



5. Standard Operating Procedures (SOPs)

BACKGROUND

Standard operating procedures (SOPs) are used within organizations for tasks that are repeated or require specific instructions. In industry SOPs are common, but may also be called protocols, instructions, worksheets, or laboratory operating procedures. It is important there is only 1 set of SOPs at a time; the presence of multiple copies may lead to confusion and poor communication.

Using single source SOPs has several distinct advantages:

1. Ensures that everyone is following and referencing the same document.
2. Ensures that changes to the SOP are known by everyone.
3. Highlights hazards and reduces or eliminates risks. Makes activities in the lab safer.
4. Helps to train new lab users correctly.
5. Acts as a reference.

The attached template is based upon the SOP guidelines produced by the United States Environmental Protection Agency.

DETAILS

While each SOP will be different, these guidelines and outline (page2) should be followed:

- Write in an active voice.
- Do not use the term “you.”
- Keep language simple and direct
- Be brief.
- SOPs should be reviewed by a competent user (of the method / equipment). The reviewer and author cannot be the same person.
- The version number and date of last review should be on each page.
- Each page should be numbered with “page X of Y.”
- If SOPs are stored electronically for use, the current copy should be “read only” to prevent unauthorized alteration.

SOPs should be written in an active voice and should not use the term “you” or equivalent. Keep language simple and direct. SOPs brevity is important.

SOPs are designed to be living documents that change as needed. As such, it is important that 1 person regularly review the SOPs to ensure that they correctly reflect practice. When a new SOP is posted, ensure that the version number is changed and the old version is discarded (or put away in an archive file). The archived records should not be kept with the current SOPs for clarity.

There is no perfect SOP, and some sections can be added and deleted as necessary. In the template here, items marked “req” are required.



Title: How to Write and SOP (Req) Laboratory Procedure #001

Date of Last revision: April 22, 2025

Version #1

A. SCOPE (REQ):

This SOP is intended to enable lab users to write standard operating procedures (SOP) for re-occurring lab procedures. It is not intended for procedures that are only completed once.

B. SUMMARY

This document outlines the sections needed to write a complete single source SOP. There are 9 sections outlined.

C. INTERFERENCES (REQ)

These SOPs are based upon the United States Environmental Protection Agency guidelines on SOPs, but other SOP methods may have different sections & procedures. Where a different method produces a similar result, it is at the discretion of the principal investigator to choose the SOP that is most suitable.

D. SAFETY (REQ)

When writing SOPs on a computer, maintain good posture to prevent muscular skeletal injury. Take regular breaks. If drinking a beverage during his procedure, put the beverage in a spill proof container to prevent damage to the computer equipment.

The following personal protective equipment (PPE) is required for this procedure:

- None required

E. APPARTUS AND MATERIALS (REQ)

Creating and editing an SOP requires access to a desktop publisher. As this document was created in Microsoft Word 2019, use of the same program will limit problems during conversion from one program to another. (This section can also easily be provided as a list, but include amounts, manufacturer and storage location of materials).

The following equipment is recommended for this procedure:

- 1 large cup of coffee (Tim Horton's, Green Bean, or equivalent)
- Computer (with Microsoft Word 2019)

Gather all your materials before you start.



F. QUALITY CONTROL

(This section should outline the procedures in place to ensure the quality of the final product).
SOPs should be checked by a qualified individual who was not involved in writing the latest version.

G. METHOD (REQ)

1. Highlight and copy the pages of this document that outline an SOP.
2. Paste them into a new document.
3. Re-write the required (REQ) sections to suit your document.
4. Change the title page.
5. Save the file in an appropriate (central) location with a clear file name that reflects what it is about.
6. Print the SOP and put it into the lab's Laboratory Health, Safety & Environmental Guidebook.
7. Record the change in the Guidebook log.
8. Remove the old SOP and put it into archival storage.

H. CALCULATIONS

There are no calculations required for this procedure.

I. REFERENCES (REQ)

US EPA. (April 2007) Guidance for Preparing Standard Operating Procedures (SOPs). EPA QA/G-6.
Accessed Nov 4 2021. <https://www.epa.gov/sites/default/files/2015-06/documents/g6-final.pdf>

J. AUTHORIZATION:

Author, *Name and Position*

Date

Approved, *Name and Position*

Date