PROCEDURE FOR WRITING STANDARD OPERATING PROCEDURES

Standard Operating Procedures (SOPs) are a set of written procedures explaining how to safely work with hazardous chemicals. Three methods can be used to categorize SOPs: by process (e.g. lab protocols), by individual hazard class (e.g. inorganic acids) or by hazardous chemical class (e.g. perchloric acid). The Standard Operating Procedure is a valuable tool and worth the preparation time. SOPs go beyond the basic "cookbook" procedural description of materials and methods and also provide details about the appropriate precautions.
Here are some examples of topics that lend themselves well to the SOP format:

- Inventory procedure for stock/reference cultures
- Laboratory security
- Disposal of hazardous materials, including sharps, chemicals and biological materials
- Surface decontamination
- Spill procedure
- Operation and maintenance of equipment such as the centrifuge, Biological Safety Cabinet, and autoclave
- Transportation of hazardous materials between facilities

In general, SOPs force a person to think through a procedure step by step and to standardize the materials and methods. The exercise of writing the SOP is valuable and the SOP itself is a useful training tool and a reminder to staff of the correct procedures. In some situations**,** SOPs may be required for compliance with regulations (e.g., Good Laboratory Practices, Food and Drug Administration, 40 CFR 160.81).

The best approach to writing an SOP is to **do it**, **write it**, and **test it**. Be brief and succinct, the shorter, the better. Anyone - student, support staff or principal investigator, can prepare them. The SOPs should be available in the laboratory, not filed away in an office drawer.

SOPs should be reviewed annually at a minimum.

Below is a template for a **Standard Operating Procedures (SOP)** that you may adapt for your own **SOPs**.

Standard Operating Procedures (SOP) Template

TITLE:_____

ORIGINAL ISSUE:_____**REVISION DATE**_____**PAGE __OF__**

PREPARED BY:_____

APPROVED BY:_____

Section 1: (Check One)	___ Process ___ Hazard Class ___ Hazard Chemical Class
Section 2:	**Describe Process, Hazard Class, or Hazardous Chemical Class** Describe the process in detail and list all chemicals in the process and describe/list the names of all hazardous chemicals.
Section 3:	**Potential Hazards** Describe the potential hazards for each step in the process or hazardous chemical. Include physical and health hazards.
Section 4:	**Personal Protective Equipment** Identify the required level of PPE and hygiene practices needed. PPE includes gloves, aprons, lab coats eye protection etc.
Section 5:	**Engineering Controls** Describe the engineering controls that will be used to prevent or reduce employee/student exposure to hazardous chemicals. This includes ventilation such as fume hoods.
Section 6:	**Special Handling and Storage Requirements** List storage requirements for hazardous chemicals involved with the process including specific areas and policies regarding access to chemicals, special procedures such as dating peroxide formers are appropriate here.
Section 7:	**Spill and Accident Procedures** Indicate how spills or accidental releases will be handled and by whom. List the location of appropriate emergency equipment (spill kit, eye washes, showers and fire extinguishers). Any special requirements for personal exposure should be identified here.
Section 8:	**Decontamination Procedures** Specify decontamination procedures to be used for equipment, glassware and clothing, including equipment such as hoods and lab benches.
Section 9:	**Waste Disposal Procedures** Indicate how waste will be collected, disposed of and by whom.
Section 10:	**Material Safety Data Sheet Locations** Indicate the location of MSDSs for each hazardous chemical used. Also indicate the location of other pertinent safety information, i.e. equipment manuals, chemical references, etc.
Section 11:	**Protocol(s)** Insert the/your laboratory process/procedure/protocol.