

# Roger Williams University Safety Agreement for Laboratory, Shop, and Studio (including Field Work)

**AY2024-2025 // Fall 2024**

**Notice Regarding Personal Health Conditions:** Laboratory, Shop, and Studio participants with any chronic or temporary health conditions are strongly encouraged to consult with their physician before participating in any activities. Examples include, but are not limited to:

- Pregnancy
- Immuno-suppressed or immuno-compromised
- Chronic health conditions such as heart, kidney, or liver disorders
- Allergies
- Broken skin or open wound/sore/rash (cut, scrape, bug bites, stitches, eczema, etc.)
- Certain medications or health conditions that cause drowsiness, confusion
- Any other temporary or chronic health condition that may impede your safe AHP activity participating

Certain working environment conditions, or chemical, biological, or radiological items, may pose additional risks to participants who have one or more temporary or chronic health conditions.

Additional question or concerns can be directed to your laboratory professor, supervisor, Human Resources, or the Department of Environmental Health & Safety.

**Important Information on Safe Working Behaviors:** Laboratory, Shop, and Studio working environments have specific unique hazards.

- Participants need to stay alert, focused, and aware when participating in laboratory, shop, and studio activities. If you are ill, distracted, tired, upset, etc. – please notify your instructor / supervisor / area manager and make alternate arrangements to complete your work.
- Additional working environment safe behaviors include: do not run or engage in horseplay, consume food or beverages, smoke/vape, apply cosmetics, insert/remove contacts, do not touch your skin/eyes/hair/clothing/personal items with used gloves on, and always wash your hands with soap and warm water for 20+ seconds prior to leaving the working environment (hand sanitizer is not a substitute).

**For all campus emergencies: RWU Public Safety at 401-254-3333. Off-campus: call 911.**

## 1. Proper Lab, Shop, Studio Attire

*These requirements are in place to prevent clothing/hair/jewelry entanglement or entrapment in equipment and potential exposure to/contamination from chemical, biological, or radiological materials.*

Proper Attire is required at all times. You cannot participate in any lab, shop, or studio activities if you are not wearing proper attire and will need to go home to change before participating. Proper Attire includes:

- **No skin exposed below the waist or on torso**
  - **No Shorts, No Sandals**
  - Full-length pants that cover the entire leg down to the ankle
  - Sturdy shoes that cover the entire foot to the ankle (in certain areas, specific slip-resistant shoes or boots are required)
  - Shirt that covers entire back, stomach, chest area, and has sleeves (no tank tops)
- **No loose or dangling items**
  - Tie back long hair with a hair tie - away from face, up off shoulders
  - Remove all loose or baggy clothing or secure it under a laboratory coat
  - Remove all loose items at/around neck, wrists, and fingers – hoodie strings, neckties, dangling or large earrings, lanyards, rings, watches, etc.

## 2. Laboratory, Shop, Studio, and Field Work Access and Security

*These requirements are in place to protect your physical safety while participating in lab, shop, and studio activities, and to prevent theft, misuse, or damage.*

**Access:** Only access work environments / areas, and only use items (chemicals, biological items, tools, equipment, safety equipment, etc.), that you are permitted to use and have been trained in how to use safely

### **Securing Areas and Items:**

- Close and lock all area doors, storage containers, item containers, etc. when leaving your work area.
- Do not prop doors or allow people you don't know into the building. Refer that person to RWU Public Safety for access.
- Never leave a door or cabinet/item unsecured and accessible when that area/item is not in use.
- Report any open or unattended areas or items, suspicious behavior, or missing items to your instructor/supervisor/area monitor or RWU Public Safety right away. See something, say something.

**After-Hours Access:** Students who are accessing work areas/items after-hours (outside of an employee-supervised class or work session) must:

- Have current training for that work area/item/task
- Have faculty/staff/supervisor permission
- Only perform approved work in approved work areas (see “Access” above)
- Always work in pairs with another currently-trained person (“buddy system”)

### 3. Injury/Illness/Incident Reporting and Blood/Bodily Fluids Incidents

**Significant injuries/incidents/illnesses – immediately call RWU Public Safety at 401-254-3333. RWU Public Safety has EMTs on staff and can contact local emergency responders as needed.**

#### **Reporting:**

All laboratory, shop, studio, and field work-related injuries / illnesses / incidents must be reported right away to your instructor or supervisor. Your instructor will complete the Student Injury Reporting Form if you are a student and your supervisor will complete the Employee Injury Reporting Form if you are an employee (including if you are a student employee, such as a work study or payroll).

#### **Blood/Bodily Fluids Incidents:**

In the event of a blood or bodily fluid incident, do not touch any blood or bodily fluids or contaminated materials. Block off the affected area and do not allow others to come into contact with the fluids or contaminated materials (for example, if possible -- leave the classroom and close/lock the door). Do not attempt to clean up the material yourself. Call RWU Public Safety right away so the fluids/materials can be addressed appropriately.

### 4. Fire and Electrical Safety

*These requirements are in place to protect your physical safety while working in the labs, shops, and studios, to prevent damage to equipment, and to protect building structures from damage.*

#### **Egress / Clearance / Storage:**

- Keep these areas clear of all materials and accessible (minimum of three feet clearance): aisles, hallways, doorways, fire extinguisher, eyewash, safety shower, campus phone, electrical / fire alarm panels
- Dispose of trash and waste materials routinely, and keep work areas tidy
- Use the hallway cubbies to store bookbags, jackets, and other materials
- All items must be stored at least 18 inches below the lowest sprinkler head in the room

#### **Electrically-Powered Equipment**

- Do not use any improperly working equipment – report damaged equipment to your instructor/supervisor/area monitor. Do not attempt to fix the equipment yourself.
- Never place a body part or object into electrically-powered equipment in an attempt to fix or un-jam the equipment.
- Keep all electricity sources away from liquids such as water and other chemicals.
- Never plug in any kind of electrical cord with damaged or missing plugs, or exposed wiring / damaged insulation.
- Take the applicable required electrical safety trainings for your area, including topics such as electrical safety for non-electricians, Lockout Tagout, and extension cords.

## 5. Chemical Safety

*These requirements are in place to protect you from chemical exposure/contamination.*

**Applicability:** Remember – “chemicals” includes items such as paints, inks, adhesives, fuels, and aerosols in addition to laboratory chemicals. All chemical users need to follow these safe purchasing, handling, use, storage, and disposal practices.

**Purchasing:** Only authorized purchasers can purchase chemicals for their academic departments. Do not bring/use unauthorized chemicals to RWU, and do not remove RWU-owned chemicals from their location.

### **Labels:**

- Leave original chemical container labels intact.
- Read each chemical label before using chemical.
- Label any non-original storage containers, or replace any damaged/illegible labels, with replicas of the manufacturer label, including: manufacturer name, manufacturer contact information, product name, signal word, hazard statements, precautionary statements.

**Safety Data Sheets:** Review each Safety Data Sheet (SDS) before using a chemical. RWU’s SDS collection is kept online on the EHS website: <https://ehs.rwu.edu>

### **Storage:**

- Store all chemicals in closed, compatible containers (e.g., don’t keep corrosives in metal containers)
- Store all chemical containers in designated storage locations, out of the way of direct sunlight, where they will be kept dry and not subject to significant temperature/humidity changes.
- Never put un-used chemicals you have already dispensed back into their original containers. Only take as much as you need & dispose of any excess as hazardous waste.
- Store chemicals by compatibility
- Use a secondary containment tray underneath chemical containers to capture any leaks or spills.
- Return all chemicals to their locked storage locations immediately after use – do not leave unsecured.

### **Ventilation:**

- Use fume hoods in laboratories when working with highly flammable, reactive, corrosive, toxic, or odiferous chemicals, or in situations which may generate splashes, excess heat, or gases
- Use spray booths or outdoor locations in shops and studios when working with aerosols
- Use welding gas extractors when conducting hot work
- Only use respiratory protection if you have been trained and instructed to use it for that particular task/item

**Personal Protective Equipment (PPE):** Please refer to PPE section of this agreement for additional information. Never handle chemicals without appropriate PPE.

**Disposal:** Please refer to the Waste Disposal section of this agreement for additional information. Never dispose of chemicals or chemically contaminated materials in the trash or pour them down the sink.

**Spills/Contamination/Emergencies:** Notify your supervisor / instructor / area manager right away if there are any spills or contamination incidents

## 6. Biological Safety

*These requirements are in place to protect you from biological exposure/contamination.*

**Applicability:** Biological items includes items such as live animals and plants, preserved and unpreserved human, animal, and plant specimens, bacteria, fungi, viruses, microorganisms, etc. All biological item users need to follow these safe purchasing, handling, use, storage, and disposal practices.

**Purchasing:** Only authorized purchasers can purchase biological items for their academic departments. Do not bring/use unauthorized biological items to RWU, and do not remove RWU-owned biological items from their location.

**Storage and Labeling:** Store all biological materials in closed, labeled containers in designated areas, with secondary containment trays to collect any leaks or drips. Follow appropriate guidance for sample storage temperatures.

**Ventilation:** Use biological safety cabinet (BSC) when handling materials requiring sterile environments or ventilation

**Personal Protective Equipment (PPE):** Please refer to PPE section of this agreement for additional information. Never handle biological items without appropriate PPE.

**Disposal:** Please refer to the Waste Disposal section of this agreement for additional information. Never dispose of biological items or biologically contaminated materials in the trash or pour them down the sink.

**Spills/Contamination/Emergencies:** Notify your supervisor / instructor / area manager right away if there are any spills or contamination incidents.

## 7. Knife and Blade Safety

*These requirements are in place to prevent injury to you, to RWU custodial staff, and to our waste vendors.*

- Always use a cut glove or guidance ruler with your non-cutting hand when using a blade
- Always close or cap blades when not in use
- Never try to catch a falling blade
- Never carry an open blade in your pocket or clothing item
- Never point a blade at another person or your own body

- All safety blades (e.g., exacto knives, box cutters, razor blades etc.) must be carefully placed in a secured sharps disposal bin for disposal (biologically contaminated blades, follow specific guidance in Waste Disposal section).
- Never dispose of blades in the regular trash

## **8. Tool and Equipment Safety**

*These requirements are in place to prevent injury to you and damage to tools and equipment*

- Handheld and powered tools and equipment items can all cause injuries. Some of the hazards include: sharp or pointed edges or surfaces (cut and puncture hazards), pressure or compression zones (tissue/bone damage or amputation), entrapment (body part or hair caught), struck-by or projectile injuries (tissue/bone damage), noise (hearing damage), light (eye damage), and thermal (skin/tissue damage).
- Only use tools and equipment you have been trained to use in the working area / environment you have been trained to use them in
- You must receive hands-on training, instruction, or demonstration from your instructor, supervisor, or area manager prior to using tools and equipment
- You must review any associated documentation or paperwork, such as the standard operating procedure, laboratory experiment procedure, user manual or other manufacturer documents, before using any tools or equipment

## **9. Walking-Working Surface Safety**

*These requirements are in place to prevent injury to you and protect building conditions*

- Walking-working surfaces are any surface you walk or stand on to travel around campus or perform laboratory, shop, studio, or field-work activities. Examples include flooring materials, sidewalks, driveways, parking lots, stepladders, loading docks, roofs, scaffolding, personnel lifts, and elevated work areas
- Immediately report any damaged, wet, icy, slippery, or otherwise unsafe walking surface conditions to your instructor/supervisor/area manager. Block off the area until the conditions can be addressed
- There is specialized training and restrictions in ladder, loading dock, roof, scaffolding, personnel lift, and elevated work area access. Do not use these areas/items unless you have been approved to do so and completed the training
- Keep walking-working surfaces clean, dry, in good working condition, and free from item storage / clutter / debris

## **10. Material Handling and Safe Lifting**

*These requirements are in place to prevent injury to you and protect building conditions*

- There is specialized training on material handling and safe lifting
- Do not use dollies / hand trucks or performing any material handling / lifting tasks if you have not completed the training

## 11. Personal Protective Equipment

**Personal protective equipment (PPE)** is the term used to describe items of protective clothing worn to protect the use from exposure to chemical, biological, and physical hazards. In addition to using PPE properly, always wear proper attire.

- Different types of PPE protect different areas of the body, and different types of PPE protect against different types of hazards.
- No one item of PPE can protect against all hazards.
- Always check with your instructor/supervisor/area monitor regarding:
  - what type of PPE should be worn for your task
  - if you're unsure of how to use an item of PPE before you begin your session
  - how to dispose or store your PPE at the end of each session
- Before you use PPE, make sure your PPE is:
  - the correct size and fits properly before you use it.
  - in good shape (no signs of contamination, or rips or tears, etc.)
- Do not wear PPE outside of your working environment; dispose or decontaminate it
- Follow instructor and project directions, instructions on shop and studio signage, and warning labels on chemicals and equipment.

**Typical PPE is selected from the following items:**

### Body Protection

- **Cotton Lab Coat** (Revco 9oz. with flame resistance up to 50 launderings) (for biological items and low / mid-level health hazardous and low-level physically hazardous chemicals)
- **NOMEX IIIA Lab Coat** (Mid and high level physically hazardous chemicals (reactive, highly flammable, etc.))
- **Neoprene Chemical Splash Aprons** (Ansell lightweight) (In addition to a lab coat when working with high health hazard chemicals (acutely toxic, strong corrosives, carcinogens, etc.) or severe splash hazards (chemical or biological materials))
- **Disposable Splash Aprons** (for “clothing protection” purposes only during non-infectious specimen dissection – not a substitute for neoprene apron)
- **Welding jacket / pants** (Hot Work)
- **Reflective safety vest** (Construction work)
- **Personal Fall Arrest System** (elevated and personnel lift work)

### Eye and Face Protection

- **Chemical Safety Glasses** (ANSI Z.87+ rating) (minimum level of eye protection for biological or chemical work, impacts, particulates)
- **Chemical Splash Goggles** (UVEX with ANSI Z.87+ rating, UV-A / UV-B protection) (more significant level of eye protection for any work with significant toxic, corrosive, splash, or potentially infectious aerosol hazards, or UV exposure)
- **Face Shields** (required in addition to splash goggles when working with liquid nitrogen or other cryogenics; severe splash hazards)
- **Helmet with tinted face shield** (Hot Work)
- **Tinted safety glasses** (laser devices)

### **Hand Protection**

- **Nitrile Gloves** (Disposable, Single-Use only) (handling chemicals or biologicals (no latex gloves allowed))
- **Vinyl gloves** (disposable single-use) (available for users with nitrile sensitivity)
- **Neoprene Gloves** (Heavy-Duty Multiple Use) (handling greater vols. / concs. acids, bases, oils, non-halogenated solvents)
- **PVA Gloves** (Polyvinyl Alcohol) Gloves (Heavy-Duty Multiple Use) (handling greater vols. / concs. aliphatics, aromatics, ketones, esters, halogenated solvents)
- **Thermal Gloves** (handling hot or cold items (e.g., autoclaved, heated, frozen); liquid nitrogen)
- **Cut-Resistant Gloves** (working with knives, razors, scalpels, and other cut/puncture hazards)
- **Leather or synthetic work gloves** (Material Handling)

### **Foot / Leg Protection**

- **Steel-Toe boots or shoes, or steel-toe caps on regular work boots** (hot work, material handling, construction areas, elevated work, rigging/events work)
- **Slip-resistant boots or shoes** (routinely wet/slick environments)
- **Waders** (in/around water sources)

### **Head Protection**

- **Hard Hat** (certain construction areas)

### **Hearing / Ear Protection**

- **Ear plugs** (single use, check NRR rating)
- **Ear muffs** (multi-use, check NRR rating)

### **Respiratory Protection**

- **Half-Face Respirator with particulate/organic vapor cartridge** (specific trainings required to use, must be enrolled in RWU Respiratory Protection Program)



## 12. Waste Management and Disposal Procedures

### General Waste Management

**All users** – please place these wastes into these specific disposal containers (contact Facilities Management for questions/needs):

- **Regular trash** – trash bin
- **Commingled recyclables** (paper, beverage containers) – recycling bin
- **Cardboard and tagboard** – flatten and place behind commingled recycling bin, or use dedicated collection bin if your area has one
- **Dust collector system dust** – tie collection bag closed tightly; place in dumpster
- **Non-rechargeable batteries (alkaline)** - regular trash – other battery types, see below
- **Latex paints** – mix with paint hardener or kitty litter until solid; place in dumpster

### Non-Hazardous Recyclable Wastes Requiring Coordinated Disposal Procedures

**Instructor, Supervisor, or Area Manager** -- Coordinate disposal in advance with Facilities Management department – obtain or designate a dedicated, labeled collection container and coordinate filling and pickup frequency

**All users** – please place these wastes into the dedicated, labeled disposal containers:

- **Metal and Wire Scraps**
- **Wood Scraps**
- **Clean (uncontaminated) glass** (sealed/sturdy container – cardboard, 5-gal pail, etc.)
- **Refrigerant-containing Equipment Items**, including freezers, refrigerators, air conditioners, water coolers, etc.

### Blades, Used Oil, and Universal Wastes Requiring Coordinated Disposal Procedures

**Instructor, Supervisor, or Area Manager** -- Coordinate disposal in advance with EHS department – obtain or designate a dedicated, labeled collection container and coordinate filling and pickup frequency

**All users** – please place these wastes (used or unused) into the dedicated, labeled disposal containers in your working environment:

- **Shop and studio knife blades** (x-acto, utility, craft, etc.) – lab blades, see next section
- **All oils and oil-containing equipment** (cooking, petroleum-based, mineral, etc.)
- **Used or scrap electronics**, including anything with a screen (monitor, TV, etc.) or a circuit board (computer, device, etc.), storage media (thumb drives, etc.), cables and wires for electronics (power, USB, etc.)
- **Lamps and lightbulbs**
- **Batteries** (bag individually in ziploc bags) – Lithium, NiCad, NiMH, Lead Acid
- **Mercury-containing devices** (thermometer, thermostat, etc.)

## **Biological, Medical, and Sharps Waste Management (Contact EHS with Questions)**

**Instructor, supervisor, or area manager** – coordinate autoclave use with your department stockroom / autoclave owner as-needed

**All users** – please place these wastes (used or unused) into the dedicated, labeled disposal containers in your working environment:

- **Used and unused sharps – Red Biohazard Sharps Bin**
  - (Rhode Island defines Sharps in a Laboratory environment as anything capable of causing cut or puncture, including all: Hypodermic needles, Syringes with/without needle attached, Pasteur pipettes, Scalpel blades, Blood vials, Needles & attached tubing, Glass Carpules, Glass culture dishes regardless of presence of infectious agents, Other types of broken or unbroken glassware used in animal or human treatment or research, such as used slides and cover slips)
- **Used or Contaminated Paper and Plastic Solids and Gloves – Autoclave Bag**
- **Liquids – Closed Autoclave-able Container** (glass or plastic – no cracks/breaks)
- **Non-Infectious Specimens from Specimen Supply Company – Double bag in black plastic trash bags (no more than 25 lbs.) and place in dumpster outside**
- **Non-Infectious Specimens still in Containers/Solution – manage as Mixed Bio/Chem waste** (see below)
- **Known infectious or wild-caught specimens – double-bag in black plastic trash bags, label, and place in freezer for disposal**
- **For any items that are Mixed Bio/Chem (contains both chemical/biologically materials) – manage as chemically hazardous waste (see below) and indicate biological components prominently on waste label** (e.g., “Crystal Violet, Isopropyl Alcohol, Oyster Tissue”)

## **Chemical Waste Management (Contact EHS with Questions)**

Please place any **chemically-contaminated or chemical-residue items** into the designated container(s) in your work environment:

- **Disposable gloves** (even if not visibly soiled)
- **Plastics** (tips, tubes, pipettes, weigh boats empty chemical containers)
- **Glassware** (broken or unbroken)
- **Chemical Sharps** (syringes, needles, slides, etc.)
- **Aerosol cans**
- **Paint rags and wipes**
- Please use the **brush sink (parts washer)** for brush cleaning and solvent use/disposal.

For all other **chemical liquids and solids disposal**, please follow these requirements:

### **Waste Labels and Waste Logs:**

- All hazardous waste containers must have a label stating the words “HAZARDOUS WASTE” and a list of all of the chemicals in the container in legible English.
- All hazardous waste containers must have an associated waste log.

- The label and waste log may not contain abbreviations, chemical formulas, trade names, or generic names such as “Organic Waste.” It must list out complete chemical names.

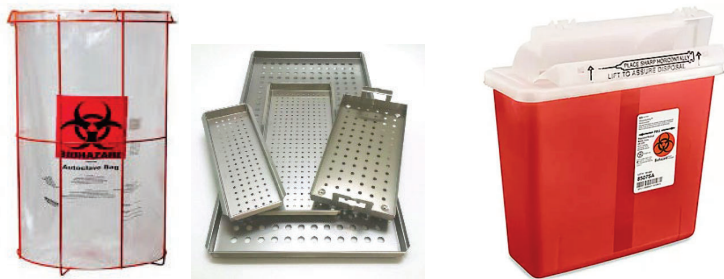
**Containment, Storage, and Segregation:**

- Store in the area’s Satellite Accumulation Area (SAA) that is demarcated with striped tape and has SAA signage in place.
- Waste must stay in the area it was generated in – do not move containers from area.
- Non-waste items and chemicals must not be stored in an SAA.
- All waste containers must be stored in adequate secondary containment.
- Incompatible waste must not be mixed in the same waste container.
- Incompatible waste must not be stored in the same secondary containment.
- All waste must be compatible with its container. Containers must be plastic unless it is incompatible with the waste (notify EHS if using non-plastic containers).
- Keep all containers closed with cap when not adding waste (no funnels, parafilm, foil).
- Only fill containers to 80-90% full. Draw a “fill line” on the container for visual reference if necessary.

**Accumulation Limits**

- No more than 55 gallons of total waste or more than 1 quart of acutely hazardous waste may be stored in one SAA.
- Do not put a start or end date on the waste container.

**Example Waste Management Containers and Supplies**



Left to Right: Autoclave bag in orange wire frame holder, autoclave trays, sharps bin



Left to Right: 4L bottle, 5-GAL carboy, 1-GAL widemouth jar, containment tray, paint rag can

### 13. Emergency Response Procedures

**CALL PUBLIC SAFETY FOR ALL ON CAMPUS EMERGENCIES: Ext. 3333 from an on-campus phone / 401-254-3333 from an off-campus phone**

#### **Injury or Illness**

- Immediately report any injury or illness to your instructor/supervisor/area manager
- Instructor/supervisor/area manager:
  - Complete an injury / illness report form
  - Call Public Safety in the event of a serious injury or illness (x3333) or in the event of a blood or bodily fluid spill.
  - Do not attempt to clean up a blood or bodily fluid spill yourself. Block off the area of the spill until personnel arrive to clean up.

#### **Chemical or Biological Exposure to Eyes or Face**

- Immediately report exposure to your instructor/supervisor/area manager
- Instructor/supervisor/area manager:
  - Immediately call Public Safety at x3333 for ALL chemical exposures to eye/face
- Activate emergency eyewash by pushing paddle with hand (assist if needed)
- Flush face and eyes for at least 15 minutes
- Remove glasses, contacts, goggles, jewelry and other items from the affected area(s)

#### **Chemical or Biological Exposure to Any Other Body Part (Including Inhalation / Ingestion)**

- Immediately report exposure to your instructor/supervisor/area manager
- Instructor/supervisor/area manager:
  - Immediately call Public Safety at x3333 for ALL chemical exposures
- Activate emergency shower by pulling handle (assist if needed)
- Flush body by standing under shower for at least 15 minutes.
- Remove contaminated clothing and other items without further contaminating body.

**Small Chemical Spill** (spill meets all of these criteria: small volume (less than a gallon), low health / physical hazard ratings, not causing fire, smoke, off-gassing, or other reaction, contained within lab, not headed for drains)

- Immediately report any chemical spill to your instructor/supervisor/area manager
- Instructor/supervisor/area manager:
  - Use paper towels or other compatible absorbent materials to contain chemicals. Spill kits available in each building with a laboratory, shop, or studio space. Collect spilled chemicals and clean-up materials and place in compatible container.
  - Label container with hazardous waste label. Include all contents of container (chemicals, clean up materials, etc.) in legible English on the waste label.
  - Place container in area's hazardous waste Satellite Accumulation Area.

**Fire, Explosion, Gas Leak, and / or Large Chemical Spill** (spill meets one or more of these criteria: large volume, high health / physical hazard ratings, causing a fire, smoke, explosion, off-gassing, or other reaction, has breached lab and entered another lab or hallway, has entered a drain)

- Immediately report any chemical spill to your instructor/supervisor/area manager
- Instructor/supervisor/area manager:
  - Evacuate the area.
  - Pull the fire alarm on your way out if possible. This will notify the rest of the building to evacuate, as well as alert emergency response (campus and town).
  - Close doors / fume hoods behind you if possible. This will help contain the spill.
  - From a safe place, call Public Safety (x3333). Give as much information as possible:
    - Your name and contact information
    - Where the accident occurred
    - What happened (fire, explosion, etc.)
    - What chemicals were involved and what volumes
    - If anyone is hurt or trapped in the building, etc.
    - **Stay on the line until Public Safety hangs up!**