

**TEMPLATE #1:
General Laboratory Information**

Laboratory Supervisor (PI): **Fred Wudl**

Laboratory Location(s) (Building /Rooms): **CNSI 3228**

Department Information

Department Safety Representatives:

Bob Hanson x4631

Location of Department Safety Bulletin Board:

CNSI 3225

Location of *Emergency Assembly Point* for Chemistry and PSBN Buildings:

Primary Location :

Walkway and Grass to the South of CNSI

Secondary Location : Pavement on the North of CNSI

**TEMPLATE #2:
Emergency Information**

As applicable, please provide information regarding emergency procedures and equipment specific to the lab(s) under your control. Where applicable you may just reference the emergency contact information on your [lab door placards](#).

- **Evacuation procedures** (e.g., close fire doors, secure certain equipment, etc.)

Close fume hoods sashes;

Exit the building in an orderly fashion to Emergency Assembly Point

- **First-aid kit** (e.g., location, contents, maintenance responsibility, etc.)

South end of the West hallway on the third floor behind the double doors the cream colored cabinet

- **Spill cleanup materials** (e.g., location, contents, maintenance, procedures, etc.)

South end of the West hallway on the third floor behind the double doors the cream colored cabinet

- **Laboratory monitors or alarms** (e.g., operation, response, maintenance, etc.)

Fume hood alarms will sound if the ventilation is not sufficient. Try lowering the sash on the hood and wait 10 seconds. If closing the hood does not cancel the alarm it is not recommended to remain in the lab. Contact the building manager if the problem continues.

- **Other**

Always ensure that emergency contact information on the **placards** outside the laboratory are up-to-date. If they need to be changed, use red ink to make changes and give a copy to the main office so they can coordinate the update with EH&S.

Per campus policy, all **significant injuries must be documented** via the *UCSB Report of Injury to Employee/Student* form as soon as possible – form available in your departmental office. This is necessary for potential reimbursement for personal medical costs, or Worker's Compensation Claims.

Per SB County Fire and campus policy, **all fires must be reported to 9-911 immediately – even if the fire is out**. This is particularly true if there is use of an extinguisher (must be replaced); and injury; or property damage.

**TEMPLATE #3:
Health & Safety References**

Please list here the title and location of any additional health and safety reference materials (e.g. Merck Index) associated with the lab which employees may use to aid them in their work.

	Reference	Location
1.	Merck Index	Chemistry Reading Room
2.	CRC Handbook of Chemistry & Physics	Chemistry Reading Room
3.	MSDS Forms	On Line or Hard Copy
4.		

Recommended Laboratory Safety References

Material Safety Data Sheets (MSDS):

Per OSHA, all lab chemical users must know:

- a) What an MSDS is,
- b) MSDS relevance to their health and safety,
- c) How to readily access them.

Labs are encouraged to maintain their own [MSDS](#) for the hazardous chemicals they routinely use

Background : Standard Operating Procedures

Per the OSHA Standard, a complete CHP includes **Standard Operating Procedures (SOP)** to aid workers in minimizing chemical exposures in the lab. This is generally interpreted to mean SOPs for the following - **not** for all possible chemical operations:

- Operations involving **Particularly Hazardous Substances (PHS)**, namely, [“Select” Carcinogens, Highly acute toxins, Reproductive toxins](#)
- Other “high-hazard” chemical operations

To assist labs in developing their SOPs, the following resources are provided:

- A generic SOP for the use of Particularly Hazardous Substances (Template #4)
- A blank SOP form (Template #5) for other high-hazard chemical operations

However, these information sources are very general and can't cover all operations. **Therefore, it is the responsibility of lab supervisors to develop new SOPs (or augment the generic PHS SOP) if needed to protect their workers.** The decision on whether a specific SOP is required is the prerogative, but also the responsibility, of the lab supervisor.

TEMPLATE #4:

**Standard Operating Procedure:
Use of “Particularly Hazardous Substances”**

Particularly Hazardous Substances (PHS) are “**Select**” **Carcinogens, Reproductive Toxins and Highly Acute Toxins**. Web-links to definitions and lists of these are below.

This generic PHS SOP is provided for use by campus labs. As deemed necessary by the lab supervisor, this SOP can be **edited, or augmented** with additional information, relative to a specific PHS, or class of PHS. If a particular procedure below can not be feasibly followed, then alternative techniques that offer equivalent protection can be instituted, but should be documented herein. While this broad SOP is for PHS as a whole, supervisors should develop SOPs for specific PHS, or classes of PHS, if necessary for adequate worker safety.

Date of last revision to SOP: January 2007

1. Laboratory SOP Name

SOPs can be based on a specific chemical; a class of chemicals; a specific or set of lab procedures; a specific piece of equipment, etc.

USE OF PARTICULARLY HAZARDOUS SUBSTANCES (PHS)

[“Select” Carcinogens](#)

[Reproductive toxins](#)

[Highly acute toxins](#)

2. Approval Required

Discuss any circumstances under which this operation requires prior approval. E.g. “undergraduates can not do this operation without my specific consent”.

- Individual PIs/supervisors may impose prior approval criteria if desired.

3. Personal Protective Equipment List *specific personal protective equipment needed, e.g., gloves, coats, eyewear. If a respirator is needed, contact EH&S (x8787).*

[Take me to a Glove Reference Chart to Identify the Proper Gloves](#)

- Use of PHS shall, whenever feasible, employ the following:
- **Protective eyewear** such as safety glasses, goggles or face shields. The latter should be used when handling corrosive materials in large quantities (e.g. > 1 gallon).

UCSB Lab-specific Chemical Hygiene Plan

- **Cotton Lab coats**, particularly when using liquid PHS and/or PHS that are readily absorbed through the skin. (**VERY IMPROTANT WHEN WORKING WITH PYROFORICS!**)
- **Lab gloves** that are chemically-resistant to the particular material. Note that some common carcinogens such as dichloromethane and benzene readily permeate common lab gloves such as neoprene and nitrile – see Glove Reference Chart link below.
- All **respirators**, other than dust masks, must be approved by EH&S per OSHA requirements (x-8787)

4. Engineering/Ventilation Controls

Describe required engineering controls. Examples: fume hoods glove boxes, biosafety cabinets, pressure relief valves, leak detection systems, auto-shut off valves, etc.

- Volatile, or dust/aerosol-producing PHS must be used in a **fume hood, glove box, externally-ducted biosafety cabinet, or EH&S-evaluated snorkel exhaust**. Use on the open bench is prohibited except when it is impractical (i.e. equipment will not fit in hood).

When used outside of the above containment devices, containers should be sealed. Note that the use of volatile PHS such as formalin, dichloromethane and benzene on an open bench, in open containers, would probably result in worker exposures **above** the Cal-OSHA legal/safe limits for such materials.

5. Any Special Chemical Handling, Storage, Cleanup or Disposal Requirements

- Under the CHP law, a **designated area** for working with PHS must be assigned. The designated area may be the entire laboratory, an area of the laboratory, or a device such as a fume hood. **At UCSB, the designated PHS work area is the entire laboratory**, unless the supervisor specifies otherwise herein; either in general, or for a specific material or operation.
- PHS must be stored in completely-sealed containers. Although hood storage of chemicals is generally discouraged, volatile PHS can be stored in a fume hood if deemed necessary.
- Spills of PHS must be completely cleaned up. Spills that can not be safely and completely handled by lab personnel must be reported to EH&S for assistance.
- Like all chemical wastes, disposal of PHS must be done through EH&S. No PHS, or other chemical wastes can go into the sewer system, trash or be allowed to freely evaporate.

**TEMPLATE #5:
Standard Operating Procedures for High Hazard Lab Operations**

This blank template is for developing SOPs for any “high-hazard” chemical operations not covered by Template #4. **The development of lab-specific SOPs for high hazard operations is the responsibility and determination of the supervisor.** OSHA does not have specific requirements for SOP content. EH&S recommends that the following elements be considered in SOP development, but supervisors should expand on as appropriate.

Date of last revision to SOP:

1. Laboratory SOP Name

SOPs can be based on a specific chemical; a class of chemicals; a specific or set of lab procedures; a specific piece of equipment, etc.

2. Approval Required

Discuss any circumstances under which this operation requires prior approval. E.g. “undergraduates can not do this operation without my specific consent”.

Undergraduates are not allowed to work unsupervised in the lab.

3. Hazardous Chemicals

List chemicals and their hazard class, e.g., “carcinogenic, highly toxic, flammable, teratogen, corrosive, etc.” Better yet, print and attach MSDS ([MSDS search](#)).

Chemical Name	Hazard Class
A Benzene	Carcinogenic
B Dichlorobenzene	Carcinogenic
C Methylene Chloride	Carcinogenic
D Carbon Tetrachloride	Carcinogenic
E Chloroform	Carcinogenic
F Bromine	Highly Toxic

4. **Personal Protective Equipment** *List specific personal protective equipment needed, e.g., gloves, coats, eyewear. If a respirator is needed, contact EH&S (x8787).*

[Take me to a Glove Reference Chart to Identify the Proper Gloves](#)

Safety Glasses

Cotton (non synthetic) Lab Coat

Gloves (CNSI 2428) Nitrile Provided

5. **Engineering/Ventilation Controls**

Describe required engineering controls. Examples: fume hoods glove boxes, biosafety cabinets, pressure relief valves, leak detection systems, auto-shut off valves, etc.

Fume Hoods

Flammable Storage Cabinets

6. **Any Special Chemical Handling, Storage, Cleanup or Disposal Requirements**

Reusable containers used for waste disposal can be returned to the lab. Please label the container with a note and room number.

If the chemicals you are working with are particularly smelly or unpleasant:

Use a resalable bag to dispose of your gloves, and waste,

Keep the bag in your fume hood,

Seal and label the bag for waste disposal.

DO NOT THROUGH WASTE IN REGULAR TRASH.

7. **Other**

The following are located to the south of the lab entrance:

Safety shower

Eye wash

Fire extinguisher

Additional safety protocols for the department of Chemistry and UCSB which are included in our CHP can be found at the following web address.

<http://www.chem.ucsb.edu/department/labsafety/>

UCSB Lab-specific Chemical Hygiene Plan

Training Record:

Lab-Specific Chemical Hygiene Plan

The following individuals have reviewed and understood the preceding Lab-specific Chemical Hygiene Plan.

Lab Supervisor: FRED WUDL

<u>Name</u>	<u>Signature</u>	<u>Date</u>
Wes Walker	_____	
Brittnee Veldman	_____	
Toan Pho	_____	
Rajeev Kumar	_____	
Fulvio Brunetti	_____	
Lucas Wescott-Baker	_____	
Giovanni Rampinini	_____	

