

**UNIVERSITY OF WISCONSIN-STEVENSON POINT
CHEMICAL HYGIENE PLAN**



Revised by:
University Chemical Hygiene Officer
Department of Environmental Health and Safety
University of Wisconsin-Stevens Point
408 Chemistry Biology Building
Stevens Point, WI 54481
(715) 346-4154

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TABLE OF CONTENTS

1.0	PURPOSE & SCOPE	3
2.0	RESPONSIBILITIES	3
2.1	UNIVERSITY ADMINISTRATION & DEPARTMENTS.....	3
2.2	ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT	4
2.3	DEPARTMENT ADMINISTRATION/LAB SUPERVISORS AND/OR FACULTY	4
2.4	DEPARTMENT/UNIT CHEMICAL HYGIENE OFFICERS	4
2.5	EMPLOYEES.....	5
2.6	STUDENTS	5
3.0	STANDARD OPERATING PROCEDURES	5
3.1	WRITTEN DEPARTMENTAL GUIDELINES	5
3.2	UWSA POLICIES.....	5
4.0	HAZARD COMMUNICATION	5
4.1	SDS 6	
4.2	LABELING	6
4.3	HAZARDOUS CHEMICAL LIST	7
5.0	CONTROL MEASURES TO REDUCE EXPOSURE TO HAZAROUS CHEMICALS	7
5.1	WRITTEN DEPARTMENT PROTOCOLS.....	7
5.2	AIR QUALITY	7
5.3	STORAGE AND HANDLING.....	8
5.4	USE, HANDLING, AND DISPOSAL	8
5.4.1	Disposing of non-hazardous wastes in normal trash in UWSP Laboratories.....	9
5.5	PERSONAL PROTECTIVE EQUIPMENT (PPE) AND SAFETY EQUIPMENT	10
5.6	GENERAL HOUSEKEEPING.....	11
5.7	EMERGENCY & SPILL	12
5.8	SIGNAGE.....	12
5.9	PARTICULARLY HAZARDOUS SUBSTANCES	13
5.9.1	Particularly Hazardous Substances Defined	13
5.9.2	Particularly Hazardous Substances Specific Procedures	14
6.0	ENFORCEMENT AND AUTHORITY	15
7.0	EMPLOYEE AND STUDENT TRAINING	15
8.0	CONTRACTOR INFORMATION	16
9.0	MEDICAL CONSULTATION AND MEDICAL EXAMINATIONS	16
10.0	REFERENCE MATERIALS	17
	APPENDIX A.....	19
	OSHA LABORATORY SAFETY STANDARD & APPENDIX A and B	19
	APPENDIX B.....	20
	List of Key UWSP Personnel	20
	TRAINING DOCUMENTATION FORM.....	21
	APPENDIX D.....	22
	REFERENCE MATERIALS.....	22
	APPENDIX E.....	25
	LIST OF PARTICULARLY HAZARDOUS SUBSTANCES.....	25
	APPENDIX F.....	26
	Particularly Hazardous Substance Use Approval Form	26
	APPENDIX G	30
	PARTICULARLY HAZARDOUS SUBSTANCE SIGN.....	30
	HOLD SIGN FOR REGULAR GARBAGE RECEPTACLES UNDER INVESTIGATION.....	31
	APPENDIX H.....	32
	DEPARTMENT SPECIFIC PROCURDUES OR REFERENCES	32

1.0 PURPOSE & SCOPE

The intent of this Chemical Hygiene Plan (CHP) is:

1. To help protect individuals from hazards associated with the use of hazardous substances in laboratories at the University of Wisconsin-Stevens Point (UWSP);
2. To comply with the Occupational Safety and Health Administration (OSHA) Occupational Exposure to Hazardous Chemicals in Laboratories Standard ([29 CFR 1910.1450](#)) to be referred hence forth as “the lab standard.”

The plan is readily available online for easy access and review by all staff. Each department involved in laboratory activity must have a copy readily available for reference. This plan will be reviewed and updated annually by the Department of Environmental Health and Safety (EHS) and the University Chemical Hygiene Officer (UCHO).

This plan applies to the laboratory use of hazardous chemicals at UWSP. The OSHA Lab Standard ([29 CFR 1910.1450](#)) will serve as the legal authority and be referred to when interpreting specific requirements not otherwise written in this plan. See definitions in the 1910.1450 OSHA standard for determining coverage.

The CHP provides an overview of the basic requirements. Supplemental departmental and laboratory specific safety policies and operating procedures may also be involved as discussed below. Items not specifically addressed in this plan may be required on an as needed basis by the department, units, or EHS department.

2.0 RESPONSIBILITIES

Listed below are general responsibilities of various positions related to the Chemical Hygiene Plan. See contact information for these positions as listed in Appendix B. Note: There may be other responsibilities delegated within individual departments or units that are not listed here.

2.1 University Administration & Departments

All individuals have safety responsibility. The Chancellor of the University has the ultimate responsibility for campus operations which includes safety. This responsibility is delegated to department administrators, campus administrators, faculty, staff, and students through the Vice Chancellor for Academic Affairs, Vice Chancellor for Student Affairs, Vice Chancellor for Business Affairs, and the Dean of each college.

Each department with laboratory operations shall designate an individual responsible for coordination of the plan for their respective department or unit. This individual will be the Department Chemical Hygiene Officer (CHO). See Appendix B for listing of current Chemical Hygiene Officers at UWSP.

In addition, UWSP shall form and convene a Chemical Hygiene Committee. The UCHO will serve as the chair of this committee. This committee chair will serve as the principle Chemical Hygiene Officer for campus and be designated the UCHO. They will primarily serve as their “home” department CHO but also provide guidance and oversight to other departments on chemical hygiene compliance and safety.

The Chancellor or designee, Colleges, and Departments have the responsibility for providing appropriate resources to ensure regulatory compliance. Each department is responsible to seek and make use of appropriate resources through appropriate administrative channels and bring concerns to the attention of proper authority.

2.2 Environmental Health and Safety Department

The University Chemical Hygiene Officer shall:

1. Develop and coordinate overall implementation of the UWSP Chemical Hygiene Plan.
2. Investigate chemical incidents as necessary.
3. Provide technical assistance to departments.
4. Conduct periodic inspections of laboratory facilities.
5. Provide assistance to departments in developing and providing necessary training.
6. Chair and lead the UWSP Chemical Hygiene Committee.
7. Conduct audits in all campus laboratories to determine compliance status. Develop appropriate audit reports.

2.3 Department Administration/Lab Supervisors and/or Faculty

Supervisors of lab operations (direct and/or administrative responsibility) shall:

1. Be familiar with aspects of the CHP as they relate to unit operations.
2. Identify courses or majors in their respective programs that may be affected by the lab safety standard. Where such courses or majors are identified, faculty shall inform students of all relevant aspects of the standard and prepare them to safely perform their work at the university.
3. Inform students in their lab of their responsibility under the CHP as applicable.
4. Know the designated department chair and Chemical Hygiene Officer and follow their directions, seek advice, and consult as necessary.
5. Train or arrange for safety training of staff and/or students as necessary for the respective department or laboratory.
6. Assure proper implementation of the plan within the respective department or laboratory.
7. Provide staff with necessary resources to implement relevant aspects of the plan. Where necessary resources are not available to the supervisor, it shall be the supervisor's responsibility to inform the appropriate administrator of the program need.
8. Develop specific department procedures as necessary.
9. Execute the requirements of this plan.
10. Provide feedback to administration.

2.4 Department/Unit Chemical Hygiene Officers

The Department Chemical Hygiene Officers shall:

1. Be familiar with all applicable aspects of the plan and the standard.
2. Work with department staff and administrators to develop and implement appropriate department chemical hygiene policies and procedures.
3. Serve as a liaison with EHS, campus staff, and contractors to implement the plan.
4. Assist in communicating program requirements to department staff and advise them on technical aspects of the program.
5. Conduct laboratory inspections and accompany university personnel, regulatory officials, or others if available and allowed.

6. Maintain inspection schedules, results, and department documentation related to the plan.
7. Execute required duties of position.
8. Perform other duties as assigned. It may be necessary for the specific department to develop a position description to detail all the duties of the CHO further.

2.5 Employees

Employees who work in laboratory areas shall be familiar with all aspects of the plan as they relate to them and follow necessary policies and procedures. Execute required duties. Report any concerns to their supervisor.

2.6 Students

Students shall follow safe work practices as directed by the lab supervisor. A student shall consult with the lab supervisor prior to performing work if they are unsure or feel it is unsafe.

2.7 List of Key Personnel

Appendix B of the plan provides a listing of the current key personnel assigned to execute the above responsibilities.

3.0 STANDARD OPERATING PROCEDURES

General standard operating procedures for university departments are included herein. These apply generally and where applicable to UWSP labs. Laboratory supervisors (this includes instructors and other supervisory lab staff) have the responsibility to maintain the standard operating procedures described herein as well as those specific to unit operations.

Recommendations for revisions to those procedures shall be made to the departmental CHO and EHS Office as necessary.

3.1 Written Departmental Guidelines

Procedures for use of hazardous materials or equipment not included in this general plan shall be documented in written guidelines developed by the department supervisor or designee and reviewed by EHS as necessary. Examples of topics that may be addressed include lab protocols, lab working hours, approval of work involving particularly hazardous substances, and waste management. Written departmental guidelines shall be kept in Appendix H of this plan.

3.2 UWSA Policies

University of Wisconsin System wide policies will be enforced whenever and wherever applicable. Supervisors are responsible for making sure all faculty, staff, and students working in their area(s) have the proper safety training to help minimize injury, loss of research materials and/or property damage. Supervisors are responsible for clearly describing and documenting what materials or activities are restricted when working alone.

*It is prudent to avoid working alone at the bench in a laboratory building. Individuals working in separate laboratories outside of working hours should make arrangement to check on each other periodically...Experiments known to be hazardous should not be undertaken by a worker who is alone in a laboratory. Under unusually hazardous conditions, special rules may be necessary. Information should be posted indicating how to contact the responsible individual in the event of an emergency**.*

Prudent Practices in the Laboratories written by the National Research Council*

<https://www.wisconsin.edu/ehs/osh/working-alone/>

4.0 HAZARD COMMUNICATION

The OSHA Hazard Communication Standard and other health standards in 29 CFR 1910, subpart Z have requirements similar to the lab standard. However, per OSHA [1910.1450\(a\)\(2\)](#), the lab standard shall supersede for laboratories the requirements of all other OSHA health standards in 29 CFR Part 1910, subpart Z except as listed in the standard for items such as limiting exposure to listed permissible exposure standards, prohibitions of eye and skin contact where specified by OSHA standards, or when the action level is routinely exceeded (note: this has not occurred at UWSP). Therefore, 1910.1450 requirements are the legal primary requirements for UWSP laboratories.

In addition to the 1910.1450 requirements, as a prudent practice and to further improve safety UWSP shall implement best practices when practical and feasible in the laboratories that are covered by the requirements of 1910.1450. See below for details.

4.1 SDS

Chemwatch will be the official source of Safety Data Sheets for all chemicals and products used. Chemwatch is accessible via the UWSP homepage search feature.

4.2 Labeling

UWSP shall comply with the hazard communication standard as updated to align with the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Revision 3. Containers of hazardous chemicals are to be labeled as described below. Labels for stationary and portable containers will be provided by each department and in most cases can be purchased through Central Stores, the vendor, or printed in house.

The OSHA [1910.1450\(h\)](#) hazard identification requirements allow for certain containers not to be labeled in a lab. OSHA 1910.1450 is the legal requirement UWSP must follow. However, UWSP will implement the following best practices to improve labeling above and beyond legal requirements whenever possible. There will be times that certain containers are not labeled as allowed in OSHA 1910.1450 and/or when necessary as part of a laboratory experiment, procedure, or other laboratory circumstance.

Hazardous chemicals obtained from a manufacturer or supplier must be shipped with certain labels already affixed to the container. The labels placed on the container by the manufacturer / supplier are required to have the identity of the hazardous substance, appropriate hazard warning, and name and address of the manufacturer. Labels on incoming containers of hazardous chemicals at UWSP (e.g. from the manufacturer) shall remain on the container and protected against damage.

Even though manufacturers and suppliers have the primary responsibility in labeling containers of hazardous chemicals, UWSP is responsible for appropriate labeling of secondary containers of chemicals (i.e., when dispensed into another container from a primary container) or re-labeling original containers when the label becomes defaced or is removed. Unless approved by the Department CHO under the standard, or is allowed or meets the below secondary label exemption, secondary containers of hazardous chemicals in the lab or those with defaced manufacturer labels are to be labeled, tagged, marked, or otherwise identified with the following legible and prominently displayed information:

- Identity of the hazardous chemical(s), matching the SDS name.
- Appropriate hazard warnings, or alternatively, words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees will provide employees with the specific information regarding the physical

and health hazards of the hazardous chemical. Hazard warning means any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the specific physical and health hazards, including any target organ effects, of the chemical(s) in the container(s). The hazard warning may require a brief statement of the physical and health hazard effects of the chemical (i.e., "flammable," "causes lung damage," etc.). Questions regarding the need for special labeling should be directed to EHS. TIP: Use information provided on the manufacturer label or SDS when developing secondary labels.

Secondary container labeling exemption: UWSP is not required to label secondary containers into which hazardous chemicals are transferred from labeled containers, and which are intended only for the immediate use of the employee or lab personnel (who know the identity of the chemical) for a class period or shift. If the container is used beyond this timeframe or removed from the laboratory facility, the container is to be labeled properly following the above requirements. **GHS labeling requirements shall be followed.**

NOTE: For Hazardous Waste containers the label must contain the above information as well as the words "Hazardous Waste" and appropriate date of waste generation or appropriate satellite accumulation date requirements. Contact the EHS Office for hazardous waste management questions, procedures, and training.

4.3 Hazardous Chemical List

An inventory of the hazardous chemicals known to be present using an identity that is referenced on the appropriate safety data sheet shall be accessible by each department. Departments are responsible for maintaining access to inventories for their laboratories.

5.0 CONTROL MEASURES TO REDUCE EXPOSURE TO HAZAROUS CHEMICALS

5.1 Written Department Protocols

Per Section 3.1, general operating procedures for all university labs are described below. Specific departmental concerns and issues that are not covered below but are still necessary to document to properly address hazards are to be recorded in Appendix. See [29 CFR 1450 App A & B](#) and Appendix D for reference materials.

5.2 Air Quality

Adequate ventilation is essential for healthy air quality. It shall be the responsibility of the laboratory supervisor to discontinue laboratory operations if ventilation is judged to be inadequate for any reason, such as mechanical failure or accidental spillage.

Fume hoods shall be used for all operations that have the potential to produce air contaminants exceeding the Permissible Exposure Level (PEL) or Threshold Limit Value (TLV) as listed in the Wisconsin Public Employee Safety & Health Code; SPS 332.35(1) these "shall be in accordance with the requirements of 29 CFR [1910.1000, July 1, 1992 edition](#)". Furthermore, fume hood utilization is recommended where feasible use will help reduce exposures in general. Limited storage is allowed in certain fume hoods. Long term experiments and protocols are allowed in fume hoods as required and not considered storage. Items in hoods should not be placed directly in front of ducts (to avoid blocking air flow). Fume hoods shall be kept orderly and be maintained in accordance with good housekeeping practices.

Fume hood air flow velocities are on a continuous monitor/alarm system. Fume hoods shall be checked annually using a separate velocity meter to confirm minimum flow rates. Deficiencies are to be reported to UWSP Facility Services for repair. Ventilation for laboratory fume hoods shall follow [WI SPS 332.24\(6\)](#). Fume hoods with inadequate face velocities or other serious

problems are to be prominently marked as not suitable for use and taken out of service until repaired.

When not in use, the fume hood sash should be closed or at a lowered position.

Air quality monitoring for hazardous air contaminants will be conducted as deemed necessary in consultation with the Chemical Hygiene Officer and EHS Office. The EHS Office will coordinate and/or conduct these studies. Air monitoring will be conducted and reported following EHS practices.

5.3 Storage and Handling

Chemicals shall be stored in a safe manner utilizing, for example, chemical storage cabinets for corrosives and flammables. Chemicals shall be segregated by chemical characteristics to avoid incompatibilities per the guidelines set forth in the lab standard Appendices A and B. It is the responsibility of the laboratory supervisor to determine and maintain a facility wherein chemical compatibility of stored substances is such so as not to endanger the health and safety of the employees. Secondary containment or other segregation options may be necessary to address compatibility concerns when storage is not adequate. Secondary containment is also a valuable tool to prevent spills.

Chemical containers shall be kept capped when chemicals are not being withdrawn, added, or otherwise utilized. This includes hazardous waste accumulation containers. Do not store items at the edge of countertops where they could be easily spilled. Restrain compressed gas cylinders. Do not let materials accumulate unnecessarily in laboratory hoods and do not block hood ducts.

Adequate security for chemical storage areas is essential to minimize the possibility of theft or unauthorized entry. Labs shall be locked when staff or authorized individuals are not present. Chemical inventories in working laboratories shall be kept to a minimum to reduce exposure, waste, and associated risks.

5.4 Use, Handling, and Disposal

Good chemical hygiene shall be maintained at all times in the laboratory. If unsure about an operation, material, or procedure, stop and ask a supervisor. Horseplay of any sort is forbidden. Minors should be permitted in lab areas only with supervision. The department Chemical Hygiene Officer and EHS can provide guidance on department-specific policy for minors. Food or beverages for consumption are not to be stored or consumed in the laboratory. If the laboratory exercise involves food or beverages they must be labeled, "Not for human consumption" (or equivalent). Special attention must be paid to experimental design and procedures involving any work with particularly hazardous substances. See section 5.9 for further details.

All hazardous chemical waste shall be disposed of according to [WI Department of Natural Resources Hazardous Waste Administrative Rules and Statutes](#). The UWSP EHS Office is available to assist and consult with departments in hazardous waste management and to arrange all hazardous waste disposals through the UWSP Hazardous Waste Program. Waste streams must be characterized and appropriately set up for proper accumulation of the waste. Hazardous waste training is required for employees involved in management or generation of hazardous wastes. Questions regarding the disposal of hazardous chemical waste or training should be directed to the Environmental Health and Safety Office at x2320.

All containers of potentially shock-sensitive or reactive materials such as picric acid, peroxide formers (ether, dioxane, etc.) must be used and disposed of prior to the expiration date on the

container. Shock-sensitive materials are very difficult to dispose of and represent a serious hazard when unstable. All such materials must be properly dated upon arrival on campus. Empty chemical containers of normal hazardous materials and non-hazardous materials may be triple-rinsed and the cap discarded prior to being recycled. The rinsate shall be disposed of according to NR 600. Contact EHS with questions regarding policy or procedure. HOWEVER, all containers or other devices that contained items with potential to form [acute hazardous wastes](#) (as defined in WI [Chapter NR 661](#) --acute wastes are any hazardous waste with a Waste Code beginning with the letter "P," or any of the following "F" codes; F020, F021, F022, F023, F026, and F027 (section NR 661 Subchapter D, Wis. Adm. Code) must be entirely disposed of as hazardous waste or properly cleaned. For containers of these acute materials send the entire container out for hazardous waste disposal via pickup by the EHS Department. Do not recycle, rinse or dispose of these containers in ordinary trash container that held materials with potential to form acutely hazardous wastes. Lab glassware or other containers that held these materials and will be reused must be properly cleaned and the rinsate managed as acute hazardous wastes.

5.4.1 Disposing of non-hazardous wastes in normal trash in UWSP Laboratories

All hazardous wastes must be shipped out via the UWSP Environmental Health and Safety Office hazardous waste program as describe above. No hazardous wastes are allowed in the normal trash. Hazardous wastes as defined by law include items such as reactive, corrosive, flammable, toxic wastes (meeting certain thresholds), or those specifically listed such as acute wastes. This may include materials used to clean up certain hazardous material spills and containers used to store acute wastes. Also bio-hazard, universal, and special wastes are not allowed in normal trash and are also disposed of via EHS. Call x2320 for hazardous waste disposal advice or questions.

Although certain laboratory wastes can safely and legally be disposed of in the normal trash, great care must be taken to protect custodians, handlers, and the environment as well as to avoid unnecessary confusion and questions related to non-hazardous materials in the trash. Trash in laboratories presents heightened concerns due to the unique circumstances of lab work. This section describes the necessary precautions for disposing of laboratory chemical waste in the normal trash at UWSP.

To prevent risks and avoid creating uncertainty and confusion to those who empty and handle lab wastebaskets, the following non-hazardous materials must be disposed of, following applicable disposal procedures (options listed afterward):

- Any free-flowing, granular, or loose non-hazardous solid materials (such as powders, sand, carbon, absorbents, etc.).
- Any non-hazardous gel or semi-solid material.
- Materials excessively contaminated with chemicals (that are non-hazardous waste) and strong odor producing materials (such as towels saturated with strong odor contaminants, vials with small amounts of liquids that could leak, etc.).

Disposal Procedure Options: The following options are available for properly containing non-hazardous materials destined for normal trash:

- Place the item in a tightly closed plastic bag or plastic container and place inside a secondary container such as a closable plastic bag or plastic container that will not leak and then into waste receptacles in the lab. Using one plastic bag may be adequate if that bag is thick enough to prevent incidental tears. Seal and place in a receptacle that is lined with a regular plastic garbage bag.

- Place the item in a tightly sealed container or bag, put into garbage bag, and place it directly into the dumpster. Placing the item directly in the dumpster is recommended if there is a question of possible leakage from the containers.
- Place the items into a collection container (such as a plastic container with tight lid) that can be used to accumulate similar waste over time. This must be labeled properly while being used to accumulate the wastes. When full, follow one of above steps to dispose.
- Other EHS approved method.

Sharps, metal, and broken glassware are prohibited in the normal trash in the lab, even though they may be non-hazardous trash. They must be collected in rigid containers, identified, and custodial department notified so that they will be disposed of appropriately.

Disposal of non-hazardous waste in the sanitary sewer is limited. Discuss this option with the EHS Officer before disposing of materials in the sanitary sewer.

Any container suspected of non-compliance by Custodial Department or other personnel is to be set aside, and marked "hold." The custodian shall notify their Supervisor, and the lab manager and/or EHS is to be contacted and informed by the Custodial Department to investigate and determine proper disposal. See Appendix G-2 (Hold Sign for Regular Garbage Receptacles Under Investigation) for the sign that may be customized for this purpose. Call EHS at x2320 with any questions related to this procedure.

5.5 Personal Protective Equipment (PPE) and Safety Equipment

When working with hazardous chemicals, routine personal protective equipment may include a laboratory coat (or equivalent) and protective eyewear. Special procedures may require special protective equipment on a case by case basis. For example gloves, made of chemically compatible material, should be worn for work with strong corrosives or with particularly hazardous substances as applicable. If such special procedures are routinely encountered, they should be included in the standard operating procedures for the department.

Departments shall assess the laboratories to determine if hazards are present or are likely to be present, which necessitate the use of personal protective equipment. A written hazard assessment must be completed and on file for each employee position. Contact EHS Department for guidance on completing these PPE hazard assessments and also see Wisconsin Department of Administration's [Personal Protective Equipment Compliance and Hazard Assessment Guide](#).

Defective or damaged personal protective equipment shall not be used.

When selecting PPE it is critical that the PPE selected is compatible and rated properly for the specific chemical. Note when selecting PPE there may be multiple sources that need to be investigated to find the proper PPE for the given application. All PPE that has limitation and ratings disclaimers must be reviewed. Some resources that can be utilized in PPE selection include:

- SDS (if full PPE description is provided) or Product Manufacturer information.
- Vendor such as:
 - Best Glove Company's Chemrest: <http://www.bestglove.com/site/chemrest/>
 - Grainger/Showa's Chemical Compatibility Charts or other vendor.
 - Ansell's Permeation and Degradation Resistance Guide: http://www.ansellpro.com/download/Ansell_7thEditionChemicalResistanceGuide.pdf
 - [NIOSH Pocket Guide to Chemical Hazards](#)

- [Recommendations for Chemical Protective Clothing: A Companion to the NIOSH Pocket Guide to Chemical Hazards: Database](#)
 - Reference Book – *Quick Selection Guide to Protective Clothing*, By Krister Forsberg, S. Z. Mansdorf.
 - Other Vendors (such as North, etc.)
 - EHS Department. Email EHS Officer with chemical and PPE assessment request. EHS will provide written recommendations via email response.
 - Other appropriate sources.

PPE must be properly selected by the department for the employees. Departments shall designate individual(s) with proper knowledge on PPE selection for this responsibility. Contact EHS Department for direction on selection appropriate PPE.

Eye wash stations and emergency deluge showers are necessary to minimize exposure in the event of an emergency. It is the responsibility of each department to flush eyewash stations weekly for a minimum of three minutes, and to inspect deluge showers annually. A record of these inspections should be kept on the apparatus and on file in the office of the department CHO.

Fire extinguishers shall be inspected monthly and an annual maintenance check will be conducted by the Facility Services Department. The department CHO in consultation with the department chair and Protective Services should arrange to identify and correct any deficiency of fire extinguishers.

First Aid kits may be provided by the department, and be readily available. Kits should be inspected and re-stocked periodically. There may be no expired items in a first aid kit.

5.6 General Housekeeping

A clean and well organized laboratory sets the foundation for a safe working environment. It is also important to follow basic personal hygiene practices such as not eating or drinking in laboratories, and washing your hands after working with hazardous materials. All laboratories must be maintained at a satisfactory level of orderliness and cleanliness. Below are some directions, but does not include all housekeeping requirement since these are contingent on the given circumstances of the individual lab.

Chemicals and equipment that are not in use and may pose an imminent danger must be properly stored or disposed of. Walkways and exit routes must be free of obstructions. Benches and active work spaces should be organized, leaving adequate workspace for safe work practices. Do not store concentrated acids or alkaline solutions or other hazardous chemicals above 6 feet from the floor. They could splash out or spill and cause injury when they are removed from shelf. Clean work areas at the end of each day. Ensure any hazardous chemical is cleaned up properly.

Each laboratory worker is directly responsible for the cleanliness of his or her workspace, and jointly responsible for common areas of the laboratory. Department management shall insist on the maintenance of housekeeping standards. Academic Custodial Services are responsible for properly completing their assigned housekeeping duties in labs.

Lab Clean Outs: When a laboratory is vacated due to retirement or other circumstance, the department supervisor and Chemical Hygiene Officer or other designated individual shall assure the lab is inspected in the company of the former occupant, prior to the occupant's leaving the university. Assure hazardous materials are appropriately labeled and determine what can be

disposed of through the hazardous waste program. See the appendices for further requirements including the laboratory move guidelines and lab decommissioning guidelines.

5.7 Emergency & Spill

Follow UWSP [Emergency Management Plan](#) for specific emergency response for the given emergency situation.

For chemical spills follow the [UWSP Emergency Management Plan's Hazardous Materials Release](#) procedure.

5.8 Signage

A sign will be posted near appropriate laboratory doors or near the entrances with emergency contact information, emergency telephone numbers, the responsible laboratory supervisor or pertinent personnel, appropriate chemical warnings, safety instructions, and other pertinent information.

Caution and warning signs indicating special or unusual hazards shall be posted as necessary and deemed appropriate by the CHO, EHS Officer, Lab Supervisor, or Department. Chemicals likely requiring signage are particularly hazardous substances as discussed below in Section 5.9.

Safety instruction signs shall be used where there is a need for general instructions and suggestions relative to safety measures (*i.e.*, when PPE is necessary, etc.). Eyewear signage should be posted where deemed appropriate by the department, in consultation with the department CHO.

Location signs for safety showers, eyewash stations, other safety and first aid equipment, exits, and areas where food and beverage consumption and storage are prohibited are recommended where deemed appropriate.

A color-coded circle is one of the standard icons included on signs at access points to laboratories. The circle is one of three colors--red, yellow, or green—**red** indicating no facilities personnel admitted for routine cleaning (these rooms will be scheduled to be cleaned in consultation with the building manager and lab staff), **yellow** that Facilities Services personnel are admitted to clean with escort only or by request (if lab personnel are present), and **green** that custodial staff are admitted for routine cleaning. Text to indicate this is included for ADA color-blindness considerations. **Any time Facilities Services personnel encounter a laboratory environment with an associated hazard sign that indicates “authorized personnel only” they should contact the responsible party for that space prior to entry (the exception being the aforementioned custodial access). This extends to Information Technology personnel.**



Adoption of this system and adherence by ALL personnel cannot be emphasized enough as UWSP scientists conduct BSL-2 (biological safety level 2) work (infectious organisms and research with recDNA technology and blood borne pathogens). Icons shown below with “biosafety level 2” indicate this type of work.



Consult with EHS for appropriate signage requirements. All signs must be kept current by the Department.

5.9 Particularly Hazardous Substances

Particularly hazardous substances (PHS) utilized in a laboratory require considerations and procedures in addition to the preceding sections. This section provides an overview of these requirements.

5.9.1 Particularly Hazardous Substances Defined

Particularly hazardous substances are defined as:

- 1) “Select Carcinogens” as defined in [1910.1450\(b\)](#)
- 2) “Reproductive Toxins” as defined in [1910.1450\(b\)](#)
- 3) Substances which have a “high degree of acute toxicity”. This include:
 - a) “Highly toxic chemicals (as defined by OSHA in [1910.1200 Appendix A](#))” A chemical falling within any of the following categories:
 - i) A chemical that has a median lethal dose (LD (50)) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
 - ii) A chemical that has a median lethal dose (LD(50)) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.
 - iii) A chemical that has a median lethal concentration (LC (50)) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.
- 4) Highly reactive/unstable material.

- 5) Those otherwise designated by UWSP. The Safety Data Sheet should be reviewed and EHS may be consulted, as necessary, to determine if a chemical should be defined as "Particularly Hazardous Substance."
- 6) See Appendix E for the UWSP list of Particularly Hazardous Substances.

These substances must generally be handled using the additional procedures outlined below. However, in some circumstances it may not be necessary to employ all of these special precautions even if the chemical is on the PHS list, such as when the total amount of an acutely toxic substance to be handled is a small fraction of the harmful dose or other factors. It is an essential part of prudent experiment planning to determine whether a chemical with a high degree of acute toxicity should be treated as a "particularly hazardous substance" in the context of a specific planned use. This determination not only will involve consideration of the total amount of the substance to be used, but also will require a review of the physical properties of the substance, its potential routes of exposure, and the circumstances of its use in the proposed experiment. Depending on the experience level and potential hazard, this determination may require consultation with the Department CHO, Principle CHO, co-workers and EHS Department ([Prudent Practices](#), 2011, [p.60](#)). The final decision as to whether or not a chemical meets the PHS requirements rests with the University Chemical Hygiene Officer.

5.9.2 Particularly Hazardous Substances Specific Procedures

Laboratories planning to use a particularly hazardous substance must follow the below steps:

1. Complete Particularly Hazardous Substance Use Approval Form and the form's applicable requirements. Obtain approval. See Appendix F.
2. The area where the PHS will be used is posted as a designated area. An example sign for this purpose is found in Appendix G or may be made by the department, as long as it includes the following information (as applicable):

<p>CAUTION DESIGNATED AREA for select carcinogens, reproductive toxins and highly acute toxic chemicals</p> <p>AUTHORIZED PERSONNEL ONLY</p>
--

The designated area sign may be posted for the entire lab or posted for a designated area within the lab if appropriate (i.e. fume hood, cabinet, other).

3. The practices outlined in the Particularly Hazardous Substance Use Approval Form, as well as all the appropriate work practices included in this policy must be followed. Conduct work with PHS within their designated area. Below are additional issues to consider when working with particularly hazardous substances in the lab (above and beyond what is already listed in this policy):
 - a. Conduct work with PHS in designated area.
 - b. All personnel should wash their hands and arms immediately after the completion of any procedure in which a PHS has been used and when they leave the laboratory.
 - c. Each procedure should be conducted with the minimum amount of the substance, consistent with the requirements of the work.
 - d. The laboratory should maintain a detailed inventory of all PHSs.
 - e. Take precautions for spill prevention measures and use secondary containment.

- f. Use a hood or other containment device (i.e. glove box) for procedures which may result in the generation of hazardous air contaminants (i.e. mists, fumes, gases or vapors) containing the substance.
 - g. Ensure proper personal protective equipment is selected for the given substance. See PPE section above. Disposable gloves or other PPE should be discarded after each use and/or immediately after contact with a PHS.
 - h. Storage of PHS. Limit quantities to only the amount needed. Store in secondary containment where appropriate. When transporting, use secondary containment or other protection against spills and breakage. Containers for particularly hazardous substances should have a designated safe location for storage. These are to be secured and then placed into their designated storage location when the experiment or procedure is completed.
4. The laboratory worker decontaminates all equipment and disposes of waste properly. Contaminated materials should either be decontaminated by procedures that decompose the PHS to produce a safe product or be removed for subsequent disposal. All work surfaces must be decontaminated at the end of the procedure or work day, whichever is sooner. Prior to the start of any laboratory activity involving a PHS, plans for the handling and ultimate disposal of contaminated wastes and surplus amounts of the PHS should be completed. EHS can assist in selecting the best methods available for disposal. See Particularly Hazardous Substance Approval Form.
 5. Meet other department requirements.

6.0 ENFORCEMENT AND AUTHORITY

The CHO of each department or unit (or UCHO in the absence of the unit CHO) in consultation with the Department Chair or equivalent, EHS Officer, or Police and Security Services Director or representative, has the authority to suspend laboratory activities in part or whole if deficiencies in laboratory procedures or equipment pose a significant safety threat. Infractions of this nature may also entail the pursuance of disciplinary actions against the PI or laboratory supervisor and staff members as set forth per the University Handbook.

If suspension of laboratory operations is necessary, a written report including a description of the nature of the hazard and remedial actions necessary to resume activities will be filed with the Dean of the College, the Police and Security Services Director, and the EHS Office. A copy of the report will be kept on file in the office of the department/unit CHO.

Written appeal under this procedure should be made to the Department Chair, CHO, UCHO or EHS Officer for consideration by the suspending authorities.

The CHO should conduct periodic inspections of their applicable labs and enact necessary corrective actions.

The UCHO has the responsibility to conduct periodic laboratory inspections. Inspections shall be conducted while the laboratory is in use so that the operating procedures will be verified as being followed by all personnel/students. The schedule of all inspections, checklists, and reports will be kept in each department office. Inspection results and checklists used shall be communicated to the laboratory supervisor after completion of the inspection.

7.0 EMPLOYEE AND STUDENT TRAINING

Laboratory employees, student laboratory assistants, other university affected employees, and students shall receive appropriate training on this policy. Training shall be attended annually.

Training sessions will be documented and kept on file by the department.

Employees must have attended standard Hazard Communication training prior to attending Laboratory Safety Training.

Training will include the following, where applicable:

1. Information and training on the hazards of the chemicals present in the labs.
2. The contents of the OSHA [Laboratory Standard](#) and its appendices [A](#) & [B](#) (CFR 1910.1450). See Appendix A of this plan.
3. The contents, availability, and location of the written UWSP Chemical Hygiene Plan.
4. Information concerning the OSHA [1910.1000, July 1, 1992 edition](#) permissible exposure limits including discussion of the meaning of all terms, significance of exposure, and location of copies of the exposure limits.
5. Signs and symptoms associated with exposure to applicable hazardous chemicals (usually on SDS).
6. Location of reference materials including SDS for chemicals in the laboratories.
7. Methods and observations that may be used to detect the presence or release of a hazardous chemical such as monitoring conducted by the employer, visual appearance or odor of hazardous chemicals, odor thresholds, etc.
8. Information concerning the physical and health hazards of the chemicals in laboratory work areas.
9. Information about the storage, use, and disposal of hazardous and non-hazardous chemicals in the work area.
10. The measures employees can take to protect themselves from chemical hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, engineering controls, standard operating procedures, and personal protective equipment.
11. Other information as deemed necessary.

EHS will offer training and train-the-trainer courses to all departments. Departments are to ensure their staff is trained properly. Laboratory Supervisors/Faculty are to train affected students.

Campus staff from other work departments must be informed by the responsible department of any special hazards to which they might be exposed while working temporarily in the laboratory. This must be coordinated in combination with Facility Services and the department or unit. Staff performing routine (daily) cleaning in labs must also be informed by the department of any unusual hazards.

8.0 CONTRACTOR INFORMATION

Contractors working in labs are to be provided information by the University as to hazards specific to each of their work areas. Facility Services will inform the department Chair of any contractor work scheduled in a lab. The department Chair will inform the department CHO when such work is to be performed. The CHO or designee will then provide the necessary site-specific training or information as necessary to the contractor in coordination with Facility Services.

9.0 MEDICAL CONSULTATION AND MEDICAL EXAMINATIONS

The OSHA Laboratory Standard mandates that employers provide medical attention, examinations, and follow-up examinations at the physician's discretion to employees. This medical attention, etc. is required under the following circumstances:

1. Whenever an employee develops signs and/or symptoms associated with a hazardous chemical to which they may have been exposed; or

2. Whenever exposure monitoring reveals an exposure level above the OSHA action level or exposure above the permissible exposure level for OSHA regulated substances; or
3. Whenever an event takes place in the work area such as a spill, leak, explosion, or other occurrence which results in the likelihood of a hazardous exposure. Such an occurrence requires an opportunity for medical consultation for the purpose of determining the need for a medical examination.

The Chemical Hygiene Officers shall provide the examining physician the following information:

1. Identity of the hazardous chemical to which the employee may have been exposed,
2. A description of the conditions of exposure including exposure date if available,
3. A description of the signs and symptoms of exposure, if any, that the employee is experiencing, and
4. A copy of the relevant SDS or other information.

The employer shall request a written opinion from the physician including:

1. Recommendations for future medical follow-up,
2. Results of examination and associated tests,
3. Any medical condition revealed which may place the employee at increased risk as the result of chemical exposure, and
4. A statement that the employee has been informed by the physician of the results of the examination or consultation and told of any medical conditions that may require additional examination or treatment.

The information provided by the physician shall not include specific findings and/or diagnoses which are unrelated to occupational exposure.

The Safety & Loss Control Department has responsibility to maintain a file concerning any events and resultant medical examinations or consultations.

All medical examinations and consultations shall be performed by or under the direct supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place. Employee along with Supervisor must complete a Worker's Compensation report for any of the above incidents. See "EMPLOYEE INJURY REPORTING PROCEDURE" instructions to be followed at Risk Management website.

Students and non-employees are to complete an Accident Report for Non-Employees along with their Faculty member or lab supervisor and submit per the instructions on the form.

10.0 REFERENCE MATERIALS

Appendix D provides a listing of reference materials that may be utilized to assist departments with safety and compliance. These include materials for use with addressing hazard communication, control measures, waste disposal, PPE, and other issues.

APPENDIX A
OSHA LABORATORY SAFETY STANDARD & APPENDIX A and B
[29CFR1910.1450](#)
[29CFR1910.1450 Appendix A](#)
[29CFR1910.1450 Appendix B](#)

APPENDIX B
List of Key UWSP Personnel

Faculty/staff assigned research areas are responsible for meeting compliance with the Laboratory Standard for the area assigned to him/her. Minimum requirements for compliance are listed in the campus Chemical Hygiene Plan under Section 2. The following lists faculty/staff and the area for which (s)he is responsible.

POSITION/AREA	NAME/CONTACT (ext.)	POSITION/AREA	NAME/CONTACT
UWSP Chancellor	Thomas Gibson, 2123	Chemical Hygiene Officer- Wausau	Penny Workman 715-261-6317
Vice Chancellor for Academic Affairs	La Vonne Cornell-Swanson, 3272	Chemical Hygiene Officers – Biology Department	Brian Barringer, 2452 Sarah Jane Alger, 2018
Vice Chancellor, Business Affairs	Pratima Gandhi, 2641	Chemical Hygiene Officer – Health Sciences.	Dawn Barten, 4701
Dean of College of Letters of Science	Josh Hagen, 3693	Chemical Hygiene Officer – Health Services.	Cassandra Zblewski, 4646
Dean of College of Natural Resources	Brian Sloss, 3522	Department Chair Chemistry	Nate Bowling, 2888
Dean of College of Professional Studies	Marty Loy, 4904	Department Chair Biology	Brian Barringer, 2455
Director, Human Resources	Eric Roesler, 3975	Department Chair Health Sciences	Rebecca Sommer, 3766
EHS Officer	Joe Proulx, 2618	Director of Health Services	Helen Luce, 4646
Director of Facility Services	Paul Hasler, 4275	Chemical Hygiene Officer-Wis Env Analysis Lab	Juli Bowling 4490
Custodial Services Program Supervisor	Tammy Larson, 3037	Chemical Hygiene Officer- College of Natural Resources	Rob Michitsch 4190
University Chemical Hygiene Officer	Kevin Czerwinski, 4154	Chemical Hygiene Officer- Marshfield	Dana Haaagenson 715-389-6526

Individual departments may have listings of other responsible personnel (i.e. faculty, etc.) and/or other contacts. Unless otherwise noted, four digit numbers are preceded by 715-346-####

Updated 4 February 2021.

APPENDIX C
TRAINING DOCUMENTATION FORM

CHEMICAL HYGIENE TRAINING

Training Conducted By: _____ Date: _____

Department: _____

Description of Training:

Attendance: (Print and Sign)

APPENDIX D
REFERENCE MATERIALS

OSHA LABORATORY SAFETY STANDARD & APPENDIES A and B 29CFR1910.1450

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10108

OSHA Lab Safety Reference Page.

<http://www.osha.gov/SLTC/laboratories/index.html>

WI DNR Hazardous Waste Regulatory Program NR 661

<http://www.dnr.state.wi.us/org/aw/wm/hazard/>

<http://legis.wisconsin.gov/rsb/code/nr/nr661.pdf>

LIST OF ACUTE HAZARDOUS WASTES, P-listed wastes:

<http://www.legis.state.wi.us/rsb/code/nr/nr661.pdf>

National Research Council, Prudent Practices in the Laboratory. Handling and Disposal of Chemicals, National Academy Press, Washington, DC, 1995

http://www.nap.edu/catalog.php?record_id=4911#toc

Agency for Toxic Substances and Disease Registry ToxFAQs

<http://www.atsdr.cdc.gov/toxfaqs/index.asp>

OSHA 29 CFR Ch. XVII (7-1-92 Edition)

Table Z-1-A -- Limits for Air Contaminants (required by WI Dept. of Commerce)

<http://dsps.wi.gov/sb/docs/sb-IndustHygLimitsAirContamins.pdf>

NIOSH Chemical Page Many links on this page.

<http://www.cdc.gov/niosh/topics/chemical.html>

The Report on Carcinogens, prepared by the National Toxicology Program (NTP).

<http://ntp.niehs.nih.gov/>

TOXNET – Toxicology Data Network

<http://toxnet.nlm.nih.gov/index.html>

International Chemical Safety Cards

<http://www.cdc.gov/niosh/ipcs/nicstart.html>

International Programme on Chemical Safety

<http://www.who.int/ipcs/en/>

OSHA Carcinogen Page

<http://www.osha.gov/SLTC/laboratories/index.html>

NIOSH Pocket Guide to Chemical Hazards

<http://www.cdc.gov/niosh/npg/default.html>

Recommendations for Chemical Protective Clothing: A Companion to the NIOSH Pocket Guide to Chemical Hazards: Database

<http://www.cdc.gov/niosh/ncpc/ncpc1.html>

Best Glove Company's Chemrest (vendor PPE selection guide)

<http://www.bestglove.com/site/chemrest/>

Ansell's Permeation and Degradation Resistance Guide:

http://www.ansellpro.com/download/Ansell_7thEditionChemicalResistanceGuide.pdf

Lab Safety Supply Compatibility Charts.

<http://www.labsafety.com/refinfo/ezfacts/ezf166.htm>

SDS On-Line Sources

<http://www.uwsp.edu/ehs/SDS.htm>

CAMEO (Database of Hazardous Materials-NOAA)

<http://cameochemicals.noaa.gov/>

UWSA Safety & Loss Prevention

<http://www.wisconsin.edu/oslp/rm/>

WI DOA Risk Management Department

<http://www.doa.state.wi.us/section.asp?linkid=55&locid=2>

“Emergency Response Guidebook

<http://phmsa.dot.gov/hazmat>

Environmental Protection Agency's “LIST OF EXTREMELY HAZARDOUS SUBSTANCES

<http://www.epa.gov/emergencies/docs/er/355table01.pdf>

NIOSH Respirator Selection Logic

<http://www.cdc.gov/niosh/docs/2005-100/pdfs/05-100.pdf>

OSHA Chemical Database

<http://www.osha.gov/web/dep/chemicaldata/#target>

OSHA Chemical Reactivity Hazards

<http://www.osha.gov/SLTC/reactivechemicals/index.html>

Cornell University Labeling Process

http://www.ehs.cornell.edu/labels/rtk_requestlabel.cfm

EPA Reference Guide to Odor Thresholds

<http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=40610>

NFPA 45: Standard on Fire Protection for Labs using Chemicals (call EHS at X2320)

Note: The list above is by no means exclusive. Other sources may be consulted for information. Absence of a listing in the above reference material does not necessarily indicate absence of hazard. EHS can help locate additional sources.

APPENDIX E

LIST OF PARTICULARLY HAZARDOUS SUBSTANCES

NOTE: This list is not exhaustive and each chemical's utilization circumstances are to be evaluated by the Faculty/PI, CHO, and EHS (as necessary) to determine if PHS requirements are necessary. Please refer to the material safety data sheet to determine whether a chemical is a carcinogen, reproductive toxin or chemical with high acute toxicity.

http://www.uwsp.edu/ehs/Training%20Files/PHS_Chemical_List_050809.xlsx

APPENDIX F

Particularly Hazardous Substance Use Approval Form

Follows on next page.

Particularly Hazardous Substance Use Approval Form

Before using any particularly hazardous substance, please complete this form and have it approved by your supervisor or Chemical Hygiene Officer. See the back of this form for more complete definitions of a particularly hazardous substances and instructions for completing this form. **Do not use the substance until approval is granted.**

Name _____ Phone _____ Bldg/Rm. _____

Substance Information

Chemical name	<input type="radio"/> Carcinogen
Estimated Rate of Use (e.g., grams/month)	<input type="radio"/> Reproductive Toxin
MSDS reviewed and readily available <input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> High Acute Toxicity

Hazards

Physical Hazards		Health Hazards	
Flammable <input type="radio"/> Yes <input type="radio"/> No	Corrosive <input type="radio"/> Yes <input type="radio"/> No	Significant Route(s) of Exposure	
Reactive <input type="radio"/> Yes <input type="radio"/> No	Temperature sensitive <input type="radio"/> Yes <input type="radio"/> No	Inhalation Hazard <input type="radio"/> Yes <input type="radio"/> No	
Stability (e.g., decomposes, forms peroxides, polymerizes, shelf-life concerns) <input type="radio"/> Stable <input type="radio"/> Unstable		Skin Absorption <input type="radio"/> Yes <input type="radio"/> No	
Known incompatibilities		Sensitizer <input type="radio"/> Yes <input type="radio"/> No	
		Medical surveillance <input type="radio"/> Yes <input type="radio"/> No	

Procedure (Briefly describe how material will be used & precautions for preparation of stock solutions & dilutions)

Vacuum system used Yes No. If yes, describe method for trapping effluents _____

Administered to animals Yes No. If yes, special precautions for excreta; are metabolites hazardous? (describe)

Exposure Controls

Personal Protective Equipment (PPE) (Check all that apply)	Ventilation/Isolation
<input type="radio"/> Safety glasses <input type="radio"/> Chemical splash goggles <input type="radio"/> Face shield	Fume hood required <input type="radio"/> Yes <input type="radio"/> No
<input type="radio"/> Gloves (type _____) <input type="radio"/> Lab coat <input type="radio"/> Apron	face velocity operates at > 100 feet per minute <input type="radio"/> Yes <input type="radio"/> No
<input type="radio"/> Respirator <input type="radio"/> SCBA (<i>Respirators / SCBA require Safety approval</i>)	Glove box required <input type="radio"/> Yes <input type="radio"/> No
<input type="radio"/> Other, please describe	Vented gas cabinet required <input type="radio"/> Yes <input type="radio"/> No

Location/Designated Area

Building: _____ Room: _____	Storage Method/Precautions
Describe the area where substance(s) will be used and the method of posting it as a designated area.	Building: _____ Room: _____
	<input type="radio"/> refrigerator/freezer <input type="radio"/> fume hood
	<input type="radio"/> double containment <input type="radio"/> vented cabinet
	<input type="radio"/> flammable liquid storage cabinet
	<input type="radio"/> other, describe

Spills, Decontamination and Waste Disposal

Spill control materials readily available <input type="radio"/> Yes <input type="radio"/> No	In-lab neutralization <input type="radio"/> Yes <input type="radio"/> No
Special personal protective equipment needed (e.g., SCBA) <input type="radio"/> Yes <input type="radio"/> No	Deactivation <input type="radio"/> Yes <input type="radio"/> No
Decontamination method	Dispose to Safety Dept. <input type="radio"/> Yes <input type="radio"/> No

Authorization

This individual has demonstrated an understanding of the hazards of the listed substance and plans to handle the substance in a manner that minimizes risk to health and property. He/she is authorized to use the substance in the manner described.

Principal Investigator / Supervisor

Chemical Hygiene Officer

Key to Form*

Using this form

For purposes of this form, a particularly hazardous substance (PHS) includes known or suspected human carcinogens, reproductive toxins, substances with acute toxicity above certain thresholds, and highly reactive or unstable materials. A more complete definition is included in the Chemical Hygiene Plan (CHP), Section 5.9.

Each individual planning to use a PHS must complete this form and have it approved by their departmental Chemical Hygiene Officer or designee prior to the initial use.

Responsibility for determining laboratory inventory of PHSs and completing this form rests jointly with the supervisor and the individual seeking use approval. Consultation with Chemical Hygiene Officer and EHS is available.

To simplify the approval process, EHS has developed a list of the PHSs found in Appendix F of the CHP; however, this list is not exhaustive. For help in determining whether a substance meets the PHS criteria, call EHS at 2320.

1. PHS Information

- A. Enter name and CAS (Chemical Abstract Service) number of the PHS. CAS numbers may be found on MSDS or on [TOXNET](#)
- B. See Chemical Hygiene Plan for definitions of each of these items in Section 5.9.
- C. Self-explanatory
- D. MSDS may be available in hard copy or via the internet. Must be on file with Department once chemical is on site.

2. Hazards

Refer to *Physical Properties* section of MSDS or other reference (see App. D of CHP for resources).

- A. *Flammable liquid*: flashpoint $\leq 100^\circ$ F
Flammable solid: liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or which can be ignited readily and when ignited burns vigorously. Include other fire dangers such as explosives or combustibles. Oxidizers.
- B. *Compressed Gas*: Need to address hazards posed by using compressed gases (i.e. leaks, cylinder security, storage, etc.)

- C. *Reactive*: May become unstable on contact with water, air, or other (i.e., produces flammable or toxic gas. Spontaneously ignites). List details.
- D. *Temperature Sensitive*: Must be kept within a certain temperature range to ensure stability. List range.
- E. *Unstable*: Substance will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shock, or high or elevated pressure or temperature. Also includes time-sensitive materials, particularly those that produce peroxides over time.. List details.
- F. *Known Incompatibilities*: List chemicals or materials that might cause instability or adverse conditions if mixed with the particularly hazardous substance(s).
- G. *Routes of Exposure: Inhalation*: Inhalation of the substance may cause adverse health effects. *Ingestion*: Ingestion of the substance may cause adverse health effects. *Skin exposure*: Substance is readily absorbed through the skin or can cause significant damage to skin upon contact.
- H. *Sensitizer*: Certain chemicals are known to affect the immune system, causing a person to experience allergic reactions, up to and including anaphylactic shock, upon exposure to the chemical, after the initial sensitization.
- I. *Corrosive*: Causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact.
- J. Some chemicals can accumulate in body tissues and may require initial or periodic medical surveillance. However, no exposures have reached any action levels at UWSP. Contact EHS for more information.
- K. List any other health hazards.

3. Procedure

Describe the part of the experimental procedure that involves the substance, with particular attention to how the chemical will be manipulated and other pertinent details. Add additional pages if necessary.

4. Exposure Controls

- A. A fume hood should be used for chemicals that may produce hazardous air containments (such as vapors, gases, mists, or fumes).
- B. A glove box should be used if protection from atmospheric moisture or oxygen is needed or

when a fume hood may not provide adequate protection from exposure to the substance; e.g., a protection factor of 10,000 or more is needed.

- C. Highly toxic gases must be used and stored in a vented gas cabinet. Connection to a laboratory exhaust system may be required for highly toxic gases used in large volumes. Gas feed lines operating above atmospheric pressure must use coaxial tubing.

- D. **PPE. Safety glasses** protect from flying particles and minor chemical splashes, for instance, from opening a centrifuge tube.

Chemical splash goggles should be worn when there is a possibility of a significant chemical splash. Most chemical manipulations, particularly where pressure is involved, warrant chemical splash goggles.

Face shield, worn with splash goggles, provides full face protection when working with large volumes of chemicals.

Gloves should be worn when working with any particularly hazardous substance. Since not all gloves offer significant protection from every chemical, it is important to choose the glove that offers the best resistance. See the MSDS, the CHP or appropriate glove manufacturer compatibility charts for more information. See Appendix D in CHP for more resources.

Lab coats should be worn when working with hazardous substances. The coat should not be worn outside the laboratory and should be laundered separately from other clothing.

Aprons offer chemical resistance and protection from splashes and can be used in conjunction with a lab coat. Choose correct material.

Respirators offer protection from inhalation of substances when engineering controls are not sufficient. Use of respirators must be approved by EHS following the [UWSP RESPIRATORY PROTECTION PROGRAM](#). Proper respirator type must be selected for the hazard present. Contact EHS at 2320 if a respirator is needed.

- E. Training Plan. Requestor must have a plan established to train affected personnel on hazards, protection & control measures, disposal, emergency response, and other relevant information regarding the PHS. EHS is available to assist with training as needed.

- C. Describe where in this room the substance will be used. For example, in a hood, on a specific bench top, in several areas of the laboratory, etc. This room or area must be posted with a *Designated Area* sign available through the department or Chemical Hygiene Officer.

- D. Describe where the substance will be safely stored (e.g., on a shelf, in a refrigerator, in a hood, etc).

- E. Self-explanatory. *Double containment* means that the container will be placed inside another container that is capable of holding the contents in the event of a leak and provides a protective outer covering in the event of contamination of the primary container.

6. Spills and Decontamination

- A. Describe emergency plan in event spill or medical emergency. See [UWSP Emergency Management Plan](#) for guidance.

- B. Self-explanatory.

- C. Self-explanatory.

- D. Describe how the work area will be decontaminated after use, in the event of a spill, or upon completion of the work and before removal of the designated area signage. Add additional pages if necessary.

7. Waste Disposal

- A. Some corrosive chemicals may be neutralized before disposal via the drain or the hazardous waste program.

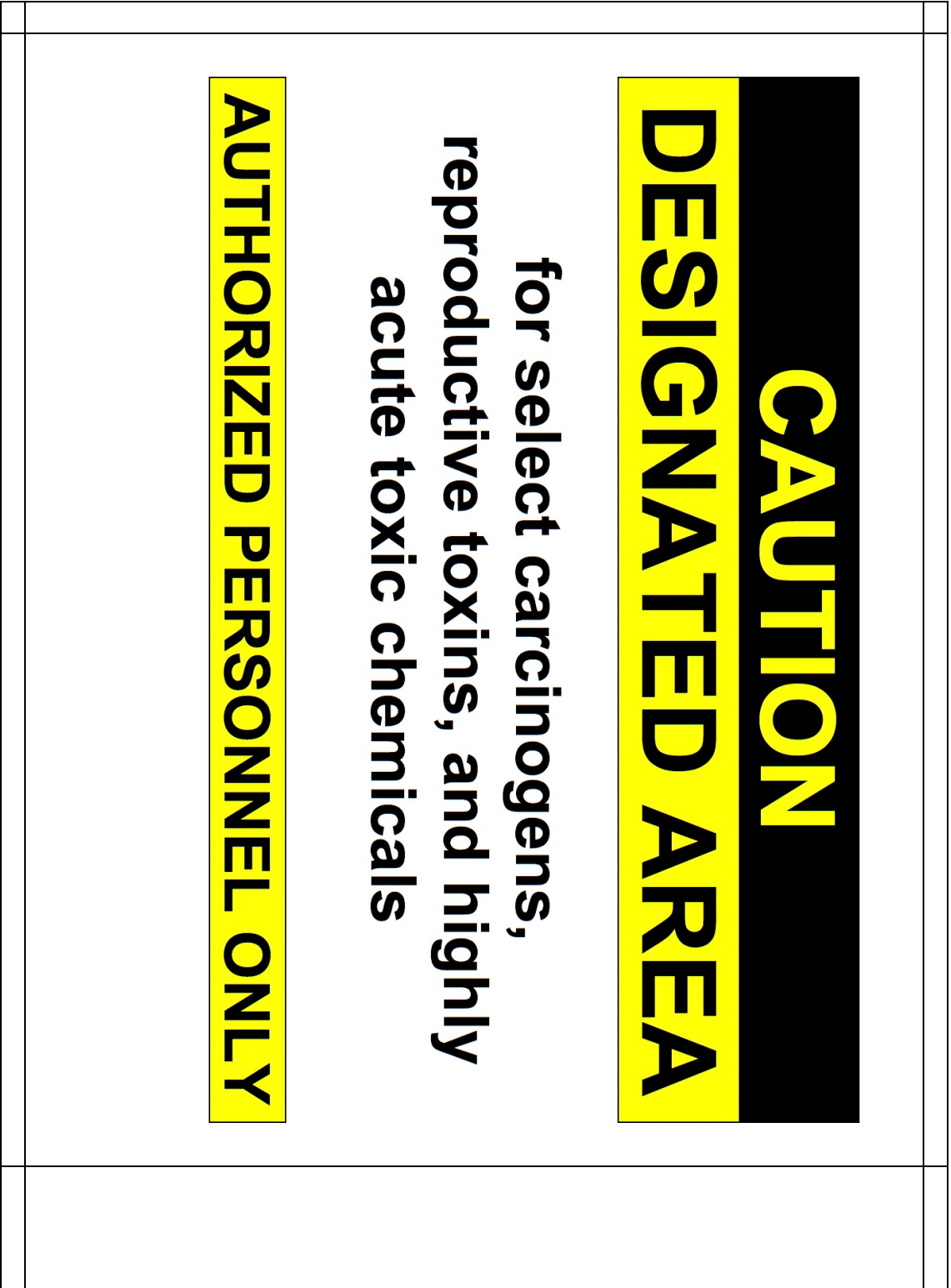
- B. Some materials can be chemically deactivated before disposal via the drain or the hazardous waste program.

- C. Certain wastes must be disposed of through the hazardous waste program through EHS. Consult with EHS for more information about the hazardous waste program and what must be done with lab wastes products.

Location/Designated Area

A and B. Building and room number where the substance will be used.

PARTICULARLY HAZARDOUS SUBSTANCE SIGN



HOLD

**UNAUTHORIZED INDIVIDUALS DO NOT
TOUCH.**

**DO NOT ADD GARBAGE TO THIS
RECEPTACLE.**

**MATERIALS IN GARBAGE UNDER
INVESTIGATION.**

**CONTACT _____DEPARTMENT/NAME
@(___) OR EHS DEPARTMENT (2320)
WITH QUESTIONS.**

BUILDING_____

HOLD DATE ___/___/___

APPENDIX H
DEPARTMENT SPECIFIC PROCURDUES OR REFERENCES