

INTRODUCTION TO STANDARD OPERATING PROCEDURES (SOP) SAFETY NOTE

Standard Operating Procedures (SOPs), or experimental protocols, are crucial for maintaining a safe lab environment as they allow clear and concise communication of experimental procedures (procedural SOPs), material handling requirements (material SOPs), and instructions regarding specific laboratory equipment usage (equipment SOPs). By standardizing a task, SOPs not only increase safety, but also accuracy, precision, and repeatability.

Steps to Writing a Good SOP

Step	Notes
1. EXAMINE AND UNDERSTAND exactly how the operation will function before writing.	<ul style="list-style-type: none">• This includes how to use instruments, how to conduct experiments, and how to use materials• Consult with other personnel who perform the same or related tasks.
2. SEPARATE the three main types of information within an SOP: steps to be performed, notes and explanations pertaining to these steps, and	<ul style="list-style-type: none">• Procedural steps must be physically separated from notes and other procedural branches.• Include "white space" as a useful tool to aid in locating important information.

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optional procedural branches.	
3. USE active voice, making sure to express each step as a positive command to the user.	<ul style="list-style-type: none">• Avoid fancy formatting that may detract from the user's attention.• Use boldface and italics for emphasis, but sparingly.
4. WRITE the SOP with specific instructional steps interspersed with notes and procedural branches.	<ul style="list-style-type: none">• Never write SOPs in a paragraph format.
5. USE iconography or symbols to enhance communication.	<ul style="list-style-type: none">• This is especially useful to those facing a language barrier.

Notes on Procedural SOPs

- Don't restrict your SOP to safety information, outline the purpose of the experiment or activity.
- Consider enclosing the SOP in plastic sheet protectors so it can be used as a checklist.

Notes on Material SOPs

- Create a list of the do's and don'ts associated with handling and disposal of the material, using the material's Safety Data Sheet (SDS), among other sources.
- Include sub-procedures for any specific tasks that must be performed including waste disposal or spill cleanup/decontamination.

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- Consider keeping a copy of the SDS with the material SOP.

Notes on Equipment SOPs

- Include general practices and safety rules that must be followed when using the piece of equipment, regardless of the activity.
- Outline any procedures that must be conducted on or with the piece of equipment.

Additional Resources

- For further information on writing SOPs, checkout this [SOP procedure](#).
- For a full guide on writing SOPs, see Chapter 18 of [Research Laboratory Safety](#).

DISCUSSION QUESTIONS

- How can we improve the SOPs used in our lab?
- Are there any key procedures we use that would benefit from being spelled out clearly in a SOP?
- Could we have avoided or mitigated an incident or close call by following a SOP? If so, how?

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