

TCE Laboratory Safety Day

Nuclear Engineering

8/21/2023

College Safety Culture

C

Cutting Edge Safety

Cutting edge engineering requires cutting edge safety.

U

Unity of Effort

Every instructional or research laboratory has safe operations as a result of a unified effort within the community to appreciate and practice safety culture.

L

Leadership

Leaders will encourage participation by all to achieve and improve laboratory safety.

T

Transparency

A transparent environment is encouraged; learning from successes, near-misses and incidents never stops.

U

Understanding

A shared understanding of strong safety culture exists between our corporate partners and the employers of our students.

R

Respect

Students, staff, and faculty members will all articulate safety concerns because they are all respected and trusted.

E

Everybody, Every Task, Every Time

Everyone is responsible for ensuring safe operations for every task, every time.

This website is a great starting place to ensure safety and compliance: <https://tickle.utk.edu/research/safety2>

College Goal for FY24

- Increase the number of participating faculty members with their research groups in the lab-group meetings on Monday afternoon
 - Clean lab spaces
 - Update chemical inventory
 - Update the CHP with required documents for current and incoming personnel

Our Purpose

- General Safety Training Requirements
- Provide access to resources to meet safety needs
- Communicate safety expectations of the university and the department
- Ensure a safe and productive research environment

General Safety Training Requirements

- All training is online via Canvas
 - Open source training is in-person and must be scheduled in advance
 - Radiation safety office facilitates closed/open source, X-ray, and laser safety training
 - You must contact Radiation Safety to be added to a course

Training	Renewal Frequency
Undergraduate/Minor lab safety (UG only)	Once
IAMM Orientation	Once
Electrical Safety Awareness (Intro)	Once
General Lab Safety Training	Triannual
Hazardous Communication Training	Once
CHP Training (by PI)	As needed
Hazardous Waste Training	Annual
PPE Training	Triannual
Fire Extinguisher Training	Annual
Gas Cylinder Training	Triannual
Fume Hood Training	Triannual
Lead Training	Triannual
Closed Source Training	Annual
X-ray Radiation Safety Training	Biannual
Laser Safety Training	Biannual
Hydrofluoric Acid Training	Annual, as needed

General Safety Training Requirements

- **Hazardous Communication Training** is updated when a new review of the CHP is required
- **Hazardous Waste Training** is required annually by TDEC
- **Fire Extinguisher Training** required annually by OSHA

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Lead Training	Triannual
Closed Source Training	Annual
X-ray Radiation Safety Training	Biannual
Laser Safety Training	Biannual
Hydrofluoric Acid Training	Annual, as needed

General Safety Training Requirements

- All laboratories must have a list of required training to enter the lab
 - Additional training is process specific through SOPs or more advanced sessions that are particularly hazardous
 - Keys/card access will not be granted unless proof is provided
 - Students, staff, and faculty must have completed all training
 - Everyone entering a laboratory space unescorted or working in the space must have had access granted to them
 - When giving tours, **hazards should be communicated** to the guest before entering the space (see door placard)
 - **Non-compliance** with this policy will result in individuals retaking all training modules **before access is granted again**

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General Safety Training Requirements

- Our website (being updated):
<https://ne.utk.edu/safety/>
 - Training matrix by lab consistent with CHP for that lab
 - Dosimetry request form
 - Accident reporting process

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Nuclear Suite Training Requirements

- Nuclear suite includes FNS, ARC, graphite pile, source storage, control room
- Access is granted for one year
 - Listed training must be completed annually
 - We are looking into methods to effectively track training to minimize the burden to all

Access Request for Nuclear Suite
All fields must be completed and all signatures are required.
Once complete return to Ashly Pearson – apearso6@utk.edu

Request Date: Expiration Date (default 1 year from completion):

Name:

Rooms requested

<input type="checkbox"/> G116(rollup)	<input type="checkbox"/> 116A(FNS)	<input type="checkbox"/> 116B(ARC)
<input type="checkbox"/> G112(Control room)	<input type="checkbox"/> G114(Access room)	
<input type="checkbox"/> G110A(Source Storage)	<input type="checkbox"/> G110(Graphite Pile)	

PI:

Research project:

Justification (1 paragraph minimum)

Safety training: (all training must be completed before request will be approved)

Training Course	Date Last Taken	Training Course	Date Last Taken
Hazard Communication	<input type="text"/>	Electrical Safety	<input type="text"/>
Hazardous Waste	<input type="text"/>	Lead Awareness	<input type="text"/>
Sealed Source Training	<input type="text"/>	PPE	<input type="text"/>
Open Source Training	<input type="text"/>	Gas Cylinder	<input type="text"/>
X-Ray training	<input type="text"/>	Fire extinguisher	<input type="text"/>
General Lab safety	<input type="text"/>		

Nuclear Engineering Department Head (signature and date)

Nuclear Engineering Assistant Head for Research and Facilities (signature and date)

Department Safety Officer (signature and date)

Approver Notes:

Completed By:

Chemical Hygiene Plan (CHP)

- Every laboratory is required to have a CHP
 - One CHP can be used for multiple lab spaces **IFF** they have the same significant hazards
 - Example: chemical processing in one lab and none in another should result in two CHPs, one for each laboratory
 - This is reviewed annually during EHS inspections
 - You can download the template here:
<https://ehs.utk.edu/index.php/table-of-policies-plans-procedures-guides/chemical-hygiene-plans/>
- The campus CHP does not need to be duplicated in lab-specific CHPs
- We will go over the more important documents now

Chemical Hygiene Plan (CHP)

- LS-20-CHP-AppA-LabSpecific-Sec01-Personnel
 - This document must include all persons with access to the lab
- LS-020-CHP-AppA-LabSpecific-Sec03-Lab-Specific-Rules-Requirements
 - This document outlines general laboratory requirements, such as you must wear a minimum set of PPE when entering
- Folder called “Section 4.1 SOPs”
 - This is where all **PI-generated** SOPs must be stored

The standard operating procedure

- The template may be downloaded here:
<https://ehs.utk.edu/wp-content/uploads/2020/02/LS-020-CHP-AppA-LabSpecific-Sec04.1-SOP-Form.pdf>
- Document contains a description of the work/procedure, a full list of hazards/chemicals involved, required PPE, location of work, controls (engineering, administrative), waste generation and disposal, additional training (if any), etc.
 - PIs may generate their own SOPs if the template is insufficient
 - I personally use my own template as it allows for additional modification as needed

LS-020-CHP-AppA-LabSpecific-Sec04.2-TaskTableForm

- LS-020-CHP-AppA-LabSpecific-Sec04.2-TaskTableForm
 - This document contains a simple list of primary hazards, effects, and required PPE

Chemical Hygiene Plan & Compliance

Document - LS-020 | 43

4.2 Task Table

Prepared By: Eric Lukosi

Revision Date: 2/22/22

*For many procedures, a simple description of the tasks, the associated hazards, and the PPE required to mitigate risks is acceptable. This table is **not appropriate** for work involving Particularly Hazardous Substances or for use of chemicals that pose a high risk due to reactivity or other properties. This table is appropriate for describing safety requirements for miscellaneous tasks performed in a laboratory.*

Task	Hazard Description	Required PPE and Engineering Controls
Chemical processing	Burns and fires	Fume hood, gloves, lab coat, eye protection
Radiation use	Cancer and Acute Effects	Dosimeter and proper shielding
Liquid Nitrogen	Burns	Cryogloves, goggles, face shield, leather shoes, no cuffs on pants

Chemical Hygiene Plan (CHP)

- Section 5: Orientation Checklist
 - Must be filled out for everyone listed on section 1 of the CHP
- LS-020-CHP-AppA-LabSpecific-Sec06.1-Master-List-of-Required-Training
 - This document lists what training is required to enter the space
 - This is where another CHP is needed as training for one lab space may not be the same for another laboratory space
 - I make my students take all the training for all labs under my control
 - This training should be all-inclusive for all SOPs in the laboratory **to ensure maximum safety of students/staff**, even if they are not conducting all experimental procedures taking place in said laboratory

Chemical Hygiene Plan (CHP)

- LS-020-CHP-AppA-LabSpecific-Sec07-Prior-Approvals
 - This document refers to a PI's specific approval for a particularly hazardous process
 - This document could be used to sign off on all students for being trained on an SOP, but I advise against this
 - Excessive time consumed signing via Adobe for each SOP and student
- LS-020-CHP-AppA-LabSpecific-Sec09-Exposure-Monitoring-Records
 - This is for processes where the *permissible exposure limit (PEL)* may be exceeded over the reporting period. Work with radioactive materials requires consultation with radiation safety.

Chemical Hygiene Plan (CHP)

- LS-020-CHP-AppA-LabSpecific-Sec10-References
 - This is another location where you can link to websites or other entities for reference to items not contained within the CHP
 - Reference to journal articles, reports, etc. for particularly hazardous processes are useful to backup scientific approach and supporting evidence for required training to maximize outcome (**safety and results**)

Chemical Hygiene Plan (CHP)

- LS-020-CHP-AppF-**Chemical-Spill-Response**
 - Students are not us and we cannot assume the same level of respect for or response to a dangerous situation
 - The SOP must identify the appropriate response for all experiments in the case of an accident, not just a chemical spill
 - Appropriate pads are required for chemical spills and are easily found online
 - Example: <https://www.absorbentsonline.com/hazmatpadsrolls.htm>

Chemical Hygiene Plan (CHP)

- Section 8 SDSs and Inventory of Hazardous Chemicals
 - SDS for all chemicals/materials should be placed in this folder
 - The inventory should be updated when new chemicals are ordered and when old chemicals are disposed (**also on SharePoint**)
 - **EHS will check this list during annual inspection**
- Section 11 Appendix E PPE Training Certification Forms
 - This document certifies that the PI has properly trained each person on what PPE is required and how to use, inspect for damage, and dispose it
 - Every person working under this CHP must fill out this form and have it signed by the PI

Chemical Hygiene Plan (CHP)

- EHS states that every laboratory should have a physical copy for each laboratory space but can have a digital copy if everyone using the laboratories has access to the CHP
 - Student training will be stored by the department (**pending**). A document in section 6.2 stating where the training records may be found is necessary
 - Signing the SOPs
 - Include a document for each person that states that they have read and received approval by the laboratory PI for a provided list of SOPs
 - Could also list this on “Sec07-Prior Approvals,” but this will be more work for the PI (repeating digital signatures versus one per student)

Chemical Hygiene Plan (CHP)

- **Every student is required to read the CHP and sign these forms, which are stored in the CHP**
 - Acknowledgement of training for specific SOPs (section 4.2)
 - Certification that all training has been completed and is up-to-date (section 6.2)
 - Orientation checklist (section 5)
 - Ensure name is added to section 01, Personnel document
 - Section 11, Appendix E PPE training certification form
- The PI is responsible for the safety of all employees, and the most critical step is fully understanding the CHP and relevant SOPs

Chemical Inventory


- The University just changed their inventory process from BioRAFT to an internal Outlook SharePoint.
 - <https://liveutk.sharepoint.com/sites/chemtracker/Shared%20Documents/Forms/AllItems.aspx>
- All chemicals present in each space need to be included here
 - In an emergency, EHS needs to tell emergency responders what is in the lab so they can safely execute operations
- The inventory in section 8 of the CHP can simply point to this location, but a consistent Excel file between the two locations is ideal











Summary of Important CHP Requirements

- Every lab needs a CHP
- All SOPs need to be evaluated periodically
- All chemicals need to be listed on the UTK SharePoint
- All personnel, including students, need
 - Acknowledgement of training for specific SOPs (section 4.2)
 - Certification that all training has been completed and is up-to-date (section 6.2)
 - Orientation checklist (section 5)
 - Ensure name is added to section 01, Personnel document
 - Section 11, Appendix E PPE training certification form

Door Placard

- The door placard is a quick reference of all hazards in the lab, special hazards of particular risk (e.g., HF processes), and emergency contacts
- Should be consistent with the CHP
- To make or modify the placard, download the template, modify in Adobe (not browser), and submit to the [lab placard coordinator](https://ehs.utk.edu/index.php/laboratory-safety/lab-safety-administration/lab-door-placards/)
 - <https://ehs.utk.edu/index.php/laboratory-safety/lab-safety-administration/lab-door-placards/>

		Building: SERF		Room #: 888	
		Department: Dept. of Science & Engineering			
		Lab Type: Polymer Synthesis		Rev.Date: 03/20/2015	

CAUTION: The Selected Hazards May Be Present				
 <input type="checkbox"/> BSL Class: _____	 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input checked="" type="checkbox"/>
 <input type="checkbox"/> Materials <input type="checkbox"/> X-ray:	 <input checked="" type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input checked="" type="checkbox"/>

Other Hazards <input type="checkbox"/> Laser(s) (Class _____) <input type="checkbox"/> High Pressure Equipment <input type="checkbox"/> High Voltage ≥ 480 Volts <input type="checkbox"/> Natural Gas <input checked="" type="checkbox"/> Air/Water Reactive <input checked="" type="checkbox"/> Hazardous Waste Storage <input checked="" type="checkbox"/> Cryogenic Materials	Special Hazards or Precautions Flammable liquids stored in flammable storage cabinet. Air/Water reactive chemicals stored in glove boxes under nitrogen. Required PPE & MSDS/SDS Location Eye protection and lab coat must be worn in lab work areas. Safety Data Sheets located in notebook near main door.
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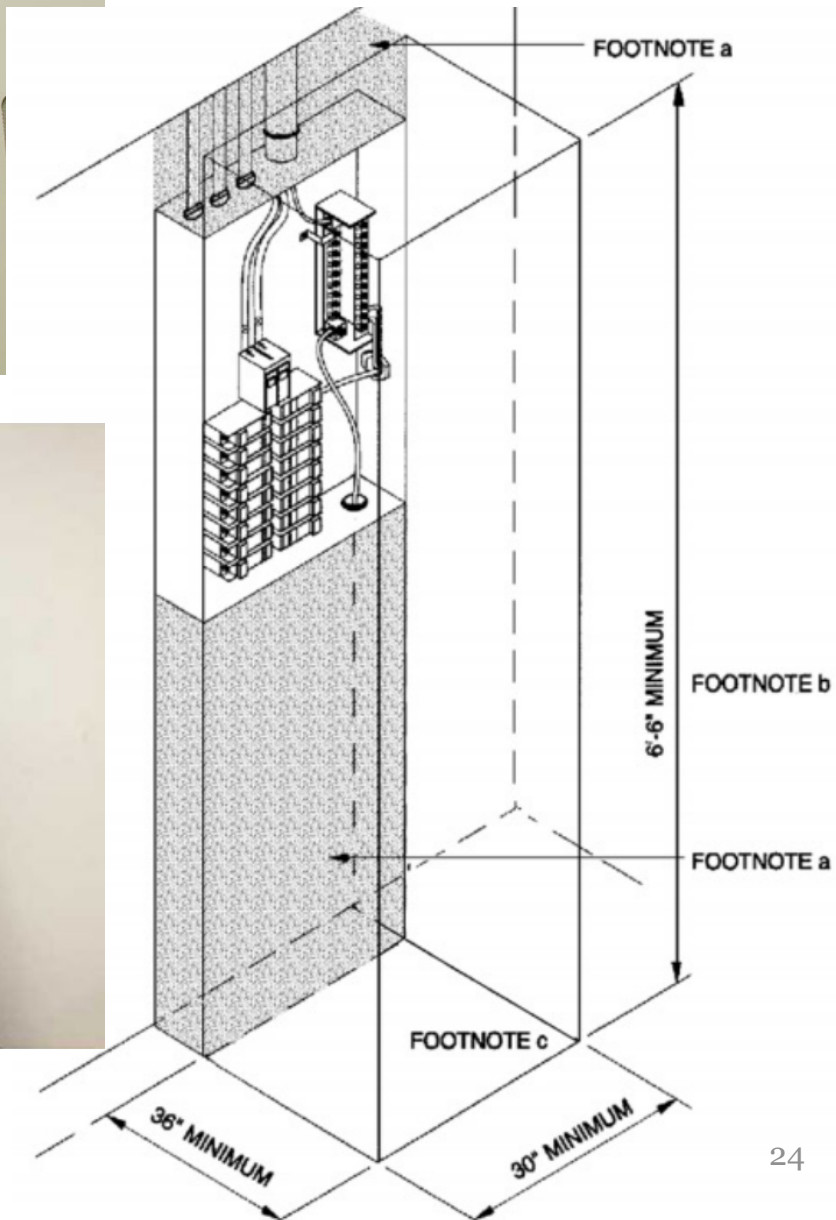
Contact Information		
	Office Phone	Home/Mobile
Principle Investigator	865-974-0000	865-555-1234
Primary Contact (PI)		
Post Doc	865-974-0000	865-555-1234
Secondary Contact		
Safety Officer	865-974-0000	865-555-1234
Dept. Safety Officer		
Department Head	865-974-0000	865-555-1234
Department Head		

Emergency Contact	
Police/Fire/Medical:	911
UT Police:	974-3111
EHS	974-5084

Information is to be updated as information changes or annually, whichever comes first. For questions about this posting please contact Environmental Health and Safety.

Disconnect boxes

- Do not attempt to work with live wires or circuits (**>50 V maximum**). This must be coordinated with facilities services
- To limit fire hazards, no materials may be stored within the working area
 - 36-48 inches wide
 - 36 inches in front
 - 78 inches high



Chemical Showers, Eyewash, and First aid

- No items may be stored under or along the wall of safety showers
- Eyewash stations must be clear of obstacles
- Eyewash stations must be checked weekly with a local log for evidence
- Every laboratory needs a first aid kit that is not expired
 - These may already be in your lab upon move-in, but they need to be periodically changed
 - Special first aid items must not be expired (e.g., calcium gluconate gel)

Food, Drink, and Appliances

- The probability that a lab space is suitable for food and/or drink is unlikely
 - This includes coffee makers, minifridges, and microwaves
- If you believe that this is permissible, please email me to evaluate the space for safety compliance
- If storing chemicals in a cold environment, ensure the compatibility of the fridge with the chemicals
 - If they are flammable, they cannot be placed in a **dorm-style minifridge!!!**




Appropriate Gloves for the Job


- There are many glove options, and the PI must make it clear to their personnel what is safe and what is not
 - Thermal gloves are not suitable for liquid nitrogen
 - Nitrile gloves are not compatible with acetone
- Each vendor will list different compatibilities for different chemicals
 - The thickness of the glove matters!
- General guidance can be found here, but it is not all-inclusive
 - https://www.aaesi.com/ansell_8th-edition-chemical-resistance-guide/


Table of Glove Suitability by Type and Chemical



8th EDITION










The first square in each column for each glove type is color coded to provide an overall rating for both Degradation and Permeation. The letter in each colored square is for Degradation alone.






































































































































 GREEN: The glove is very well suited for application with that chemical.

 YELLOW: The glove is suitable for that application under careful control of its use.

 RED: Avoid use of the glove with this chemical.

SPECIAL NOTE: The chemicals in this guide highlighted in BLUE  are experimental carcinogens, according to the ninth edition of Sax' *Dangerous Properties of Industrial Materials*. Chemicals highlighted in GRAY  are listed as suspected carcinogens, experimental carcinogens at extremely high dosages, and other materials which pose a lesser risk of cancer.



	LAMINATE FILM BARRIER™			NITRILE SOL-VEX®			UNSUPPORTED NEOPRENE 29-SERIES			SUPPORTED POLYVINYL ALCOHOL PVA™			POLYVINYL CHLORIDE (Vinyl) SNORKEL®			NATURAL RUBBER *CANNERS AND HANDLERS™			NEOPRENE/NATURAL RUBBER BLEND *CHEMI-PRO®			BUTYL UNSUPPORTED CHEMTEK™ BUTYL			VITON/BUTYL UNSUPPORTED CHEMTEK™ VITON/BUTYL		
CHEMICAL	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate
1. Acetaldehyde		380	F	 P	—	—	 F	10	F	 NR	—	—	 NR	—	—	 E	13	F	 E	10	F	—	—	—	—	—	—
2. Acetic Acid, Glacial, 99.7%		150	—	 G	158	—	 E	390	—	 NR	—	—	 F	45	G	 E	110	—	 E	263	—	 E	>480	—	 DD	>480	—
3. Acetone		>480	F	 NR	—	—	 G	10	F	 P	143	G	 NR	<5	—	 E	10	F	 G	12	G	 E	>480	F	 DD	93	VG
4. Acetonitrile		>480	E	 F	30	F	 E	20	VG		150	G	 NR	—	—	 E	4	VG	 E	13	VG	 E	>480	E	 DD	70	E
5. Acrylic Acid	—	—	—	 G	120	—	 E	395	—	 NR	—	—	 NR	—	—	 E	80	—	 E	67	—	—	—	—	—	—	—
6. Acrylonitrile		>480	E	—	—	—	—	—	—	 F	>480	—	—	—	—	 E	5	F	—	—	—	 E	>480	—	 E	>480	—
7. Allyl Alcohol		>480	E	 F	140	F	 E	140	VG	 P	—	—	 P	60	G	 E	10	VG	 E	20	VG	 E	>480	—	 E	>180	—
8. Ammonia Gas		19	E		>480	E		>480	—	—	—	—	—	—	—	—	—	—		27	E	—	—	—	—	—	—
9. Ammonium Fluoride, 40%		>480	E	 E	>360	—	 E	>480	—	 NR	—	—	 E	>360	—	 E	>360	—	 E	>360	—	—	—	—	—	—	—
10. Ammonium Hydroxide, Conc. (28-30% Ammonia)	 E	30	—	 E	>360	—	 E	250	—	 NR	—	—	 E	240	—	 E	90	—	 E	247	—	 E	>480	—	 E	>480	—
11. n-Amyl Acetate		470	E	 E	198	G	 NR	—	—	 G	>360	E	 P	—	—	 NR	—	—	 P	—	—	 E	128	G	 F	<10	F
12. Amyl Alcohol		>480	E	 E	>480	E	 E	348	VG	 G	180	G	 G	12	E	 E	25	VG	 E	52	VG	 E	>480	E	 E	>480	E
13. Aniline		>480	E	 NR	—	—	 E	145	F	 F	>360	E	 F	62	G	 E	25	VG	 E	82	G	 E	>480	E	 E	>480	E
14. Aqua Regia	—	—	—	 F	>360	—	 G	>480	—	 NR	—	—	 G	120	—	 NR	—	—	 G	193	—	 E	>480	—	 E	>480	—
15. Benzaldehyde		>480	E	 NR	—	—	 NR	—	—	 G	>360	E	 NR	—	—	 G	10	VG	 G	27	F	 E	>480	E	 E	100	E
16. Benzene (Benzol)		>480	E	 P	—	—	 NR	—	—	 E	>360	E	 NR	—	—	 NR	—	—	 NR	—	—	 E	20	F	 E	253	VG
17. Benzotrichloride		>480	E	 E	>480	E	 NR	—	—	—	—	—	 G	—	—	 NR	—	—	 NR	—	—	—	—	—	—	—	—

Cross Contamination and PPE Assignment

- I often see students wearing gloves touching non-work surfaces, their phones, computer, body, doorknobs, elevator buttons, etc.
- Students must be constantly reminded that the gloves are worn for **personnel** safety, so we don't touch other items without first removing the gloves
- PPE is assigned and is not shared by other personnel
 - Example, years ago a student got HF on a lab coat and another student put it on, requiring that both students go to the hospital for treatment

General safety in workspaces

- A cluttered work environment is an unsafe environment
 - Work areas should be cleaned at the end of the day
 - No chemicals will be stored in fume hood and no processes left unattended without clear signage and posting (e.g., beaker)
 - Hazardous spills out of the fume hood can be greatly minimized by
 - Using secondary containment when moving from storage
 - Keeping all processes 6 inches from the edge of the hood
- Always evaluate chemical compatibility in your waste streams
 - See EHS training for procedures pertaining to waste streams (labeling)
 - Always check the SDS before creating processes that use mixed waste streams
 - Generally, acids, bases, and solvents should have different waste streams
 - A bomb can be made as simply as mixing H_2O_2 and acetone

Example of Nitric Acid and isopropyl alcohol



Area in fume hood where waste was stored.



Waste label indicating incompatible waste mixture..

General Safety in Workspaces

- Always ensure that you have sufficient space to conduct your work
 - Coordination with your lab partners is key
- Eye protection is highly recommended when in any laboratory
 - It costs little to wear and the consequences are high
- General tools
 - Only use tools for their intended purpose (a ratchet is not a hammer)
 - Always follow manufacturer precautions for tools
 - Training is required to use the machine shop. This training is provided by either your PI or Scott Emert.



Gas Cylinder Safety

- Gas cylinders must always be secured to a wall or appropriate table
- Cylinders must have its regulator removed and capped when not in use



This is an excerpt from our Compressed Gas Safety training module.
The rest of the module can be found on www.BuySafeFishing.com

General Safety in Experimental Design

- Unlike ORNL, there is little support on campus to review the safety of processes and custom experiments and apparatuses
- Feel free to utilize me as a resource to review any new process that there may be a concern
- At a minimum, no system should be single fault that could cause an immediate danger to life and health
 - Example, SERF evacuated for 2 hours due to an uncontrolled BCl_3 leak

Safe Working Conditions

- If you see something dangerous, say something
 - Everyone has the responsibility to immediately stop someone from working in an unsafe manner
 - Incidents should be reported to the department heads for further action



Injury Reporting

- All injuries, whether or not medical treatment is required, must be reported to their supervisor
- Step 0: If life threatening, seek immediate emergency care
- Step 1: Report the injury to your supervisor and CorVel at 1-866-245-8588, option 1
 - A 24/7 triage nurse will assess whether immediate care is necessary and will direct the injured worker to the nearest State of TN authorized treating physician
 - If an employee seeks care before calling, a \$500 fine will be imposed to the department
 - If not reported by either the employee or employer within 3 business days, a \$500 fine will be imposed to the department
 - The employee should never present their health insurance card for treatment of work-related accidents

Injury Reporting

- Step 2: supervisor completes the paperwork
 - Workers' compensation procedures
 - Workers' compensation injury report
 - Lost time/return to work calendar
 - Transitional duty plan
 - Only required if given light duty work restrictions
- Complete guidelines and forms may be found here:
 - <https://riskmanagement.tennessee.edu/workers-compensation/>


EMERGENCY PREPAREDNESS CLASSROOM INFORMATION

While college students may be considered adults capable of making decisions for their own safety, they will naturally look for leadership from classroom instructors when faced with an emergency. Educators can be key role models in helping students become responsible citizens. Research clearly demonstrates that preparedness and being familiar with our surroundings—like mentally reviewing response actions, knowing the location of the nearest exits, and identifying shelter areas—significantly improves your ability to survive an emergency. Through a whole community effort, all Vols can [Be Ready](#). Please review this information at the beginning of each semester with your class!

Course:	Building:	Room Number:
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Important Numbers






Emergency Call 911	UTPD Emergency 865-974-311	VolAware Student Hotline 865-974-HELP (4357)	Distressed Employee Hotline 865-946-CARE (2273)
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 **EVACUATION:** For a fire, evacuate immediately. If you attempt to verify signs of fire, it may be too late to evacuate safely! If you have a student with a functional need, have an individual plan in place before an emergency occurs. Direct students to the designated assembly area for accountability.

Our Primary Nearest Exit: Our Secondary Nearest Exit:

FIRE – Get Out! <ul style="list-style-type: none"> Never ignore an alarm! Grab purse/wallet/keys. Close the classroom door on the way out. Exit the building using the stairs. Account for all students. Do not re-enter the building until permitted. 	LAB EMERGENCY – Get Out and Close the Door! <ul style="list-style-type: none"> Never ignore an alarm! Grab purse/wallet/keys. Close the classroom door on the way out. Exit the building using the stairs. Account for all students. Do not re-enter the building until permitted. 
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 **STAY PUT:** For a tornado warning, proceed to a designated shelter area or to an interior room on a lower floor. Remain in the shelter until you receive an "All Clear" message from UT Alert. For severe thunderstorms, campus operations will continue, but faculty should cancel or postpone outdoor activities and make allowances so students can avoid moving outdoors during dangerous weather. For a chemical accident outdoors, go to the floors above ground level and in interior rooms. Sheltering may last several hours. Remain there until you are directed to evacuate, or you are guided by emergency responders.

Severe Weather Shelter: TORNADOES AND SEVERE WEATHER – SHELTER! <ul style="list-style-type: none"> Go to a designated shelter area or take shelter in a lower part of the building. Remain in shelter area until UT Alert "All Clear" is issued. Severe Weather Guidance Can Be Found Here 	Outside Chemical Shelter: CHEMICAL ACCIDENT OUTSIDE – Shelter Above Ground Level! <ul style="list-style-type: none"> Be prepared to evacuate, if directed. Close all windows and doors. Seal room with towels, plastic, and tape. Turn off ventilation system. Follow direction from first responders on-scene. 
 ACTIVE SHOOTER: The UT Alert system will be activated immediately upon notification, but the information provided will initially be limited. The alert will provide the last known location of the threat, but the shooter might have moved.	
ACTIVE SHOOTER - Decide! <ul style="list-style-type: none"> RUN: If you have personal knowledge of the assailant's location and you have a clear exit. HIDE: In most cases, the best action is to barricade to avoid exposing yourself to the threat. Consider methods to lock/barricade in advance. Lock and barricade doors, seek cover, and avoid signs that the room is occupied. FIGHT: As a last resort, incapacitate the shooter with superior numbers of people and aggression. To request Active Shooter training for your department, follow this link. 	
 THE UNIVERSITY OF TENNESSEE KNOXVILLE OFFICE OF EMERGENCY MANAGEMENT	Visit prepare.utk.edu for more detailed information. Contact the Office of Emergency Management at 865-974-9347 for assistance or training.

Location of AEDs:

Atrium walls
Basement
Second Floor
Fourth Floor

Floor Wardens in East Wing:

Basement:	Scott Emert
First Floor:	Ashly Pearson
Second Floor:	Jamie Coble, Lawrence Heilbronn
Third Floor:	Khalid Hattar, David Donovan
Fourth Floor:	Ken Carter

Protect Your Research!!!

- **Identify** threats that your research may be vulnerable to
 - Power, temperature, security, animals, administrative
- **Prevent** threats through proper engineering controls
 - UPS, cloud or redundant data storage, utilize space only as intended, evaluate supply chain risks and mitigation strategies, communicate with appropriate stakeholders (e.g., FS)
- **Mitigate** damage from incidents
 - Keep CHP and student training up-to-date, anchor equipment to support structures, know how to contact EHS and UTK Police Department

Useful links

- UTNE Safety Website: <https://ne.utk.edu/safety/>
- TCE Safety Website: <https://tickle.utk.edu/research/safety/>
- CHP: <https://ehs.utk.edu/index.php/table-of-policies-plans-procedures-guides/chemical-hygiene-plans/>
- SOP Template: <https://ehs.utk.edu/wp-content/uploads/2020/02/LS-020-CHP-AppA-LabSpecific-Sec04.1-SOP-Form.pdf>
- Door Placard: <https://ehs.utk.edu/index.php/laboratory-safety/lab-safety-administration/lab-door-placards/>
- Glove Selection Guide: https://www.aaesi.com/ansell_8th-edition-chemical-resistance-guide/
- Injury Reporting: <https://riskmanagement.tennessee.edu/workers-compensation/>
- Faculty Preparedness Resources: <https://prepare.utk.edu/be-ready/>
- Emergency Management: <https://prepare.utk.edu/be-ready/>