

UCDAVIS

**Neurobiology Physiology & Behavior
College of Biological Sciences**

INJURY AND ILLNESS PREVENTION PROGRAM



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Neurobiology, Physiology & Behavior

INJURY AND ILLNESS PREVENTION PROGRAM

The Department of **Neurobiology, Physiology & Behavior** is a large research and teaching unit in the College of Biological Sciences, University of California, Davis. This Injury and Illness Prevention Program has been prepared by the department in accordance with University Policy ([UC Davis Policy and Procedure 290-15 :Safety Management Program](#)) and California Code of Regulations Title 8, Section 3203 (8 CCR, Section 3203). The goal of this program is to provide and maintain a safe and healthy work environment to all of our employees. Each member within the department is required to follow and adhere to the items set forth in this program.

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Neurobiology, Physiology & Behavior

INJURY AND ILLNESS PREVENTION PROGRAM

TABLE OF CONTENTS

- Preface Department Information**
- I. Authorities and Responsible Parties**
 - II. System of Communications**
 - III. Hazard Identification, Evaluation, and Inspection**
 - IV. System for Assuring Employee Compliance with Safe Work Practices**
 - V. Accident Investigation**
 - VI. Hazard Correction**
 - VII. Health and Safety Training**
 - VIII. Recordkeeping and Documentation**
 - IX. Resources**

APPENDICES

- A. Hazard Alert Form**
- B. Job Safety Analyses**
- C. Worksite Inspection Form**
- D. Accident Investigation Form**
- E. Hazard Correction Form**
- F. Safety Training Attendance Record**
- G. General Safety Training Checklist**
- H. Chemical Hygiene Plan (For Laboratories)**

Department Information

Department Name: **Neurobiology, Physiology & Behavior**

Department Chair: **Gregg Recanzone**

Address: **192B Briggs Hall**

Telephone Number: **752-2559**

Buildings Occupied by Department

1. **Building:** Briggs Hall
Unit(s): Main Office and Research Laboratories
Contact: Jock Hamilton
Phone: 752-9700

2. **Building:** Life Science
Unit(s): Research Laboratories
Contact: Gloria Partida
Phone: 752-8507

3. **Building:** Hickey Gym
Unit(s): Research Laboratories & Teaching Laboratories
Contact: Salvador Borges
Phone: 752-0965

4. **Building:** Science Laboratory Building
Unit(s): Teaching Laboratories & Animal Facility
Contact: Lifeng Wang
Phone: 752-3582

5. **Building:** Hutchison Hall
Unit(s): Research Laboratories
Contact: Lea DeGraffenried
Phone: 752-2972

6. **Building:** CARU
Unit(s): Research Laboratories
Contact: Chuck Fuller
Phone: 752-9698/752-2979

7. **Building:** ACL
Unit(s): Research Laboratories
Contact: Tom Hahn
Phone: 752-8531

I. Authorities and Responsible Parties

The authority and responsibility for the implementation and maintenance of the Injury and Illness Prevention Program (IIPP) is in accordance with University Policy (UCD Policy & Procedure Manual Section 290-15: Safety Management Program) and California Code of Regulations (8 CCR, Section 3203) and is held by the following individuals:

Name: **Gregg Recanzone**

Title: **Department Chair**

Authority: Authority and responsibility for ensuring implementation of this IIPP

Signature: _____ Date: _____

The safety coordinator will serve as a resource person for Health and Safety Hazards in the department and act as liaison between the safety committee and staff, faculty and students. Distribute safety related information and coordinate Facility Inspection /Audits. Assist in identifying program deficiencies.

Name: **Lifeng Wang**

Title: **Safety Coordinator**

Signature: _____ Date: _____

Additionally, all Principal Investigators and supervisors are responsible for the implementation and enforcement of this IIPP in their areas of responsibility in accordance with University Policy (UCD Policy & Procedure Manual Section 290-15: Safety Management Program). Assure employees and students are fully trained and document all training records; Evaluate and identify work hazards; Review Standard Operating Procedures annually and update as required.

All Employees/Students should follow the Standard Operating Procedures and use maximum care to prevent injuries. Use safety equipment (such as personal protective equipment) provided; Report unsafe or hazardous situations, equipment or practices to your supervisor or instructor immediately; Notify your supervisor ASAP about any work-related accidents or injuries; Understand your training instructions, do not hesitate to ask questions about job safety; Support and assist in the implementation of the section's Safety & Health Program.

The effectiveness and success of the Safety & Health Program depends upon the active support and commitment at all levels of our organization.

II. System of Communications

1. Effective communications with **Neurobiology, Physiology & Behavior** employees have been established using the following methods:
 - Standard Operating Procedures Manual
 - Material Safety Data Sheets
 - Monthly meetings
 - EH&S Safety Nets/Fire Nets
 - Hazard Alert Form
 - Safety Newsletter
 - Handouts
 - Building Evacuation Plan
 - E-mail
 - Posters and warning labels
 - Job Safety Analysis – Initial Hire and Annual Review
2. Employees are encouraged to report any potential health and safety hazard that may exist in the workplace. [Hazard Alert Forms \(Appendix A\)](#) are available to employees for this purpose. Forms are to be placed in the Safety Coordinator's (Lifeng Wang) departmental mail box. Employees have the option to remain anonymous when making a report.
3. Employees have been advised of adherence to safe work practices and proper use of required personal protective equipment. Conformance will be reinforced by discipline for non-compliance in accordance with University policy ([UCD Procedure 62 - Personnel Policies for Staff Members, Corrective Action](#)).

III. Hazard Identification, Evaluation, and Inspection

Job Hazard Analyses and worksite inspections have been established to identify and evaluate occupational safety and health hazards.

1. Identification of Health Hazard

The purpose of the Hazard Assessment is to ensure that all chemicals are evaluated for hazardous properties and that employees working with these chemicals are informed of those hazards and precautions they should take when using these materials. To accomplish this, the following steps are recommended:

- An inventory of hazardous materials, with a Material Safety Data Sheet (MSDS) for each material available to employees. To search MSDS, click [MSDS Search](#).
- Labeling of all containers of hazardous materials in the workplace.
- A training program to actively informing employees of potential hazards in workplace.
- A written Standard Operating Procedures (SOP).
- Spill Control procedures be posted.

2. Job Safety Analysis:

Job Safety Analysis (JSA) identifies and evaluates individual employee work functions, potential health or injury hazards, and specifies appropriate safe practices, personal protective equipment, and tools/equipment. Each employee should have a **Job Safety Analyses** on record; Occupational safety and health hazards should be identified for each workplace.

Template **Job Safety Analyses** are located in [Appendix B1](#) (general office) and [B2](#) (laboratory). Completed Job Safety Analyses should be kept in the **IIPP Addendum Binder**.

3. Worksite Inspections

Worksite inspections are conducted to identify and evaluate potential hazards. Types of worksite inspections include both periodic scheduled worksite inspections as well as those required for accident investigations, injury and illness cases, and unusual occurrences. Supervisors should conduct worksite inspections for the areas in charge.

Template **Worksite Inspection Forms** are located in [Appendix C1](#) (general office) and [C2](#) (laboratory). Completed Worksite Inspection Forms should be kept in the **IIPP Addendum Binder**.

IV. System for Assuring Employee Compliance with Safe Work Practices

Employees have been advised of adherence to safe work practices and the proper use of required personal protective equipment. Conformance will be reinforced by discipline for non-compliance in accordance with University policy ([UCD Procedure 62 - Personnel Policies for Staff Members, Corrective Action](#)).

The following methods are used to reinforce conformance with this program:

1. Distribution of Policies
2. Training Programs
3. Safety Performance Evaluations

Performance evaluations at all levels must include an assessment of the individual's commitment to and performance of the accident prevention requirements of his/her position. The following are examples of factors considered when evaluating an employee's safety performance.

- Adherence to defined safety practices.
 - Use of provided safety equipment.
 - Reporting unsafe acts, conditions, and equipment.
 - Offering suggestions for solutions to safety problems.
 - Planning work to include checking safety of equipment and procedures before starting.
 - Early reporting of illness or injury that may arise as a result of the job.
 - Providing support to safety programs.
4. Statement of non-compliance will be placed in performance evaluations if employee neglects to follow proper safety procedures, and documented records are on file that clearly indicate training was provided for the specific topic, and that the employee understood the training and potential hazards.
 5. Corrective action for non-compliance will take place when documentation exists that proper training was provided, the employee understood the training, and the employee knowingly neglected to follow proper safety procedures. Corrective action in accordance with university contracts and policies.

V. Accident Investigation

University Policy requires that work-related injuries and illnesses be reported to Workers' Compensation within 24 hours of occurrence and state regulation requires all accidents be investigated.

Neurobiology, Physiology & Behavior employees will immediately notify their supervisor when occupationally-related injuries and illnesses occur, or when employees first become aware of such problems. For **emergencies always call 9-1-1.**

1. **Supervisors** will investigate all accidents, injuries, occupational illnesses, and near-miss incidents to identify the causal factors or attendant hazards. Appropriate repairs or procedural changes will be implemented promptly to mitigate the hazards implicated in these events. Proper injury reporting procedures can be found at http://safetyservices.ucdavis.edu/programs-and-services/risk-management/copy_of_workers-compensation/workers-compensation/workers-compensation-injury-reporting.
2. The **Accident Investigation Form (Appendix D)** shall be completed to record pertinent information and a copy retained to serve as proper documentation.
3. **Note:** Serious occupational injuries, illnesses, or exposures must be reported to Cal/OSHA by an EH&S representative within eight hours after they have become known to the supervisor. These include injuries/illnesses/exposures that cause permanent disfigurement or require hospitalization for a period in excess of 24 hours. Please refer to EH&S [SafetyNet #121](#) -OSHA notification instructions.
4. **Documented Investigation/Corrections**

All Accident/Incident investigation and correction should be documented and keep the records ready for CAL/OSHA inspection. **Accident Investigation Form (Appendix D)** can be used or a written report may be substituted to state corrective actions taken to prevent a recurrence.

VI. Hazard Correction

Hazards discovered either as a result of a scheduled periodic inspection or during normal operations must be corrected by the supervisor in control of the work area, or by cooperation between the department in control of the work area and the supervisor of the employees working in that area. Supervisors of affected employees are expected to correct unsafe conditions as quickly as possible after discovery of a hazard, based on the severity of the hazard.

Specific procedures that can be used to correct hazards include, but are not limited to, the following:

- Tagging unsafe equipment “Do Not Use Until Repaired,” and providing a list of alternatives for employees to use until the equipment is repaired.
- Stopping unsafe work practices and providing retraining on proper procedures before work resumes.
- Reinforcing and explaining the need for proper personal protective equipment and ensuring its availability.
- Barricading areas that have chemical spills or other hazards and reporting the hazardous conditions to appropriate parties.

Supervisors should use the [Hazard Correction Report \(Appendix E\)](#) to document corrective actions, including projected and actual completion dates.

If an imminent hazard exists, work in the area must cease, and the appropriate supervisor must be contacted immediately. If the hazard cannot be immediately corrected without endangering employees or property, all personnel need to leave the area except those qualified and necessary to correct the condition. These qualified individuals will be equipped with necessary safeguards before addressing the situation.

VII. Health and Safety Training

1. General Policy

Initial and refresh safety training of all employees in **Neurobiology, Physiology & Behavior** department will be provided to familiarize them with general occupational hazards at their work site and the safe work practices to avoid injury and illness.

- Supervisors are provided with training to become familiar with the safety and health hazards to which employees under their immediate direction and control may be exposed.
- All new employees receive training prior to engaging in responsibilities that pose potential hazard(s).
- All employees given new job assignments receive training on the hazards of their new responsibilities prior to actually assuming those responsibilities.
- Training is provided whenever new substances, processes, procedures or equipment (which represent a new hazard) are introduced to the workplace.

All training records should be documented.

[The Safety Training Attendance Record form is located in Appendix F.](#)

2. New Employee Information

All new employees will receive appropriate safety training materials and attend a New Employee Orientation as well as specific training for their workplace.

New employees should familiarize themselves with the IIPP procedure in detail. Immediate supervisors should ensure that employees understand all policies pertaining to their assignments and make sure the employee signs the appropriate documents. A general safety training checklist (**Appendix G**) can be used to cover the minimum safety training requirements.

3. Site and Task Orientation

PIs and laboratory supervisors are responsible for training employees under their direction about specific site and task occupational hazards. Such training may include, but not be limited to, using laboratory safety manuals, protocols, demonstrations and standard operation procedures. All training sessions should be documented, with documentation retained for three years.

4. Training classes offered by EH&S: <http://ehs.ucdavis.edu/train/index.cfm>

New- The eLearning Online Training through UC Davis Learning Management System (LMS) <http://lms.udavis.edu> offers many training classes that employees can take at their convenient time.

VIII. Recordkeeping and Documentation

Each laboratory and main office in the department of **Neurobiology, Physiology & Behavior** shall have the IIPP Binder and the Training Records Binder for employee to get information and to maintain IIPP related documents.

The following documents will be maintained within the **IIPP Addendum Binder** for at least the length of time indicated below:

1. Hazard Alert Forms (Appendix A form).
Retain for three (3) years.
2. Employee Job Safety Analysis forms (Appendix B form)
Retain for the duration of each individual's employment.
3. Worksite Inspection Forms (Appendix C form).
Retain for three (3) years.
4. Accident Investigation Forms (Appendix D form).
Retain for three (3) years.
5. Hazard Correction Reports (Appendix E form).
Retain for three (3) years.

The following documents will be maintained within the **IIPP Training Records Binder** for at least the length of time indicated below:

1. Employee Safety Training Attendance Records (Appendix F form).
Retain for three (3) years.
2. Individual Employee Training (initial and refresh) records.
Retain for three (3) years.
3. Other laboratory specific activities training records.

Resources

1. Office of the President: [University Policy on Environmental Health and Safety](#), 10/22/86
2. UC Davis Policy and Procedure Manual, [Section 290-15](#), Safety Management Program
3. California Code of Regulations Title 8, Section 3203, ([8CCR §3203](#)), Injury and Illness Prevention Program
4. Personnel Policies for Staff Members, Corrective Action, [UCD Procedure 62](#)
5. University of California Policy on Management of Health, Safety and the Environment, <http://www.ucop.edu/riskmgmt/ehs/policy.html>
6. UC Davis Environmental Health & Safety
 - [EH&S Website](#)
 - [EH&S SafetyNets](#)
 - MSDS <http://www.ucmsds.com/>

HAZARD ALERT FORM

Department: **Neurobiology, Physiology & Behavior**

I. Unsafe Condition or Hazard

Name: (optional) _____ Job: _____

Title: (optional) _____

Location of Hazard: _____

Building: _____ Floor: _____ Room: _____

Date and time the condition or hazard was observed:

Description of unsafe condition or hazard: _____

What changes would you recommend to correct the condition or hazard?

Employee Signature: (optional) _____

Date: _____

II. Management/Safety Committee Investigation

Name of person investigating unsafe condition or hazard:

Results of investigation (What was found? Was condition unsafe or a hazard?): (Attach additional sheets if necessary.)

Proposed action to be taken to correct hazard or unsafe condition: (Complete and attach a Hazard Correction Report, IIPP Appendix E)

Signature of Investigating Party: _____

Date: _____

JOB SAFETY ANALYSIS (General Office)

Department: **Neurobiology, Physiology & Behavior**

Employee Name: _____

Location: _____

JOB FUNCTION	POTENTIAL HEALTH OR INJURY HAZARDS	SAFE PRACTICE, APPAREL, OR EQUIPMENT
<p>General office work.</p>	<p>Backstrain, eyestrain, repetitive motion injury.</p> <p>Physical injuries due to slips, trips and falls, and falling objects.</p> <p>Electrical hazards.</p> <p>Physical injuries due to fires, earthquakes, bomb threats and workplace violence.</p>	<p>Ensure that workstations are ergonomically correct. Attend Ergonomics Training class offered by EH&S.</p> <p>Keep floors clear of debris and liquid spills. Do not stand on chairs of any kind, use proper foot stools or ladders. Do not store heavy objects overhead. Do not topload filing cabinets, fill bottom to top. Do not open more than one file drawer at a time. Brace tall bookcases and file cabinets to walls. Provide one-inch lip on shelves.</p> <p>Do not use extension cords in lieu of permanent wiring. Ensure that high wattage appliances do not overload circuits. Use GFIs in receptacles in potentially wet areas. Replace frayed or damaged electrical cords. Ensure that electrical cords are not damaged by being wedged against furniture or pinched in doors.</p> <p>Attend emergency action and fire prevention plan training including emergency escape drills. Attend Workplace Violence training offered by UC Davis Police Department.</p>
SIGNATURE		DATE

JOB SAFETY ANALYSIS (Laboratory)

Department: **Neurobiology, Physiology & Behavior**

Employee Name: _____

Location: _____

JOB FUNCTION	POTENTIAL HEALTH OR INJURY HAZARDS	SAFE PRACTICE, APPAREL, OR EQUIPMENT
<p>Laboratory Research work</p>	<p>Chemical hazards, Radioactive exposures, Carcinogens/Mutagens, Biohazards, Bloodborne pathogen, Reproductive hazards.</p> <p>Injury from physical hazards including high voltage, lasers and ultraviolet light, compressed gases and liquids, cryogenic materials, Needles and Syringes and specialized equipment as well as falling objects.</p> <p>Animal Hazards (animal bits, animal diseases, etc).</p> <p>Electrical hazards.</p> <p>Physical injuries due to fires, earthquakes, bomb threats and workplace violence.</p>	<p>Check all materials present in your work area. Read appropriate safety information (SafetyNets, Chemical & Laboratory Safety Manual, MSDS, etc). Attend related safety training class offered by EH&S. Avoid unnecessary exposures. Proper selection and use of personal protective equipment including gloves, lab coats, protective eyewear and specialized equipment.</p> <p>Personnel auditing or routinely entering areas where lasers are used will receive laser safety training within 6 months of employment. Employees are not to enter restricted areas unless accompanied by a properly trained individual familiar with the hazards of the area. Employees are not to operate specialized equipment without proper training and documentation.</p> <p>All Individuals including faculty, staff, and students (employees or volunteers) who work with or have exposure to live vertebrate must attend the "Animal Care and Use 101" training course. Use personal protective equipment and specialized equipment. Check correlated SafetyNets, training Videos for guidelines.</p> <p>Do not use extension cords in lieu of permanent wiring. Ensure that high wattage appliances do not overload circuits. Use GFIs in receptacles in potentially wet areas. Replace frayed or damaged electrical cords. Ensure that electrical cords are not damaged by being wedged against furniture or pinched in doors.</p> <p>Attend emergency action and fire prevention plan training including emergency escape drills. Attend Workplace Violence training offered by UC Davis Police Department.</p>
SIGNATURE	DATE	

WORKSITE INSPECTION FORM

General Office Environment

Location: _____ Date: _____

Inspector: _____ Phone: _____

Department: Neurobiology, Physiology & Behavior**Administration and Training**

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	1.	Are all safety records maintained in a centralized file for easy access? Are they current?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	2.	Have all employees attended Injury & Illness Prevention Program training? If not, what percentage has attended? _____
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	3.	Does the department have a completed Emergency Action Plan? Are employees being trained on its contents?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	4.	Are chemical products used in the office being purchased in small quantities? Are Material Safety Data Sheets needed?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	5.	Are the Cal/OSHA information poster, Workers' Compensation bulletin, annual accident summary posted?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	6.	Are annual workplace inspections performed and documented?

General Safety

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	7.	Are exits, fire alarms, pullboxes clearly marked and unobstructed?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	8.	Are aisles and corridors unobstructed to allow unimpeded evacuations?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	9.	Is a clearly identified, unobstructed, charged, currently inspected and tagged, wall-mounted fire extinguisher available as required by the Fire Department?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	10.	Are ergonomic issues being addressed for employees using computers or at risk of repetitive motion injuries?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	11.	Is a fully stocked first-aid kit available? Is the location known to all employees in the area?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	12.	Are cabinets, shelves, and furniture over five feet tall secured to prevent toppling during earthquakes?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	13.	Are books and heavy items and equipment stored on low shelves and secured to prevent them from falling on people during earthquakes?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	14.	Is the office kept clean of trash and recyclables promptly removed?

Electrical Safety

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	15.	Are plugs, cords, electrical panels, and receptacles in good condition? No exposed conductors or broken insulation?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	16.	Are circuit breaker panels accessible and labeled?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	17.	Are surge protectors being used? If so, they must be equipped with an automatic circuit breaker, have cords no longer than 6 feet in length, and be plugged directly into a wall outlet.
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	18.	Is lighting adequate throughout the work environment?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	19.	Are extension cords being used correctly? They must not run through walls, doors, ceiling, or present a trip hazard.
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	20.	Are portable electric heaters being used? If so, they must be UL listed, plugged directly into a wall outlet, and located away from combustible materials.

WORKSITE INSPECTION FORM

Laboratory Environment

Location: _____ Date: _____

Inspector: _____ Phone: _____

Department: Neurobiology, Physiology & Behavior

General Hazards

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	1.	Are aisles, exits, and adjoining hallways maintained free of obstructions that would hinder emergency access or exiting?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	2.	Are there at least 18 inches (47 cm) of vertical clearance between all stored items and the ceiling-mounted fire sprinklers? (If there are no sprinklers, measure to the ceiling itself.)
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	3.	Are approved sharps waste containers available for disposal of needles, blades, and other sharps? (Reminder: There should be a proper procedure for disposal of broken glass.)
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	4.	Has furniture and equipment over five feet tall been bolted to the wall or otherwise secured?

Emergency Equipment

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	5.	Are all emergency eyewash and shower stations free of obstructions that would prevent quick access by someone temporarily blinded by a chemical splash? Are they within 100 feet of the laboratory (or approximately 10 seconds)?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	6.	Are the emergency eyewashes for the laboratory tested (flushed) monthly and are the tests documented?

Laboratory Equipment

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	7.	Look inside each refrigerator and freezer in your lab to ensure flammables are stored in units that are suitable for storage of flammables. Is each refrigerator and freezer in the laboratory labeled as either "safe" or "unsafe" for storage of flammables?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	8.	Look inside each refrigerator and freezer in your lab to ensure food is stored only in units designated "food only." Are all refrigerators, freezers, and microwave ovens properly labeled either "Food Only" or "No Food or Drink Allowed"?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	9.	Are all compressed gas cylinders adequately secured with non-combustible restraints to keep the cylinders from falling? (Bench clamps are not adequate to secure large cylinders. Gas cylinders should be capped when not in use.)

Chemicals

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	10.	Does the lab have a Chemical Hygiene Plan (CHP)? If yes, is it up to date and has it been reviewed and signed within the past year? If no, all labs that contain chemicals are required to maintain a CHP. Complete a lab specific CHP using the EH&S template (http://ehs.ucdavis.edu/chem/chem_mnl/clsm_apps.cfm).
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	11.	Has the laboratory's chemical inventory been completed or updated within the last year (or within 30 days of a significant change such as a move to a

		new location or addition of new chemicals) and entered into the EH&S Chemical Inventory System (CIS)?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	12.	Are chemical fume hoods kept uncluttered so that air flows properly (e.g., is storage minimized and are adequate work areas provided)? Can ALL chemical work be done more than six inches into hood? (Note: Chemical fume hood sashes must be in good condition and be used at the proper setting, typically 18 inches from the work surface.)
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	13.	Are all chemical containers and hazardous waste containers kept closed when not in use?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	14.	Are all chemical containers (including squirt bottles and unwanted hazardous materials containers) clearly labeled with their contents and primary hazard(s) and are they in good condition (not corroded or leaking)?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	15.	Are corrosives stored below eye level and are incompatible chemicals stored appropriately (e.g., acids separate from bases, oxidizers separate from flammables)?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	16.	Is a spill kit available? Is the location known to all employees in the laboratory? Has there been training in the past 12 months?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	17.	Are peroxide formers (such as isopropyl ether and diethyl ether) stored away from light and heat and labeled with the date they were opened and the expiration date?

Electrical

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	18.	Are extension cords used only as temporary wiring (<30 days) and not connected in a series (daisy-chained) with other extension cords or power strips? (Cords must be in good condition with no breaks or exposed wiring.)
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	19.	Is high voltage equipment clearly labeled, properly guarded, and is its use restricted to trained personnel only?

Ergonomics

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	20.	Are ergonomic issues being addressed for employees using computers or at risk of repetitive motion injuries?
--	-----	--

Other Hazards

1.	
2.	
3.	
4.	
5.	

Comments

IIPP-Appendix C

Completed copies of this form should be routed to the department Safety Coordinator and must be maintained in department files for at least three years.

ACCIDENT INVESTIGATION FORM

Name of Injured Person: _____ Date: _____

Name of Supervisor: _____ Telephone #: _____

Department: Neurobiology, Physiology & Behavior

Location of Injury: _____

Brief Description of Accident:

Nature of Injury (describe all body parts affected):

Was Training Provided?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>
Were established procedures followed?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>
Were tools or equipment adequate for task?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>
Were environmental conditions a factor in the incident?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>

Elaborate on Responses:

Proposed Corrective Action:

Supervisor: _____ Date of Report: _____

Signature: _____

IIPP-Appendix D Completed copies of this form should be routed to the department Safety Coordinator and kept in department files for at least three years.

HAZARD CORRECTION REPORT

Department: Neurobiology, Physiology & Behavior

This form should be used in conjunction with the “Hazard Alert Form” (IIPP Appendix A), as appropriate, to track the correction of identified hazards.

All hazards should be corrected as soon as possible, based on the severity of the hazard. If a serious imminent hazard cannot be immediately corrected, evacuate personnel from the area and restrict access until the hazard can be addressed.

Supervisor/Safety Coordinator Name: _____ Telephone: _____

Supervisor/Safety Coordinator Signature: _____ Date: _____

Description and Location of Unsafe Condition	Date Discovered	Required Action and Responsible Party	Completion Date	
			Projected	Actual

IIPP-Appendix E

Completed copies of this form should be routed to the department Safety Coordinator and kept in department files for at least three years.

SAFETY TRAINING ATTENDANCE RECORD

Neurobiology, Physiology & Behavior

Training Topic: _____ Date: _____
(attach a copy of the training session curriculum)

Instructor: _____ Training Aids: _____

Location: _____ Time: _____

Attendees – Please print and sign your name legibly. Use additional sheets if necessary.

No.	Print Name	Signature
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
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11.	_____	_____
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17.	_____	_____
18.	_____	_____
19.	_____	_____
20.	_____	_____
21.	_____	_____
21.	_____	_____
22.	_____	_____
23.	_____	_____
24.	_____	_____
25.	_____	_____
26.	_____	_____
27.	_____	_____

Individual Employee Training Documentation

Neurobiology, Physiology & Behavior

Name of Trainer _____

Training Subject _____

Training Material Used _____

Name of Employee _____

Assignment _____

I, _____ hereby certify that I received training as described above in the following areas:

- The potential occupational hazards in general in the work area and associated with my job assignment.
- The safe work practices which indicate the work conditions, practices, and personal protective equipment required for my job assignment.
- The hazards of any chemicals to which I may be exposed and my right to information contained on material safety data sheets for those chemicals, and how to understand this information.
- My right to ask any questions, or provide any information to the employer on safety either directly or anonymously without any fear of reprisal.
- Disciplinary procedures the employer will use to enforce compliance with safe work practices.

I understand this training and agree to comply with safe work practices for my work area.

Employee Signature

Date

General Safety Training Checklist

Neurobiology, Physiology & Behavior

This training checklist consists the minimum safety training that the Principal Investigator, Lab Manager or Supervisor should go over with all individuals in the work area, please add on this sheet to other safety topics you covered with your lab worker. Please keep this training document in the work area's **safety training binder**.

(General Safety Issues)

- has read the “Injury and Illness Prevention Plan” (IIPP)
- knows the location of the First Aid Kit
- knows the location of Fire Extinguishers and Emergency Fire Alarm Pull Stations
- has been properly trained to perform lab duties and knows the hazards associated with each function (refer to appropriate “Job Safety Analysis”)
- has read the “Office Safety Checklist and Resource Guide” from EH&S
- has read the “Emergency Action Plan” and the “Building Evacuation Plan”
- knows the accident or injury response and reporting procedures.
- has either signed up for or has already taken a Chemical Laboratory Safety Training within the past year (if done, give date _____)
- knows the location of the laboratory Chemical Inventory (printout from the most recent Chemical Inventory System update)
- knows the location of Emergency Eyewash Stations and Emergency Shower Stations
- has read the “Emergency Chemical Spill Procedure”, SafetyNet # 13
- knows the location of the Emergency Chemical Spill Kit
- has read the laboratory's “Chemical Hygiene Plan”
- has read the “Chemical, Radiological, Biological/Medical Waste Disposal Policies & Procedures”
- knows the location of the Material Safety Data Sheets (MSDS) or knows how to access them online
- knows the location of the laboratory specific Standard Operating Procedures (SOP's), protocols, solution preparation recipes, etc.

(Animal Worker Related Issues)

- if there is any exposure to animals (direct or indirect), has enrolled in the UCD Occupational Health Monitoring Program (or at least initiated the process)
- has either signed up for or has already taken the “Animal Care and Use 101 (ACU 101) (if done, give date _____)
- has been properly trained in handling the animal(s) (or at least initiated the process)
- knows the zoonotic hazards that may be associated with the animal(s) this person will work on (reviewed the “Hazard Analysis Tool” information found at the EH&S website)
- has read the Animal Use Protocol
- has met with CLAS CNS Veterinarian, if working with Non-human Primates

Note to Lab Managers and P.I.: you will need to write an amendment to your Animal Use Protocol to reflect the addition of new lab workers working under that protocol.

Name and Signature of Principal Investigator

Date

Name and Signature of Employee, Student, or Volunteer

Date

Appendix B:
LABORATORY-SPECIFIC CHEMICAL HYGIENE PLAN

The Laboratory Standard requires laboratory-specific Chemical Hygiene Plans. At UC Davis, this can be accomplished by having the person responsible for the laboratory (i.e., Principal Investigator, Director, Supervisor) fill out the following forms with laboratory specific information.

The following checklist provides further guidance for filling out each form (the forms follow) and thus creating a laboratory-specific Chemical Hygiene Plan. For additional assistance, contact EH&S.

A. SITE-SPECIFIC RESPONSIBILITY FOR CHEMICAL HYGIENE AND SAFETY

Identify responsible persons and rooms covered by the plan. There must be at least one plan for each laboratory site (if procedures are uniquely different). Principal Investigators with multiple laboratories may wish to develop more than one laboratory-specific Chemical Hygiene Plan. In any case, the plan must be accessible to all laboratory staff at any time, day or night. The laboratory-specific plans must be reviewed at least annually and updated as necessary.

B. CHEMICAL INVENTORY

A chemical inventory must be completed and updated annually by each Principal Investigator or supervisor. The chemical inventory must contain the following elements: chemical name, average amount stored, maximum stored on hand, storage method, and physical state of chemical. Inventories should be submitted on-line using the Chemical Inventory System (CIS), accessible on the EH&S website at <http://www.ehs.ucdavis.edu>.

C. SITE-SPECIFIC INFORMATION ON CHEMICAL RECEIVING, STORING, AND DISPENSING

If applicable, give the location of your laboratory's chemical receiving, storage, dispensing, and disposal area. Describe any ordering policies, procedures for hazardous chemicals, and hazardous waste. List any chemicals that require prior Principal Investigator approval for purchase.

D. MATERIAL SAFETY DATA SHEETS AND OTHER REFERENCE MATERIALS AVAILABLE IN THE LABORATORY

Describe how and where MSDS and other references are available in the laboratory. See the Bibliography for recommended laboratory references.

E. EMERGENCY RESPONSE INSTRUCTIONS

This form contains general instructions for emergency response. Add laboratory-specific information, such as special precautions or unique hazards. Chapter I contains more information on Emergency Procedures.

F. SITE-SPECIFIC HAZARDOUS MATERIALS CONTROL SYSTEMS (ENGINEERING CONTROLS)

List special systems intended to contain hazardous materials. Most laboratories have fume hoods; others may have biological safety cabinets, glove boxes, flammable liquid storage cabinets, or special ventilation systems for specific equipment or operations. Include information on restrictions, special precautions or procedures, preventative maintenance schedules (fume hoods are evaluated annually by Facilities Services; contact Facilities Services for annual evaluation of other exhaust systems), and any other information relevant to safe operation in the laboratory. For additional information on laboratory safety equipment, see Chapter IV.

G. PERSONAL PROTECTIVE EQUIPMENT AVAILABLE IN THE LABORATORY

List the personal protective equipment that is available in the laboratory. Discuss specific uses, if appropriate. See Chapters V and X for additional information.

H. PRIOR APPROVALS REQUIRED

List prior approvals required for particular laboratory functions. The Principal Investigator will determine which laboratory operations, if any, will require prior approval.

I. STANDARD OPERATING PROCEDURES

Some laboratory procedures involving hazardous chemicals should have specific Standard Operating Procedures that address health and safety issues. Appendix A provides EH&S guidance for the development of specific Standard Operating Procedures and a form with recommended elements.

J. CAMPUS-REGULATED CARCINOGENS

Campus-regulated carcinogens are discussed in Chapter VII. If campus-regulated carcinogens are used in the laboratory, the campus-regulated Carcinogen Use Authorization form (found in Chapter VII) must be filled out and sent to EH&S. Keep a copy of the form as part of the laboratory-specific Chemical Hygiene Plan. Cal/OSHA-regulated carcinogen use must be reported by EH&S semi-annually. See Chapter VII for other requirements.

K. LABORATORY TRAINING CHECKLIST

Each laboratory should conduct initial training on lab policies and procedures for new lab workers. Training for all lab workers should be updated at least annually. All training must be documented and a sample training form is included in Appendix B. Each laboratory should also conduct periodic safety audits. A Laboratory Safety Survey and Laboratory Safety Survey Guidelines have been developed and are included in Appendix B.

*Site-Specific Responsibility
for Chemical Hygiene and Safety*

**OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY
UNIVERSITY OF CALIFORNIA, DAVIS**

Department: _____

Building: _____

Department Chairperson or Director: _____

Office: _____

Phone: _____

E-mail: _____

**Principal Investigator,
Faculty Member, or Supervisor * :** _____

Office: _____

Phone: _____

E-mail: _____

* person responsible for chemical hygiene and the Chemical Hygiene Plan in the unit or laboratory

Rooms covered by this plan: _____

Implementation Date: _____

Annual Review Date: _____

***Site-Specific Information on Chemical
Receiving, Storing, or Dispensing***

(If Applicable)

Chemical Hygiene Plan

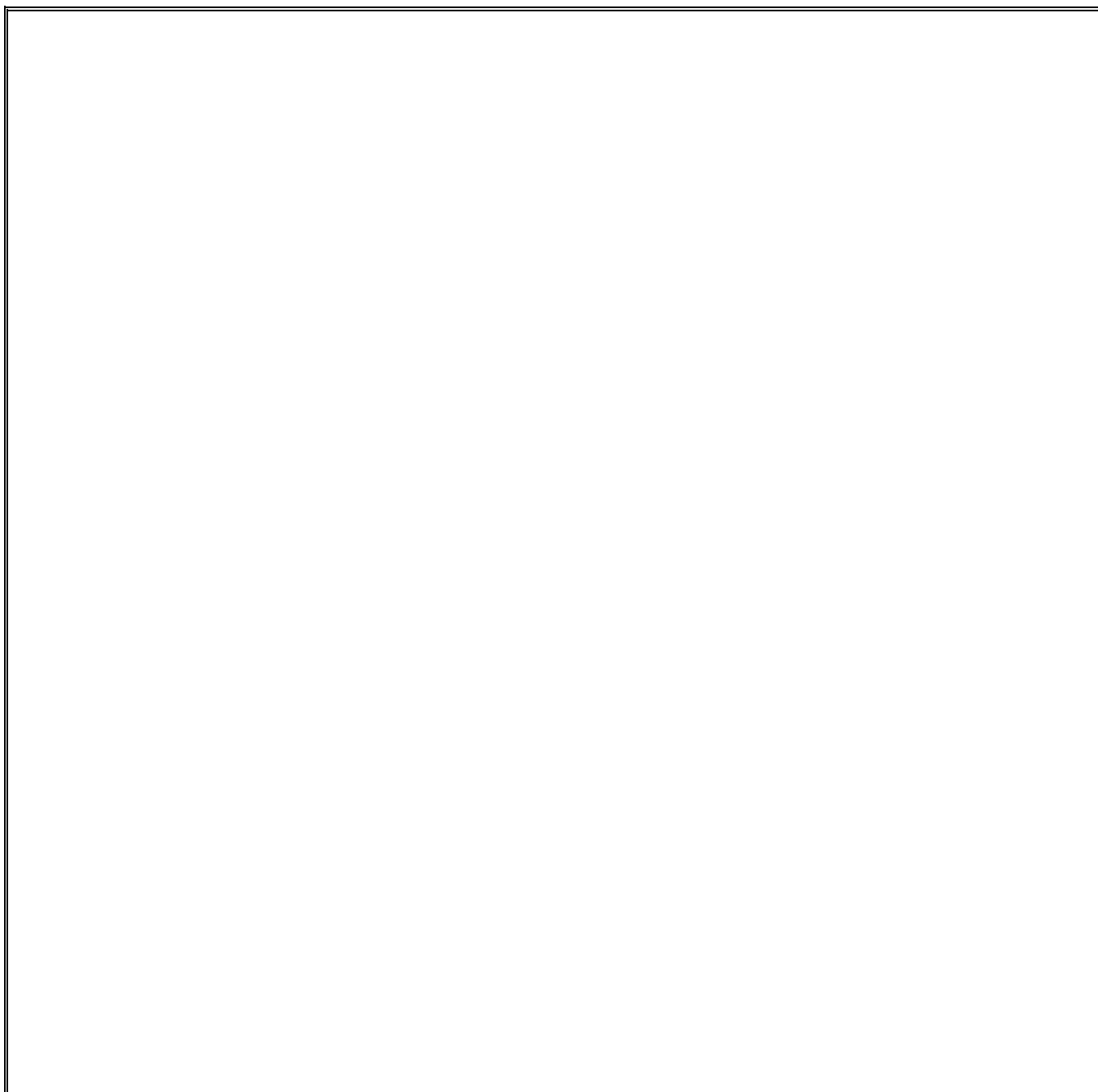
**OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY
UNIVERSITY OF CALIFORNIA, DAVIS**

Give the location of your laboratory's chemical receiving, storage, or dispensing areas. Describe any ordering policies or procedures for hazardous chemicals. List any chemicals that require prior Principal Investigator approval for purchase.

***MSDS and Other Reference Materials
Available in the Laboratory***

Chemical Hygiene Plan
OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY
UNIVERSITY OF CALIFORNIA, DAVIS

Describe how and where MSDSs and other reference materials are available in this laboratory. (See the Bibliography for a list of recommended references).



Emergency Response Instructions

Chemical Hygiene Plan

OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY UNIVERSITY OF CALIFORNIA, DAVIS

GENERAL PROCEDURES:

The following are some general instructions for actions to take in case of an emergency:

Medical Emergency

1. Remain calm.
2. Initiate lifesaving measures if required.
3. Call for Emergency Response --- **CALL 911**.
4. Do not move injured persons unless it is necessary to prevent further harm.
5. Keep injured person warm.

Major Incident

1. Attend to injured or contaminated persons and remove them from exposure.
2. Alert people to evacuate the area.
3. Call for Emergency Response -- **CALL 911**.
 - Fire ----- **911**
 - Chemical, radiation, biological spill ----- **911**
 - (Evenings and Weekends) ----- **911**
4. Close doors to affected areas.
5. Have person knowledgeable of incident assist emergency workers.

LABORATORY-SPECIFIC PROCEDURES:

The following are specific instructions for actions to take during an emergency situation in your laboratory.

***Site-Specific Hazardous Material Control Systems
(Engineering Controls)***

Chemical Hygiene Plan
OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY
UNIVERSITY OF CALIFORNIA, DAVIS

List hazardous material control systems (e.g. fume hoods) available in the laboratory. Include information on restrictions, special precautions or procedures, preventative maintenance schedules, and any other information relevant to safe operation in the laboratory.

--

***Personal Protective Equipment
Available in the Laboratory***

Chemical Hygiene Plan
OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY
UNIVERSITY OF CALIFORNIA, DAVIS

List the personal protective equipment available to laboratory workers and when it should be used.
See Chapter V for additional information.

Eye Protection:

--

Gloves:

--

Other Protective Clothing:

--

Respiratory Protection:

--

Other:

--

Prior Approvals Required

Chemical Hygiene Plan

**OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY
UNIVERSITY OF CALIFORNIA, DAVIS**

List prior approvals required for particular laboratory functions. The Principal Investigator or Laboratory Supervisor will determine which laboratory operations, if any, will require prior approval.

--

Laboratory Employee Training Checklist
Chemical Hygiene Plan
OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY
UNIVERSITY OF CALIFORNIA, DAVIS

Employee: _____ Department: _____ Job Title: _____
 Employee ID #: _____ Phone: _____ E-mail: _____

*** Each supervisor should decide what employee training is needed. ***

General Safety	Training Required (check here)***	Date of Training	Employee Signature	Trained by...
General Fire Safety, Evacuation and Emergency Procedures				
General Earthquake Safety and Disaster Procedures				
Safe Lifting and Back Injury Prevention				
Safe Use of Video Display Terminals				
General Hazard Communication (MSDS use)				

General Safety	Training Required (check here)***	Date of Training	Employee Signature	Trained by...
Radiation Hazards				
Biosafety (Infectious Agents)				
Carcinogen Handling Procedures				
Chemical Handling, Storage and Disposal				
Personal Protective Equipment (eye, ear, lung & skin protection)				
Compressed Gases, Handling and Storage				
Safety Equipment Use Procedures				
Lockout/Tagout Procedures				

General Safety	Training Required (check here)***	Date of Training	Employee Signature	Trained by...

Laboratory Safety Survey

Chemical Hygiene Plan

OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY
UNIVERSITY OF CALIFORNIA, DAVIS

Principal Investigator: _____ Department: _____
Phone: _____ E-mail: _____ Inspector: _____
Job Title: _____ Date: _____

Health and Safety Management:

- | <i>Y</i> | <i>N</i> | <i>N/A</i> | |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. Is the UC Davis Chemical and Laboratory Safety Manual present? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. Are workers trained in chemical safety, physical hazards and laboratory safety? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. Do laboratory workers have access to and familiarity with the use of Material Safety Data Sheets (MSDSs)? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. Have workers using biohazards, toxins, and campus-regulated carcinogens been given documented special training? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. Are workers instructed in laboratory emergency action/fire prevention plan procedures (exits, locations and use of fire extinguishers, how to get medical help)? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. Have workers been trained on how to respond in the event of a chemical spill? Are spill procedures posted? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. Are there complete training records and documentation? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. Have all hazards identified by previous safety audits been abated? (Action records must be retained.) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9. Are periodic laboratory safety inspections (at least annually) performed by laboratory workers? (PI must retain records.) |

General Safety

- | <i>Y</i> | <i>N</i> | <i>N/A</i> | |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10. Are rooms and cabinets containing campus-regulated carcinogens, biohazards, and radioactive materials labeled? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11. Are work areas clean and uncluttered? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12. Do employees know the location of the first aid kit and is it accessible? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 13. Is equipment taller than 5 feet adequately secured to prevent tipping during an earthquake? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14. Do shelves have lips, wires, or other restraints to prevent items from falling during an earthquake? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15. Are food and beverages prohibited in the lab and kept out of the laboratory refrigerators or cabinets? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 16. Are fire extinguishers accessible and charged? (if not, call UC Davis Fire Department). |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 17. Are sinks labeled "Industrial Water - Do Not Drink"? (If not, contact EH&S.) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 18. Are protective gloves available and worn for laboratory procedures where skin contact with chemicals may occur? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 19. Are safety spectacles or other eye protection available and worn in the laboratory? Is other protective clothing (lab coats, aprons, etc.) or respiratory protection available and worn in the laboratory? |

Laboratory Equipment:

- | <i>Y</i> | <i>N</i> | <i>N/A</i> | |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 20. Have chemical fume hoods been tested within the past year as indicated by Facilities Services test labels on the hoods? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 21. Is storage in hoods kept to a minimum and is it placed so it does not impede proper airflow? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 22. Does the fume hood draw air (test with a tissue on hood edge) and is a flow indicator installed and working? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 23. Is the laboratory ventilation negative with respect to corridors and offices? (call EH&S for assistance.) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 24. Are rotating or moveable parts and belts guarded with screens having less than 1/4" opening? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 25. Are refrigerators/freezers used for storage of flammables non-sparking (laboratory safe) and properly labeled? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 26. Are non-spark-proof refrigerators (household-type) labeled as "Unsafe for Flammable Storage"? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 27. Are all gas cylinders chained to an immovable object to prevent tipping or falling? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 28. Are valves of gas cylinders capped when not in use? |

Hazardous Materials:

- | <i>Y</i> | <i>N</i> | <i>N/A</i> | |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 29. Are chemicals labeled to identify contents and hazards? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 30. Are campus-regulated carcinogens handled safely to reduce employee exposure? (All uses of campus-regulated chemical carcinogens must be authorized by EH&S. Call if authorization is needed). |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 31. Are chemicals separated by hazard class and stored to prevent spills (acids, bases, oxidizers, flammables, etc)? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 32. Are chemicals inventoried (chemical name, quantity on hand, amount used per year)? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 33. Are chemical waste containers properly segregated, sealed with tight-fitting caps, and stored with EH&S Hazardous Waste labels attached to the containers? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 34. Are all hazardous wastes disposed by EH&S? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 35. Is a plumbed emergency shower available within 100 feet of all areas where chemicals may splash onto an employee's body? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 36. Is a plumbed emergency eyewash available within 100 feet of all chemical splashes or mechanical hazards such as grinding? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 37. Are ether and other peroxide forming chemicals dated? (Call EH&S for disposal of outdated chemicals.) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 38. Are sharps stored in puncture-proof containers and labeled appropriately (medical or hazardous waste)? |

Fire and Electrical Safety:

- | <i>Y</i> | <i>N</i> | <i>N/A</i> | |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 39. Are fire doors unobstructed and easily closed? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 40. If more than 10 gallons of flammables are stored, is an approved flammable storage cabinet used? (Call the UC Davis Fire Department for information.) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 41. Are flammable liquids stored in 1-gallon or less containers or kept in 2-gallon or less safety cans? |

- 42. Are flammable liquids, stored in flammable storage cabinets, limited to 60 gallons per fire rated area?
- 43. Are plugs, cords, and receptacles in good condition (no splices or frayed cords)?
- 44. Is all equipment properly grounded? (three prong plugs in good condition)
- 45. Are extension cords used only for temporary operations? (not to be used in place of permanent wiring, running through walls, ceilings, doors.)
- 46. Are all electrical boxes, panels, receptacles, and fittings covered to protect against electrical shock?
- 47. Are control switches, circuit breakers, electrical panels, and emergency power cabinets free of obstructions?
- 48. Are circuit breakers labeled to indicate what equipment is served by each?
- 49. Have all outlet adapters been removed? (Install additional outlets or use fused power strips if current demand is within the strip's rating).

Comments

Biosafety Cabinet:

Date Last
Certified: _____

UCD
Number: _____

***Types of regulated
carcinogens:***

***Types and quantity of
compressed gases:***

***Gallons of flammable
liquids:***

***Types of personal
protective equipment:***

LABORATORY SAFETY SURVEY GUIDELINES

The Injury Illness Prevention Plan (IIPP)/Chemical Hygiene Plan (CHP) requires periodic (a minimum of once a year) laboratory safety inspections to be performed by the laboratory or department. To assist you, EH&S is providing these guidelines which correspond to the questions on the Laboratory Safety Survey form.

1. All UC Davis laboratories should have a copy of the UC Davis "Chemical and Laboratory Safety Manual". If you do not have one, contact EH&S.
2. Workers must be familiar with the Injury Illness Prevention Program (IIPP), Hazard Communication Program and the Chemical Hygiene Plan. These programs mandate that workers are familiar with the specific hazards of each chemical they are using. Workers must also be trained in the proper use of personal protective equipment.
3. Workers must have access to Material Safety Data Sheets (MSDSs) for each chemical they use. MSDSs can be requested from the manufacturer.
4. Workers using biohazards, highly toxic chemicals, radiation, and carcinogens must have documented special training. For assistance, contact EH&S. See Appendix B for a training documentation form.
5. Workers must be instructed in emergency procedures such as building evacuation, location and use of fire extinguishers, and what to do in the event of a chemical or medical emergency.
6. Workers must be trained in how to respond to a hazardous material spill in the lab. Spill procedures must be posted (i.e., SafetyNet 13). The "UC Davis Chemical and Laboratory Safety Manual" outlines the recommended procedure.
7. Training records, standard operating procedures for hazardous laboratory operations, a chemical inventory, and safety inspection information must be retained by the PI and must be available to inspectors.
8. Laboratories must retain documentation of all hazards identified by safety surveys as well as corrective action.
9. Each laboratory must perform a periodic (at least annual) safety inspection. Records of these inspections must be kept on file.
10. Rooms and cabinets that contain biohazards, campus-regulated carcinogens, and radioactive materials must be labeled with standard signs. Signs can be requested from EH&S.
11. Laboratories should be kept as clean and uncluttered as possible. Research has shown a direct relationship between messy/cluttered laboratories and increased accidents.
12. Approved first-aid supplies must be readily available to employees. Approved kits are available through the Storehouse or private vendors.
13. All cabinets and flammable storage lockers taller than 5 feet should be secured to prevent tipping during an earthquake. Large objects may fall on people or obstruct escape routes.

14. Shelves used for storage of chemicals and heavy items should have restraints (lips, wires) to prevent chemicals from falling in the event of an earthquake. Call EH&S for more information.
15. The consumption of food and beverages in the laboratory is prohibited where biohazardous materials, chemicals, campus-regulated carcinogens, or radioactive materials are used. Food and beverages should not be stored in the laboratory and **never** in refrigerators used for hazardous material storage.
16. Fire extinguishers must be professionally maintained annually. The person doing this will put on a new tag and punch it on the date of maintenance. A break-away seal is also added. Once a month, laboratory workers should check to see that the fire extinguisher is still sealed and mounted. If the fire extinguisher has a gauge, it should read "charged". Contact the UC Davis Fire Department with any problems.
17. All laboratories are plumbed with potable water that has a back-flow prevention device to prevent accidental contamination of the building water supply. Laboratory water must not be used for drinking, as it may be contaminated. The faucets should be labeled "Industrial Water Do Not Drink." Labels can be requested from EH&S.
18. Protective gloves should be worn when handling chemicals. Latex gloves are good for general laboratory wear but do not protect against most chemicals. For large volume chemical use (particularly acids and solvents), chemically resistant gloves should be used. See Chapter V of the "UC Davis Chemical and Laboratory Safety Manual."
19. Eye protection must be suited to the hazard. Indirectly ventilated goggles protect against splashes. Unventilated goggles protect against vapors, mists, and airborne dusts. Face shields will protect the face and eyes from splashes but not vapors. A combination of goggles and face shield works well. Contact lens wearers should be particularly meticulous about eye protection.
20. Chemical fume hoods must be tested annually for proper airflow by Facilities Services. A label is placed on the fume hood with the date of the test, average air velocity (minimum 100 fpm) in feet per minute (fpm). Contact Facilities Services (752-1655) if the label indicates that more than a year has passed since the last test.
21. Fume hoods exhaust air through several slots at the back to maintain constant airflow over the entire face of the hood. If the lowest slot at the back of the hood is blocked by storage, the hood will not effectively exhaust chemical vapors and fumes. Storage in fume hoods is discouraged but where storage in the hood is necessary, store items on a platform or shelf that allows air to pass beneath.
22. Airflow direction can be visualized with a Kimwipe or tissue. Chemical fume hoods must have a working mechanical flow indicator.
23. There should be a slight inward airflow into the laboratories from the corridors and offices (100 cubic feet per minute per exit). This will help to keep chemical vapors and fumes from spreading into other areas in the building.
24. Unguarded moveable machine parts and belts cause a large number of accidents and injuries. These parts must be guarded with a screen or cover.
25. A serious explosion can occur if flammable materials are stored in ordinary household refrigerators. Special laboratory (LabSafe) refrigerators/freezers, with spark-producing equipment removed from the

refrigerator interior, are required for storage of flammable materials. Do not store flammable materials in refrigerators/freezers unless recommended by the manufacturer.

26. Non-spark-proof refrigerators/freezers need warning labels to assure they are not used for the storage of flammables. Labels can be requested from EH&S.
27. Compressed gas cylinders must be restrained in a rack with a metal strap or chain to prevent falling. Webbed belting is not optimum (can melt in a fire situation) but is an adequate restraint. Rope, bungee cords, tubing, etc. are not adequate to hold a heavy cylinder.
28. If a compressed gas cylinder is not being used, the regulator must be removed and the cap replaced.
29. All chemicals must be labeled with a complete chemical name (not just the chemical formula), hazard warning, date and name of person preparing the chemical. Sample labels are available from EH&S. As much as possible, keep chemicals in the original container.
30. See list for campus-regulated carcinogens. (Chapter VII, "Chemical Carcinogens") Notify EH&S if you are using campus-regulated carcinogens and do not yet have carcinogen use authorization.
31. Chemicals must be segregated for storage by hazard class (acids, bases, oxidizers, flammables, water reactives, toxics, etc.). It is good practice to store chemicals in a resistant tray, bin, tub, or tote large enough to hold 110% of the volume of the largest bottle.
32. State, local, and federal regulations require that all chemicals on campus be inventoried. Inventories must include chemical name, maximum amount on hand, average amount stored, and location. Using the Chemical Inventory System (CIS) on the EH&S website (www.ehs.ucdavis.edu) is a good way to manage inventory.
33. Chemical hazardous waste, infectious waste, and radioactive waste all have different disposal requirements. If at all possible, do not mix the different types of waste. Chemical hazardous waste must also be segregated by hazard class for disposal. Bottles re-used for chemical hazardous waste collection should have the original label defaced and the bottle tagged with an EH&S hazardous waste tag. Call EH&S for further information. See the "UC Davis Chemical and Laboratory Safety Manual," Chapter VIII.
34. Hazardous waste must not be poured down the drain.
35. Plumbed combination emergency showers/eyewashes must be available within 100 feet for anyone working with chemicals that pose a risk of eye/body injury (particularly corrosive chemicals).
36. Plumbed eyewashes must be available within 100 feet for anyone working with chemicals that pose a risk of eye injury (particularly corrosive chemicals).
37. Peroxide forming chemicals, such as ethyl ether and THF, must be dated upon receipt and again when first opened. Containers should be disposed by EH&S three to six months after opening or six to twelve months after receipt, depending on chemical. Review SafetyNet #23 on the EH&S website (www.ehs.ucdavis.edu) for additional details.
38. Sharps (needles, scalpels, glass pipettes) must be stored in puncture-proof containers and labeled appropriately. If the sharps are contaminated with human pathogens, they must be labeled and treated

as "medical waste." DO NOT use medical waste (red) sharps containers for non-medical waste sharps. If the sharps are contaminated only with chemicals, they must be labeled as "hazardous waste".

39. Laboratory doors are special fire doors that are designed to keep fires from spreading. From a fire safety standpoint, it is best to keep all fire doors closed as much as possible. Fire doors should, at a minimum, be unobstructed and easily closed.
40. Up to 10 gallons of flammable liquids, in glass containers of one gallon or less, may be stored in the laboratory. Over 10 gallons must be stored in an approved flammable storage cabinet in the lab. See the "UC Davis Chemical and Laboratory Safety Manual" for additional details or contact the UC Davis Fire Department for more information.
41. Flammable liquids may be stored in glass containers less than one gallon capacity. Up to two gallons of flammable liquids may be stored in safety cans - safety cans must be less than two gallon capacity. Safety cans have spring release caps and spark arresters.
42. Flammables liquids, stored in flammable storage cabinets must be limited to 60 gallons per fire area. A fire area is a space surrounded by fire-rated walls and doors (typical campus laboratory).
43. Plugs, cords, outlets, and receptacles should be in good condition and must not have any splices or exposed conductors. Frayed cords should be replaced.
44. For safe operation, all electrical equipment must be properly grounded. Do not alter original wiring by removing grounding conductors or using ungrounded adapters.
45. Improper use of extension cords can cause a fire. They should be for temporary use only. Place equipment where an electrical outlet can be used directly or have an electrician extend the outlets with approved conduit and wiring to reach the equipment.
46. All electrical components including switches, electrical panels, raceways, and outlets, must have covers intact and in place.
47. Circuit breakers must not be blocked so they can be accessed in an emergency.
48. Circuit breakers must be labeled with the equipment or area served by each. This will facilitate a quick shutdown in case of shock or fire.
49. Overloaded outlets can lead to fires. Install additional outlets if they are needed.

