

# SDSU Laboratory Safety Plan Guidelines

The following is only a guideline for developing individual laboratory safety guidelines. Please note that this guide is a document in progress and will be changed and edited as suggestions are taken into consideration and time permits. Not all laboratories will need to have all the information found in this guide, however, all the information in this guide should be examined to determine what sections are appropriate. If a individual decides that a particular section is not needed, please indicate such in the document. Questions on various parts of the document can be addressed to Environmental Health and Safety personnel.

## **A. General Information.**

### **1. Location and Personnel Information.**

- A. Laboratory location (building, room no.)
- B. Principal investigator in charge of the laboratory
  - 1. Office Location
  - 2. Office Phone Number
  - 3. Home/Contact Number
- C. Any additional emergency contact personnel, as well as above location.
- D. Environmental Health and Safety Office Contact Information
  - 1. Dr. Gary Yarrow or Mr. Tom Froke
  - 2. Shepard Hall 153
  - 3. Office: 688-4264
  - 4. Yarrow Contact Number: 697-5426 or (cell) 690-8397
  - 5. Froke contact Number: 605-534-3332 or (cell) 695-1218.

## **B. Basic Rules and Procedures (see recommendations given below)**

### **2. Chemical Procurement, Distribution and Storage**

- A. Procurement: Outline the particular laboratory/department college protocol including: who can order what, budget numbers, etc.
- B. Procurement 2: Before the substance is received the following information should be available:
  - 1. Proper handling, storage and disposal.
  - 2. Who accepts the materials, i.e., no material should ever be accepted without

adequate labeling on the container.

3. Where the material is placed; i.e., stockroom/storeroom, shelf, etc.
4. Received materials must immediately be entered into an inventory system including the following information:
  - a. Chemical name
  - b. Date received.
  - c. Maximum storage time.
  - d. CAS (Chemical Abstract Service) number
  - e. Storage location.
  - f. Chemical hazards.
  - g. Vendor/Manufacturer
  - h. Budget number used for purchasing.
  - i. Any other information that your lab considers to be important.

C. Storage:

1. Does the lab area have an appropriate storage area?
  - a. Adequate ventilation for the different toxic classes of chemicals.
  - b. Secondary containment for any solvents or highly toxic substances.
  - c. Secondary containment for toxic substances that have been opened.
2. All chemicals when received **must** also have an MSDS (material safety data sheet) with the chemical and be placed in a lab location that is easily accessible by all lab personnel.
3. All chemicals should be checked periodically (at least annually) for deterioration of the chemical and/or container.
4. Stockrooms should not be allowed to be used for a preparation or repackaging area.

D. Distribution:

1. When chemicals are hand carried outside of the laboratory they must be placed in a secondary container.
2. When shipping of chemicals, all regulations for that particular chemical must be followed, these are available from the shipping agency (please note that UPS does not ship hazardous materials from SDSU) or from the EHS office.

E. Laboratory storage.

1. Amounts stored should be as small as possible.
2. Storage should not be allowed on bench tops or in fume hoods (except for chemical such as "stench agents").
3. Periodic inventories should be conducted, with any unused items being discarded or returned to the storeroom/stockroom.
4. Storage of solvents must follow the NFPA (National Fire Protection Association) guidelines for the size of the laboratory, solvent category, etc.

F. Environmental Monitoring.

1. It is usually not necessary to measure contaminants in the laboratory environment unless there is reason to be concerned or when a highly toxic substance is routinely being used or stored.
2. Hood testing and measurements can be conducted by EHS staff, however, the EHS staff cannot certify a hood's proper functioning. Outside contractors are periodically on campus who can do such testing for a minimal fee. Hoods should be certified on a routine basis (2 to 3 year period).

G. Housekeeping, Maintenance and Inspections

1. An effective slogan for a safe laboratory might very well be: A clean lab is a safety lab!
2. All passageways must never be used for storage areas. Personnel must always have access to: exits to outside hallways, exits to other rooms if the room is so equipped, emergency equipment (eye washes, showers, first aid kits, etc.) and utility controls such as breaker boxes (fire codes require that all breaker boxes have a minimum of 3 feet clearance).
3. Floors should be cleaned regularly or when any substance (dry or liquid) is spilled on them. If need be, the SDSU physical plant can be contacted for assistance.

H. Medical Program.

1. Any work that involves highly toxic materials should have routine medical surveillance.
2. Personnel trained in first aid should be available during working hours.
3. Emergency numbers should include such numbers as poison control center, etc.

I. Personal Protective Equipment (PPE).

1. Proper PPE should be available for all lab personnel.
2. PPE should be available that is compatible with the risks involved in the laboratory.
3. A properly working safety shower must be available.
4. A properly working eyewash must be available.
5. A properly working fire extinguisher must be available.
6. Respiratory protection, fire alarm and telephone must be available.
7. Other items might be necessary depending upon the laboratory hazards.

J. Records must be kept and available for:

1. Accidents (personnel, what, where, when, followup).
2. Chemical Hygiene Plan records (date established, revised, etc.)
3. Inventory and use records of chemicals.

- K. Signs and labels
  - 1. Emergency numbers on inside of laboratory as well as the outside of the door or nearby.
  - 2. Labels must be placed on all chemical containers (including waste) with hazards.
  - 3. Container labels should include what, when, who, etc.
  - 4. Emergency equipment signs.
  
- L. What to do in case of a spill or accident.
  - 1. Written emergency plan.
  - 2. Spill control policy: prevention, containment, cleanup, reporting.
  - 3. Accidents or near accidents should be analyzed and the results shared with similar laboratories.
  
- M. Training
  - 1. Appropriate for the hazards in the laboratory.
  - 2. Informed of possible risks.
  - 3. Emergency and PPE training.
  - 4. Receiving, procurement, distribution, storage, disposal of chemicals.
  - 5. Material Safety Data Sheet s are mandatory reading and should be documented.
  
- N. Waste Disposal.
  - 1. How waste should be collected, segregated, stored and transported.
  - 2. How/what department should be contacted for disposal.
  - 3. Proper forms for disposal.
  - 4. Frequency.
  - 5. Discarding of chemical stocks.
  - 6. Before a worker leaves permanently, that worker must go through a checkout which includes proper disposal paperwork, etc. for their waste/stocks/etc.
  - 7. Methods must be considered at the start of an experiment.
  
- O. Other information.
  - 1. Remember to document any hazards, training, etc.
  - 2. Documentation can help in case of any liability issues.
  - 3. Please see the "Basic Laboratory Practices" template on the EHS website for information on General Safety Principles,  
[Http://www3.sdstate.edu/administration/environmentalhealthandsafety/laboratorysafety/](http://www3.sdstate.edu/administration/environmentalhealthandsafety/laboratorysafety/)