



**US Environmental Protection Agency
Office of Pesticide Programs**

**Office of Pesticide Programs
Microbiology Laboratory
Environmental Science Center, Ft. Meade, MD**

**Standard Operating Procedure for
Use and Maintenance of Laboratory Notebooks and Project
Binders**

SOP Number: ADM-05-03

Date Revised: 05-06-14

SOP Number	ADM-05-03
Title	Use and Maintenance of Laboratory Notebooks and Project Binders
Scope	For data recorded on standardized test forms and in laboratory notebooks.
Application	To provide guidance on the use and maintenance of laboratory notebooks and project binders for laboratory activities.

	Approval	Date
SOP Developer:	_____	
	Print Name: _____	
SOP Reviewer	_____	
	Print Name: _____	
Quality Assurance Unit	_____	
	Print Name: _____	
Branch Chief	_____	
	Print Name: _____	

Date SOP issued:	
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1. Definitions	<ol style="list-style-type: none"> 1. Laboratory notebook = a bound collection of serially numbered pages used to record the planning and progress of a scientific investigation. 2. Project binder = a loose-leaf collection of dated hand-written and/or computer-generated documents and forms, tables, notes and data. 3. Other abbreviations/definitions are provided in the text.
2. Health and Safety	Not applicable.
3. Personnel Qualifications and Training	Refer to SOP ADM-04, OPP Microbiology Laboratory Training.
4. Instrument Calibration	Not applicable.
5. Sample Handling and Storage	Not applicable.
6. Quality Control	<ol style="list-style-type: none"> 1. The OPP Microbiology Laboratory conforms to 40 CFR Part 160, Good Laboratory Practice Standards (GLP). Appropriate quality control measures are integrated into each SOP. 2. For quality control purposes, the required information is documented in the laboratory notebook or on the appropriate record form(s) (see section 14).
7. Interferences	Adequate cross-referencing between a notebook and binder or between two analysts' notebooks or binders is important. Lack of cross-referencing could make interpretation of the information difficult.
8. Non-conforming Data	Any instances of non-compliance with this SOP will be corrected upon discovery.
9. Data Management	Active notebooks and binders should be kept by the analyst in a secure location. After completion of a project, retired notebooks and project binders are subject to review by the Quality Assurance Unit (QAU), and archived in secure file cabinets in the file room D217. Only authorized personnel have access to the secured files. Archived data is subject to OPP's official retention schedule contained in SOP ADM-03, Records and Archives.
10. Cautions	None
11. Special Apparatus and Materials	None

<p>12. Procedure and Analysis</p>	
<p>12.1 Purpose</p>	<p>a. The laboratory notebook and/or project binder is a permanent record of a researcher’s activities. The pages are used to preserve experimental data and observations as well as to document the purpose, design, and conclusions of a study.</p> <p>i. The main purpose of maintaining a laboratory notebook and/or project binder is to preserve experimental plans, study design or protocol, procedures that were followed, observations, conclusions, and recommendations. The information that is documented must be done in a way that another scientist can replicate the study based on the information presented in the notebook or binder.</p> <p>ii. Quality control activities and practices related to equipment maintenance and calibration are recorded on the appropriate forms and maintained in log books as required under other laboratory Standard Operating Procedures. It is not necessary to also record the data in the laboratory notebook though the activities should be referred to and cross-referenced in the laboratory notebook or binder data sheets.</p> <p>iii. A laboratory notebook or project binder may cover more than study.</p> <p>b. Laboratory notebooks, project binders, their contents, and any associated documentation are the property of the OPP Microbiology Laboratory Branch. They should be kept in a secure location while the project is ongoing. As projects are completed, the materials are archived. A log of all notebooks and binders is maintained on G:\DATA\SHARED\MLB\ANTIMICROBIAL TESTING PROGRAM\LAB Notebooks (see section 14). It is the responsibility of each analyst to populate this notebook log once the notebook is provided to the QAO for final review. The notebook log is reviewed by the QAU or designee on a regular basis to ensure that it accurately reflects the status of notebooks and binders.</p>
<p>12.2 Format</p>	<p>a. <u>Title Page or Cover Sheet</u>: On the title page or cover sheet, record your name, the laboratory name (OPP Microbiology Laboratory, Branch, Environmental Science Center, Ft. Meade, MD), the date the notebook was started and ended, the number of the notebook in the sequential series, and the project title, study protocol or research protocol, for which the notebook is used. A notebook can be used</p>

	<p>for one or several studies.</p> <p>b. <u>Table of Contents</u>: Table of contents is optional. For ease of use and retrieval of unique studies, each analyst must separate studies using binder tabs. If a table of contents is generated, reserve several pages following the title page for recording a running table of contents. Record the Study Protocol or Research Protocol title and project identification number followed by the pages used to document the study.</p> <p>c. <u>Experimental descriptions</u>: Separate experiments using clearly stated descriptions and/or dates. List the experiments in the Table of Contents.</p> <p>d. <u>Page numbering</u>: Serially number each page. Page numbering is optional in project binders; however, every page should have at a minimum the date and initials of analysts conducting the work. Date and initial all study information and data generated at the end of each day of data collection.</p> <p><u>NOTE</u>: Pages in laboratory notebooks and/or project binders should not be skipped or discarded.</p>
<p>12.3 General Guidelines</p>	<p>The following are general guidelines documenting work associated with planning, protocols, lab work, recording study data, observations, and any additional information required to recreate the day's work.</p> <p>a. Document the daily plan of the experiment before initiating lab work. Date and initial each daily entry. Include a short description of the purpose of the investigation. If the plan is in the form of a research protocol, it should be affixed in the notebook. Document all changes.</p> <p>b. Plan how to document the experiment in the notebook or binder prior to making any entries. Leave room for tables, observations, graphs, spreadsheets, and statistical analysis. Writing should be legible, grammatically correct, and factually complete. Do not use the notebook for scratch work or personal information.</p> <p>c. The laboratory notebook and/or project binder should be available in the lab while conducting a study or research.</p> <p>d. Control the location of and access to the laboratory notebook and/or project binder. Secure them in a closed or locked cabinet or file drawer when not in use.</p> <p>e. All entries should be made in permanent ink and should be complete. Anyone assisting should initial and date entries.</p>

	<p>Documentation should indicate who did what step or portion of the experiment and when.</p> <ul style="list-style-type: none">f. Make notes and observations clear, concise, yet detailed, and complete. Unusual or unique observations that could lead to further experimentation should be entered into the notebook.g. Provide full detail of all experimental procedures and conditions. Any SOPs or portions of SOPs that are being used should be referenced and any deviations should be documented.h. Graphs, drawings, or printouts should be carefully affixed in the notebook using as permanent a method as possible (glue, staples). Reference should be made to any affixed material on the bound page and analysts should sign and date over the interface.i. Document the program name and version number used for graphing programs, spreadsheets, or statistical software.j. Use clear and descriptive heading for each sectionk. Peer-review the contents of the laboratory notebook and/or project binder during the course of a study. Date and sign each portion that is reviewed.l. Define all abbreviations, code names, or product codes. Abbreviations need only be defined the first time used.m. Draw a line through all errors followed by a date, initials, and a brief explanation for the correction (codes may be used for common error types such as EE for entry error and EEO for entry error omission). Do not erase or use white out; the original entry should be visible.n. To correct a large section, block out with one diagonal line from corner to corner followed by a date, signature, and short explanation for the strike out. The original uncorrected section should still be visible.o. For more than one page, indicate the continuation at the bottom of the first and any subsequent pages, along with you initials and date.p. If a long term experiment is interrupted by other daily entries, indicate that the experiment is continued on the appropriate page number, along with your initials and date.q. If a page is skipped, cross out the whole page, and sign and date the line.
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	<ul style="list-style-type: none">r. Do not write near the binding as this area may not photocopy well.s. Laboratory notebooks and project binders should be numbered sequentially. Cross-reference multiple notebooks, when necessary.
13. Data Analysis/ Calculations	None
14. Forms and Data Sheets	<ul style="list-style-type: none">1. Test sheets. Test sheets are stored separately from the SOP under the following file name: <p style="text-align: center;">Notebook Log ADM-05-03_F1.docx</p>
15. References	<ul style="list-style-type: none">1. Writing the Laboratory Notebook, H.M. Kanare, American Chemical Society, 1985.2. US EPA Good Laboratory Practice Standards, Title 40 Code of Federal Regulations (CFR) Part 160.