combustible liquids.	• Skin damage • Eye damage • Toxic by skin contact • Fire	✓ Chemical Fume Hood ✓ Vacuum Protection ✓ Equipment to avoid Static Electricity	✓ Chemical Hygiene Manual ✓ General Guide for Flammables ✓ Lab or Chemical Specific SOP	✓ **Eyes:** Safety glasses ✓ **Hands:** Inner-Chemical resistant gloves[1] ✓ **Hands:** Outer-Flame-resistant outer gloves[1] ✓ **Body:** Flame resistant (FR) lab coat (e.g. Nomex.) ✓ **Body:** long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear **No synthetic clothing allowed** ☐ **Other PPE: Specify in lab or chemical -specific SOP**
☐	☐	• Working with any quantity of flammable materials (including solvents) where there is a risk of ignition; or areas where flammable vapors or gas may be present	• Skin damage • Eye damage • Toxic by skin contact • Fire	✓ Chemical Fume Hood ✓ Safety Shielding ✓ Vacuum Protection ✓ Equipment to avoid Static Electricity ✓ Consult EHRS	✓ PI/Supervisor approval required ✓ Chemical Hygiene Manual ✓ General Guide for Flammables ✓ Chemical Specific High Hazard SOP ✓ Consult EHRS	✓ **Eyes:** Safety goggles ✓ **Hands:** Inner-Chemical resistant gloves[1] ✓ **Hands:** Outer-Flame-resistant outer gloves[1] ✓ **Body:** Flame resistant (FR) lab coat (e.g. Nomex.) ✓ **Body:** long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear **No synthetic clothing allowed** ☐ **Other PPE: Specify in chemical-specific High Hazard SOP**

☐ ☐	• Working with small volumes (≤ 4L) of corrosives (e.g. acids, bases, etc.)liquid or solids	• Skin damage • Eye damage • Toxic by skin contact	✓ Chemical Fume Hood ✓ Vacuum Protection	✓ Chemical Hygiene Manual ✓ General Guide for Corrosives	✓ **Eyes:** Safety glasses ✓ **Hands:** Chemical resistant gloves[1] ✓ **Body:** Lab coat; long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear
☐ ☐	• Working with large volumes (> 4L) of corrosives (e.g. acids, bases, etc.) liquid or solids	• Skin damage • Eye damage • Toxic by skin contact	✓ Chemical Fume Hood ✓ Vacuum Protection	✓ PI/Supervisor approval required ✓ Chemical Hygiene Manual ✓ General Guide for Corrosives ✓ Lab or Chemical Specific SOP	✓ **Eyes:** Safety glasses or goggles ✓ **Hands:** Chemical resistant gloves[1] ✓ **Body:** Lab coat; long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear ✓ **Body:** Chemically resistant apron[1] ☐ **Other PPE: Specify in lab or chemical -specific SOP**
☐ ☐	• Working with corrosive or toxic liquids or other materials which create a splash hazard.	• Skin damage • Eye damage • Toxic by skin contact	✓ Chemical Fume Hood ✓ Vacuum Protection	✓ PI/Supervisor approval required ✓ Chemical Hygiene Manual ✓ General Guide for Corrosives ✓ Lab or Chemical Specific SOP	✓ **Eyes:** Safety goggles ✓ **Hands:** Chemical resistant gloves[1] ✓ **Face:** Face shield as splash or splatter may occur ✓ **Body:** Lab coat; long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear ✓ **Body:** Chemically resistant apron[1] ☐ **Other PPE: Specify in lab or chemical -specific SOP**
☐ ☐	• Working with oxidizing chemicals (solid, liquid, or gas).	• Skin damage • Eye damage • Toxic by skin contact	✓ Chemical Fume Hood or Glove Box ✓ Vacuum Protection	✓ PI/Supervisor approval required ✓ Chemical Hygiene Manual ✓ General Guide for Oxidizers ✓ Lab or Chemical Specific SOP	✓ **Eyes:** Safety glasses or goggles for large amounts ✓ **Hands:** Chemical resistant gloves[1] ✓ **Body: Lab coat;** long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear ☐ **Other PPE: Specify in lab or chemical -specific SOP**

☐ ☐	• Working with acutely toxic chemicals. GHS codes- H300, H301, H330	• Skin damage • Eye damage • Toxic by skin contact • Pose a high level of immediate health risk.	✓ Chemical Fume Hood or ✓ Glove Box ✓ Vacuum Protection ✓ Consult EHRS	✓ PI/Supervisor approval required ✓ Chemical Hygiene Manual ✓ General Guide for Acutely Toxic Chemicals ✓ Chemical Specific High Hazard SOP	✓ **Eyes:** Safety glasses or goggles for large amounts ✓ **Hands:** Chemical resistant gloves[1] ✓ **Body:** Lab coat; long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear ✓ **Body:** Chemically resistant apron[1] ☐ **Other PPE: Specify in chemical-specific High Hazard SOP**
☐ ☐	• Working with pyrophoric chemicals (liquids, solid, gases) Included but not limited to GHS codes-H25x, H26x	• Fire • Severe Skin damage • Severe Eye damage • Severe burns	✓ Chemical Fume Hood or Glove Box ✓ Blast Shield ✓ Vacuum Protection ✓ Inert atmospheric chamber ✓ Consult EHRS	✓ PI/Supervisor approval required ✓ Chemical Hygiene Manual ✓ General Guide for Pyrophoric Chemicals ✓ Chemical Specific High Hazard SOP ✓ Work in inert atmosphere when possible ✓ Consult EHRS	✓ **Eyes:** Safety glasses ✓ **Face:** Face shield ✓ **Hands:** Inner-Chemical resistant gloves[1] ✓ **Hands:** Outer-Flame-resistant outer gloves[1] ✓ **Body:** Flame resistant (FR) lab coat (e.g. Nomex.) ✓ **Body:** long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear **No synthetic clothing allowed** ☐ **Other PPE: Specify in chemical-specific High Hazard SOP**
☐ ☐	• Working with potentially explosive compounds. Includes but not limited to GHS codes-H200, H202, H203, H204, H205.	• Detonation • Flying debris • Skin damage • Eye damage • Fire	✓ Chemical Fume Hood or Glove Box ✓ Blast Shield ✓ Vacuum Protection ✓ Consult EHRS	✓ PI/Supervisor approval required ✓ Chemical Hygiene Manual ✓ General Guide for Explosive Compounds ✓ Chemical Specific High Hazard SOP ✓ Work in inert atmosphere when possible ✓ Consult EHRS	✓ **Eyes:** Safety glasses ✓ **Face:** Face shield and/or blast shield ✓ **Hands:** Chemical resistant gloves[1] ✓ **Body:** Flame resistant (FR) lab coat (e.g. Nomex.) ✓ **Body:** long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear **No synthetic clothing allowed** ☐ **Other PPE: Specify in chemical-specific High Hazard SOP**

☐ ☐	• Working with water reactive chemicals GHS codes-H260. H261,)	• Fire • Severe Skin damage • Severe Eye damage	✓ Chemical Fume Hood or Glove Box ✓ Blast Shield ✓ Vacuum Protection	✓ PI/Supervisor approval required ✓ Chemical Hygiene Manual ✓ General Guide for Water-reactive Chemicals ✓ Chemical Specific High Hazard SOP ✓ Consult EHRS	✓ **Eyes:** Safety glasses or goggles for large amounts ✓ **Hands:** Chemical resistant gloves[1] ✓ **Body:** Lab coat**;** long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear ☐ **Other PPE: Specify in lab or chemical -specific SOP**

[1] Refer to manufacturer glove or apron compatibility charts and SDS[1]

CERTIFICATION OF THE LABORATORY HAZARD ASSESSMENT FOR CHEMCIAL HANDLING			
Principal Investigator (PI) Name:		Department:	
Building(s):		Room #(s):	
Completed by:	Signature:	TU ID #:	Date:
Signature of Principal Investigator (PI)			Date:
THE LABORATORY PI, SUPERVISOR, AND/OR INSTRCTOR MUST MAINTAIN A COPY OF THIS RECORD			