

Department of Chemistry Supplemental Accident Prevention Plan

APPROVED BY:

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SAFETY

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TABLE OF CONTENTS

- Table of contents 2
- Purpose 4
- Scope 4
- Health and safety resources..... 4
 - Safety Team 4
 - Safety coordinator..... 5
 - Health and Safety Bulletin Boards..... 5
 - Health and Safety Committees 6
 - Building Coordinators..... 6
- Employee health and safety 6
 - Supervisor safety meetings 6
 - Internal communications 7
 - New employee health and safety orientation 7
 - Emergency plans 7
 - Inclement weather or suspended operations..... 7
 - UW Emergency Plan..... 7
 - Fire Safety and Evacuation Plans (FSEP)..... 8
 - Workplace Security Plans 8
 - COVID-19 health and safety resources 9
 - Business, Academic, and Research Continuity Plan (BARC) 9
- First aid and emergency assistance 9
 - First aid kits and locations 9
 - First aid and CPR training 10
 - Automated external defibrillator (AED)..... 10
- Recognized safety hazards and requirements..... 10
 - Safety manuals and other supplemental documentation..... 13
 - Hazard communication 14
 - Medical exams and vaccinations 14
 - Potential noise exposure..... 14

High-risk biohazard exposure.....	15
Exposure to human blood or body fluids	15
Respiratory protection.....	15
Personal protective equipment	15

PURPOSE

This document is the Department of Chemistry Supplemental Accident Prevention Plan (“Supplemental Plan”) and addresses department-specific hazards and safety guidance not covered in the core [University of Washington \(UW\) Accident Prevention Plan](#) (“UW Accident Prevention Plan”).

SCOPE

The UW Accident Prevention Plan and this Supplemental Plan cover all Chemistry employees. All Chemistry employees who work where hazards related to Chemistry work activities may occur must follow the requirements outlined in this document. The locations covered in this plan include, but are not limited to:

- Bagley Hall
- Chemistry Building
- Chemistry Library

HEALTH AND SAFETY RESOURCES

The Department of Director of Chemical Safety, Eric Camp of is responsible for updating and maintaining this document annually. The Safety Committee Chair, Professor Gojko Lalic will lead the Chemistry Safety Team, and will coordinate the review of the Supplemental Plan.

SAFETY TEAM

The Chemistry Safety Team is appointed by the Departmental Chair, Munira Khalil and is focused on the safety, security, and emergency preparedness of all Chemistry employees. The Chemistry Safety Team is comprised of three professors and three staff. Members serve 1-year terms.

1. Professor Gojko Lalic – Chair
2. Professor Julia Kovacs
3. Assistant Professor Matt Golder
4. Eric Camp (ex officio)
5. Dr Paul Miller (ex officio)
6. Hakme Lee (ex officio)

Annually, the Chemistry Safety Team will:

1. Review and update the Supplemental Plan to ensure it reflects the Chemistry organizational structure and is aligned with the department's strategic plan.
2. Ensure the Supplemental Plan identifies specific hazards and controls encountered by Chemistry employees.
3. Ensure departmental sections, divisions, or groups and members get an opportunity to update and append specific materials as needed in the Supplemental Plan.

SAFETY COORDINATOR

A safety coordinator for Chemistry will be selected from the Chemistry Safety Team. The safety coordinator will ensure the following tasks are completed:

1. Send an annual communication to Chemistry employees on how to access the core [UW Accident Prevention Plan](#) and the Chemistry Supplemental Plan.
2. Check and update all Chemistry safety bulletin boards annually.
3. Check and update departmental first aid kits annually.
4. Ensure the Department of Chemistry maintains required safety records and indicate where they can be found and who maintains them, including but not limited to:
 - a. The Department of Chemistry Supplemental Accident Prevention Plan.
 - b. Department safety inspection reports and self-inspection reports, including building inspections, radiation surveys, EH&S inspections, and [specific locations].
 - c. Building [Fire Safety and Evacuation Plans](#) (FSEP)
 - d. [Health and Safety Committee](#) Group 6 meeting minutes
 - e. [MyChem](#) chemical inventories and [safety data sheets](#) for all hazardous materials storage locations
 - f. [Safety training records](#)

HEALTH AND SAFETY BULLETIN BOARDS

Health and safety bulletin boards are used for posting required safety posters, health and safety notices, safety newsletters, accident statistics, and other educational materials.

The health and safety bulletin boards for the Department of Chemistry are in the following locations:

- Across from BAG 131 next to the men's room and water fountain on the 1st floor.
- Posted on UW-HR's webpage and linked on our [Departmental Internal Staff Resource Page](#)

Health and safety bulletin boards are updated annually by the safety coordinator.

HEALTH AND SAFETY COMMITTEES

Health and safety committees are required by Washington State Department of Labor and Industries, Division of Occupational Safety and Health (DOSH) regulations, and are comprised of management-appointed and employee-elected representatives who help determine unsafe conditions and methods of work, discuss and communicate safety concerns, and suggest corrective measures.

Information about the 10 organizational committees, their composition, and the current list of members is available on the [EH&S website](#) at www.ehs.washington.edu/workplace/health-and-safety-committees.

Chemistry employees are represented by health and safety committee number 6. Elections occur every two years and all Chemistry employees have the opportunity to nominate and elect a representative to the committee.

The meeting minutes for the organizational health and safety committee representing Chemistry will be made accessible to all Chemistry employees at the [Chemistry Health and Safety website](#).

BUILDING COORDINATORS

A current list of building coordinators can be found on the [UW Facilities website](#). Building coordinators for Chemistry specific locations are listed here.

- Kevin Soderlund - kevins@uw.edu
- Departmental Facility requests can be sent to <https://pluto.chem.washington.edu/FacilitiesRepair/>

EMPLOYEE HEALTH AND SAFETY

SUPERVISOR SAFETY MEETINGS

Chemistry Safety Meetings discuss topics that include safety and health concerns. Safety is a standing item on meeting agendas and staff are encouraged to discuss safety concerns at meetings. Health and safety issues are also discussed, as appropriate, in internal Chemistry communications, external Chemistry communications (as appropriate), in employee

meetings, and in management or leadership team meetings.

INTERNAL COMMUNICATIONS

Chemistry informs employees of important safety information via all staff email lists or to supervisors.

NEW EMPLOYEE HEALTH AND SAFETY ORIENTATION

Supervisors provide new employees with a link to the [Safety Orientation for New Employees](#). Existing employees can access the webpage at any time to refresh their knowledge of Chemistry policies and procedures.

Supervisors must ensure that all new UW employees, including those who are temporary and part-time, undergo a health and safety orientation that cover the topics listed in the [New Employee Safety Orientation](#) and assignments from the [General Health and Safety Training Course Selection Guide](#).

EMERGENCY PLANS

The Department of Chemistry has the following procedural documents to provide guidance during emergencies. These documents are available on [the Accident Reporting and Prevention](#) webpage.

Incident weather or suspended operations

When a weather emergency occurs or suspended operations is declared by the University, Chemistry employees will follow the departmental [Inclement Weather/ Suspended Operations Policy](#).

UW Emergency Plan

The University of Washington has a [UW Comprehensive Emergency Management Plan](#) to guide the University in the event of an emergency or disaster in which normal operations are interrupted and special measures are taken to protect people and operations.

The Department of Chemistry Emergency Operations Plan provides guidance on how Chemistry will support the [UW Emergency Operations Center \(EOC\)](#) during these events. A copy of the Emergency Operations Plan and a list of the designated essential employees are available on the [departmental website](#).

Chemistry supports large-scale events that have a potential to impact normal business operations, which generally require emergency planning, with joint oversight and

emergency plan approval by UW Emergency Management in concurrence with Administrative Policy Statement 13.1 - Emergency Management.

The Seattle campus EOC is supported by and connected to Unit Response Centers located in the administrative headquarters of major organizational and operations units. The primary location for the Chemistry Unit Response Center is Bagley 109 (Main office), secondary Unit Response Center sites are BAG 271 (UG Stockroom). Unit Response Centers transmit emergency impact reports to the EOC, and in some cases, provide emergency response services and relay emergency information and instruction to their constituents.

Fire Safety and Evacuation Plans (FSEP)

[Fire Safety and Evacuation Plans](#) address building emergency procedures, including fire safety and evacuation. The Fire Safety and Evacuation Plans for all Chemistry locations are available online on the [Evacuation Plan website](#). The names of building specific evacuation directors and evacuation wardens can be found in the FSEP.

Chemistry employees must be trained in their location's Fire Safety and Evacuation Plan.

The current Chemistry assembly points where employees will gather following a planned or unplanned evacuation are located:

- a. Bagley – Drumheller Fountain (East side of building) or between Benson Hall and Okanogan Lane (West side of building)
- b. Chemistry Building – Drumheller Fountain (NE side of building) or Between Benson Hall and Okanogan Lane (SW side of building)
- c. Chemistry Library – C7 Parking lot or Open Lawn West of building

Workplace Security Plans

Workplace security plans provide guidance to staff when encountering security risks in the work environment, which can include a criminal or violent emergency. Workplace security plans are updated annually.

The following resources are guidelines to help departments prepare their own workplace security plans:

- [University of Washington Police Crime Prevention Unit Workplace Security Plan](#)
- ["Response to Active Shooter" training and resources](#)
- [UW Crisis Communications Plan](#)
- [Campus Safety and Emergency Resources](#)

- [Building Emergency Procedures and Resources](#)
- <https://chem.washington.edu/health-and-safety>

COVID-19 health and safety resources

Chemistry has made available to employees [COVID-19 health and safety information and resources](#) to help reduce the potential for COVID-19 transmission and ensure the health and safety of Chemistry employees and the UW community.

Chemistry developed a departmental COVID-19 Prevention Plan that is available at <https://chem.washington.edu/health-and-safety>. The plan includes site-specific COVID-19 Prevention Plans for each Chemistry workgroup/section.

Business, Academic, and Research Continuity Plan (BARC)

The Business, Academic and Research Continuity (BARC) program supports the enterprise-wide planning for continuity of operations following a major disruption that limits the ability of University of Washington administrative, academic, and research units to meet operational or staffing needs. Through continuity of operations planning, we can all help to maintain the operations, reputation, and revenue of our individual units and the University as a whole.

UW Emergency Management provides overall support and guidance regarding individual unit [BARC Plans](#). Chemistry business continuity plan is stored in an online continuity software called Husky Ready and is accessed by those individuals in Chemistry tasked with developing and maintaining the BARC Plan.

FIRST AID AND EMERGENCY ASSISTANCE

All employees must have access to quick and effective emergency medical services and first aid supplies appropriate for the workplace per WAC 296-800-150.

The type of work environment may be an office setting in a metropolitan area with access to 9-1-1, a laboratory with unique chemical hazards, or a remote worksite like a field station, dive site, or a field trip site. Employees in these work environments must be adequately trained to render first aid with appropriate supplies given the occupational setting and the response time for emergency medical services. Washington State Department of Labor and Industries specifically requires CPR trained individuals and first aid supplies when work includes confined space entry, welding, scuba diving, and electrical power construction, generation, transmission, and distribution.

The Department of Chemistry has a [First Aid Plan](#)

FIRST AID KITS AND LOCATIONS

Chemistry employees must have access to first aid kits and first aid supplies that reflect the kinds of injuries that may occur in the workplace.

First aid kits are stored in containers that protect them from damage, deterioration, or contamination. Containers are unlocked, clearly marked, and can be easily moved to the site of the injured worker. The first aid kits are stored in the following UW buildings, worksites, and/or vehicles. The individual lab safety officers or office manager is responsible for updating first aid kits annually.

Buildings

Building/Worksite	Room	Location
BAG /CHB/CHL	Labs	See map inside lab need entrance
Bagley	109	Front office
Bagley	271	Undergraduate Stockroom
Bagley	036	Research Stockroom
CHB	108	Undergraduate lab Prep room

FIRST AID AND CPR TRAINING

All employees working as TAs, in laboratories, shops/trades, warehouses, or places with unique hazards like confined space entry, welding, and electrical construction/generation, transmission, and distribution are required be first aid certified. First aid certification is provided by the department at no cost.

AUTOMATED EXTERNAL DEFIBRILLATOR (AED)

The Department has one AED located on the 1st floor of Bagley Hall directly across from BAG 131 lecture hall next to the men's bathroom. Training will be included in the yearly First Aid class offered in September. Maintenance will be provided by [Scientific Instruments](#).

RECOGNIZED SAFETY HAZARDS AND REQUIREMENTS

Chemistry employees may perform work tasks that could expose them to occupational and/or environmental hazards, which can be eliminated or controlled through safer work practices.

Chemistry employees must be informed of the hazard(s) and the methods of eliminating or controlling the hazard. For each identified hazard, employees must complete the required training and be provided with personal protective equipment to safely do their work. Common hazards are listed in the table below with resources and training information.

Supervisors must review this table with their employees and identify the applicable hazards, resources and required and recommended training prior to starting a work task that could expose an employee to a potential hazard.

Hazard	Resources on EH&S website	EH&S training courses
Air contaminants, dust, vapors, gases	Fume hoods Indoor Air Quality	Hazard Communication Managing Laboratory Chemicals-Online Fume Hoods
Animals, animal handling	Animal Use Medical Screening Research Occupational Health	Not applicable
Arc flash and electrical	Not applicable	Arc Flash and Electrical Safety Best Practices (NFPA 70E 2021 Edition)
Asbestos	Asbestos and Other Regulated Building Materials	Asbestos General Awareness-Online
Autoclaves	Autoclave Safety Biohazardous Waste	ASU Autoclave Training Video
Biohazards	Biological Safety	Biosafety Training-Online
Bloodborne pathogens (BBP)/ biohazardous/infectious waste	Bloodborne Pathogens (BBP) Program Sharps Safety	Bloodborne Pathogens (BBP) for Researchers-Online Bloodborne Pathogens (BBP) for Non-Laboratory Personnel
Compressed gases, liquid nitrogen, laboratory compressed gases	Compressed Gas/Cryogenic-Fluids	https://www.ehs.washington.edu/system/files/resources/ehslabsafetytrainmatrix.pdf Compressed Gas Safety-Online Laboratory Compressed Gas Safety - Online
Confined spaces/oxygen deficiency	Confined Space Entry Program	Confined Space Entry
COVID-19	COVID-19 Prevention in the Workplace	COVID-19 Safety Training: Back to the Workplace
Cranes, hoists, derricks with rigging	Shop and Maker Space Safety	EH&S Safety Training Matrix for Shop Personnel Overhead and Gantry Crane Safety - Online Rigging Safety - Online
Diving	Diving Safety Program	Scientific Diver Training
Electrical equipment & wiring	Basic Electrical Safety	Electrical Safety, Basic-Online
Emergency response	Building Emergency Procedures and Resources	Emergency Evacuation Warden Training-Online Fire Extinguisher Training-Online First Aid /CPR Certification Wilderness First Aid
Ergonomic factors (awkward postures, repetitive tasks and/or forceful motions)	Ergonomics Office Ergonomics Assessment Tool	Back Safety and Injury Prevention- Online
Fieldwork	Field Operations Safety Manual	First Aid /CPR Certification Wilderness First Aid
Fire	Fire Extinguisher Use	Fire Extinguisher Training – Hands-on

Hazard	Resources on EH&S website	EH&S training courses
	Fire Safety and Prevention	Fire Extinguisher - Online
Flammable liquids	Laboratory Safety Manual – Section 2: Special Chemical Hazards Lab Refrigerators and Freezers (storage)	Safety Training for Laboratory Personnel Fire Extinguisher Training – Hands-on Fire Extinguisher - Online
Forklifts	Not applicable	Forklift and Lift-Truck Operator Safety Training
Formaldehyde	Formaldehyde, Formalin, Paraformaldehyde Safe Work Practices	Formaldehyde Training-Online
Hand and power tools	Shop and Maker Space Safety	Hand and Power Tool Safety-Online
Hazardous chemicals	Hazard Communication	Hazard Communication
Hazardous materials (storage, shipping/transport)	Shipping Hazardous Materials Chemical Container Labels Biological Research Safety Radioactive Material Shipping Request Control of Radioactive Materials	Managing Laboratory Chemicals-Online Shipping Biological Substance Category B-Online Shipping Dry Ice with Non-Dangerous Goods-or-Exempt Patient Specimens-Online Shipping Hazardous Materials Shipping Regulated Medical Waste-Online Multiple Radiation Safety Courses listed
Hazardous waste	Chemical Waste Disposal Biohazardous Waste Sharps and Lab Glass Waste Radioactive Waste Management	Managing Laboratory Chemicals-Online Biosafety Training-Online
Hazardous material spills	Chemical Spills in Laboratories Spill Response Poster	Managing Laboratory Chemicals-Online Biosafety Training-Online
Heights greater than 4 ft. (fall potential)	Fall Protection	Fall Protection Training
Hydrofluoric acid	Hydrofluoric Acid SOP	Hydrofluoric Acid Safety Training-Online
Laboratory chemicals	Chemical Safety	Safety Training For Laboratory Personnel Managing Laboratory Chemicals-Online
Ladders	Fall Protection Ladder Safety Focus Sheet	Ladder Safety-Online
Lasers	Laser Safety	Laser Worker Safety Training
Lead	Specific Chemical Hazards: Lead	Lead Awareness-Online
Lifting more than 20 lbs.	Ergonomics	Back Safety and Injury Prevention-Online
Hazardous energy	Hazardous Energy Control – Lockout/Tagout	Lockout-Tagout
Machinery with machine guards	Shop and Maker Space Safety	Machine Guarding
Noise above 85 dB	Hearing Loss Prevention Program	Hearing Conservation-Online

Hazard	Resources on EH&S website	EH&S training courses
Mobile elevated work platforms (MEWPs)	Fall Protection	Fall Protection Training https://ehs-web01.s.uw.edu/training/fall-protection-training
Non-ionizing radiation (radiofrequency cell towers, ultraviolet light, microwaves and magnetic fields)	Non-ionizing Radiation Safety RF Safety Exposure Categorization UV Safety Focus Sheet	Training is available upon request.
Outdoor heat exposure	Outdoor heat exposure Heat exposure plan template	Heat Exposure Training
Overhead and gantry crane	Not applicable	Overhead and Gantry Crane Safety- Online
Radioactive materials used or stored	Radiation Safety	Radiation Safety Training-Online
Regulated building materials	Asbestos and Other Regulated Building Materials	View a list of trainings on the Asbestos and Other Regulated Building Materials webpage .
Respiratory (inhalation) hazards	Respiratory Protection	EH&S-provided respirator training is individually assigned by user group; the online courses are not available via the EH&S Training website. Contact the Respiratory Protection Program for more information.
Roof access	Roof Access Permit Fall Protection	Fall Protection Training
Scaffolds	Fall Protection	Scaffold Safety Training
Shop and maker space hazards	Shops and Maker Space Safety	Use the Safety Training for Shop Personnel to identify training needs and document training.
Slip and trip hazards	Fall Protection Walking-Working Surfaces Inspection Checklist	Not applicable
Small utility vehicles or golf carts	UW Basic Small Utility Vehicle and Golf Cart Policy	Not applicable
Welding, cutting and/or brazing	Hot Work	Not applicable
Wildfire Smoke	Wildfire Smoke	Wildfire Smoke Training
Sick or injured wildlife, pest control	Pest Control and Wildlife Resources	Not applicable
Hazards impacting youth	Office of the Youth Protection Coordinator Non-(EH&S website)	Not applicable

Note: There may be other hazards encountered not listed in this table. Contact EH&S for assistance identifying other hazards.

SAFETY MANUALS AND OTHER SUPPLEMENTAL DOCUMENTATION

The Department of Chemistry has a minimum list of trainings for all employees that will be provided when the employee starts. They can be found in the [Safety Orientation](#) website. Additional trainings will depend on each employee or student's lab requirements. PI's, Lab Safety Officers, and individual researchers should review the [EH&S training matrix](#) for further guidance. Common required trainings and manuals for research labs are listed below.

- [Radiation and Laser Safety](#)
- [Biological Safety](#)
- [Hydrofluoric Acid Safety Training](#)

HAZARD COMMUNICATION

1. Chemistry supervisors are required to ensure that employees working with or in locations where hazardous materials are used, stored and transported are aware of the material identity, potential hazards, and the safe work practices that can minimize exposure. To learn about how UW communicates chemical hazards, refer to the [UW Chemical Hazard Communication Program Manual](#).
2. Supervisors are responsible for providing information to address specific hazards that are **not** covered by the Environmental Health & Safety (EH&S) website resources referenced in the table above.
3. All Chemistry employees can view and print safety data sheets (SDSs) via Departmental [Chemical database](#). Certain Chemistry employees have access to view chemical inventory information based on their needs. Access to this information is through the [MyChem database](#).

MEDICAL EXAMS AND VACCINATIONS

Certain work environments or specific work activities pose health risks that require medical examinations or immunizations for employees. Chemistry employees are directed to the [UW Employee Health Center](#) for assessments and vaccinations as appropriate.

Potential noise exposure

Exposure to noise, at or above 85 dBA averaged over an 8-hour period may require enrollment in the UW [Hearing Loss Prevention Program](#), which requires audiometric testing by the UW Speech and Hearing Clinic. Supervisors should notify EH&S if an employee may work in or visit areas posted with hearing protection signage or when using noisy equipment. Noisy equipment is best identified by employees as equipment that when running makes it impossible to carry on a normal conversation with another person.

EH&S will provide hearing protection equipment, fit-testing training and can conduct monitoring to determine the noise levels. The supervisor is responsible to ensure that workers in the Hearing Loss Prevention Program participate in audiometric testing.

High-risk biohazard exposure

Depending on the specific work setting, immunizations may be required or recommended for employees who are potentially exposed to certain biological agents, in contact with certain animals, or working in a specific facility. A risk assessment may be performed by the [UW Employee Health Center](#), the PI/supervisor and the [Institutional Biosafety Committee](#) (IBC) as appropriate. It may be determined that additional immunizations or adequate titers (i.e., a blood test to look for antibodies) are necessary if a staff member is working in a high-risk biohazard exposure situation.

Exposure to human blood or body fluids

Hepatitis B vaccination must be offered to all employees with occupational exposure to human blood or body fluids within 10 days of initial assignment. Employees can sign a declination form waiving the acceptance of vaccination if they choose. Examples of employees who may need the Hepatitis B vaccination series are those who:

1. Provide direct patient care
2. Handle and/or collect waste containing blood and body fluids
3. Decontaminate biologically-contaminated equipment

Chemistry employees with exposure to human blood or body fluids are listed in a worksite-specific [Bloodborne Pathogen \(BBP\) Exposure Control Plan](#).

Respiratory protection

If [respiratory protection](#) is required for the work, employees using respiratory protection must:

1. Be authorized to wear a respirator.
2. Complete a Respirator Medical Evaluation Questionnaire and obtain respirator medical clearance from the [UW Employee Health Center](#).
3. Receive annual [respiratory protection training and fit testing](#).

PERSONAL PROTECTIVE EQUIPMENT

Supervisors provide [personal protective equipment](#) (PPE) for their employees, when required by regulation or when a determination has been made that PPE is needed.

Supervisors will determine PPE needs by conducting a hazard assessment for their employees. Guidelines for PPE hazard assessment and selection include:

- [Guidelines for Personal Protective Equipment](#)

- [Laboratory Personal Protective Equipment \(PPE\) Hazard Assessment Guide](#)
- [Shop Personal Protective Equipment \(PPE\) Hazard Assessment Guide](#)

Employee hazard and PPE assessment records are kept by their supervisor. Supervisors will update hazard assessment records whenever there are changes in the process, worksite, PPE, and/or training.

Supervisors inform employees of specific PPE requirements for their position on the following occasions:

1. During new employee safety orientation
2. When a job procedure changes requiring new PPE
3. During department, unit, or workgroup meetings

All employees and student researchers handling chemicals must wear a full labcoat and eye protection. Labcoats are provided free of charge for employees and researchers in the research stockroom in BAG 036.

Students and TAs in a lab course must wear a full labcoat and splash goggles at all times in lab.