



Mold Safety and Cleanup

Facilitator Guide

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Midwest Consortium for Hazardous Waste Worker Training

Acknowledgements

The Midwest Consortium developed this curriculum under cooperative agreement number U45 ES 06184 from the National Institute of Environmental Health Sciences (NIEHS). Neil Carlson at the University of Minnesota contributed content and images to this course.

We encourage you to comment on these materials. Please give your suggestions to your Program Director.

Warning

The Midwest Consortium has copyrighted this material. A recipient of the material other than the Federal Government may not reproduce it without permission of the copyright owner.

The material was prepared for use by facilitators experienced in the training of persons who want to learn about mold safety and cleanup. Authors of this material have prepared it for the training of this category of workers as of the date specified on the title page. Users are cautioned that the subject is constantly evolving. Therefore, the material may require additions, deletions, or modifications to incorporate the effects of that evolution occurring after the date of this material preparation.

Disclaimer

There is currently no Occupational Safety and Health Administration (OSHA) regulation specifically regarding mold remediation. Some applicable regulations are: OSHA's Hand Protection Standard (29 CFR 1910.138), Eye and Face Protection Standard (29 CFR 1910.133), Respiratory Protection Standard (29 CFR 1910.134), and Personal Protective Equipment General Requirements (29 CFR 1910.132).

Additional training may be necessary to perform some activities, such as identifying specific molds and associated health hazards, and performing advanced control containment or confinement.

This program was created April 16, 2024 and all web links are active as of that date. If you find an error, please inform your program director so that it can be updated.

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Course Overview

This program was developed to help people gain knowledge and skills related to mold safety and cleanup. By following the outline format and activities in this guide, you will be better able to enhance learning, stimulate class discussion, and achieve the learning objectives.

The Midwest Consortium is devoted to professional facilitator freedom while maintaining consistency of training.

Facilitator Preparation

This Facilitator Guide provides step-by-step instructions for presenting the course. It includes information such as time requirements, suggested facilitator preparation, minimum content requirements, issues which may arise, and reference materials.

In addition to this guide, course materials include a PowerPoint and a Participant Guide (printed PowerPoint). Every facilitator should be familiar with the material in the Facilitator Guide, exercises, and PowerPoint.

Lesson plan forms shown below may be helpful when drafting your presentation outline.

The facilitator should also:

- Ensure operation of audiovisual equipment prior to the session.
- Ensure you are able to show videos. Several are included in the PowerPoint and others are available if desired (see Instructional Resources below).
- Test web links prior to the session.
- Print and make copies of the PowerPoint (3-slide Handout option) so participants can take notes and have all content to refer to in the future. These will also be needed for participants to complete the exercises. Note the PowerPoint contains all content typically found in a Participant Guide (acknowledgement, closing/evaluation, etc.).

Lesson Plan Form 1

<p>Teaching Methods for This Lesson Plan (Check each method you will use)</p>	<p>Audiovisual Requirements (Check each that is needed)</p>
<p><input type="checkbox"/> Discussion <input type="checkbox"/> Question and answer <input type="checkbox"/> Hands-on simulation <input type="checkbox"/> Team teaching <input type="checkbox"/> Small-group activities <input type="checkbox"/> Case study <input type="checkbox"/> Other (describe):</p>	<p><input type="checkbox"/> Supplemental material <input type="checkbox"/> Online platform (Zoom etc) <input type="checkbox"/> Websites loaded on devices <input type="checkbox"/> Whiteboard <input type="checkbox"/> Hands-on simulation <input type="checkbox"/> Other (describe):</p>
<p>Reference Materials (List all materials needed--paper or electronic)</p>	<p>Special Space or Facility Requirements</p>
	<p>(List any room size or special facility regulations here, such as set-up areas, equipment storage concerns, etc.)</p>
<p>Suggested Discussion Questions (Think <u>in advance</u> what you might be asked, and prepare responses)</p>	<p>Suggested Instructor Preparation (Consult with others as needed to improve preparation skills)</p>

Lesson Plan Form 2

Subject Area or Element	Detail	Reference Number or Citation
Major subject heading from outline format.	Detailed breakdown of subject area or element. This detail will necessarily occupy more space than shown here.	e.g., page number in training handbook, section number of regulation, or audiovisual material.

Instructional Resources

- EPA <http://www.epa.gov/mold/>
- EPA <https://www.epa.gov/indoor-air-quality-iaq/resources-flood-cleanup-and-indoor-air-quality>
- EPA videos <https://www.epa.gov/flooded-homes>
- CDC <https://www.cdc.gov/mold/default.htm>

Presentation of Material

Small-Group Exercises

Small-group exercises are incorporated throughout this course. The purpose of these exercises is to involve participants in clarifying information, identifying options, and applying skills. Participants may be allowed to complete the exercises on their own, work individually and share their reactions in class, or work collaboratively in small groups.

Small-group exercises can enhance the learning process; therefore, it is strongly recommended that you make activities and discussions comfortable so that everyone can participate. Assume that every class will have participants with a wide range of communication skills. Some participants will have no problems participating in group discussion, while others may have a hard time talking in front of the group.

Suggestions for facilitating group activities and discussions include:

- Allow participants to freely express their values, attitudes, and opinions.
- Do not judge participant's responses.
- Facilitate discussion by paraphrasing and clarifying. It is seldom appropriate for the facilitator to give opinions.
- Avoid putting people on the spot. Instead of asking individuals for answers, have a voluntary group spokesperson present findings to/for the entire group.
- Keep the groups focused on the task at hand. Because small-group exercises can draw heavily on the participants' personal experience, sometimes conversation can drift.
- Be alert to the potential for one person to dominate work in small groups. If you see this happening, facilitate participation by other members of the group.
- Keep the participants alert and interested by encouraging participation. If the groups are not participating or giving only cursory answers, ask them probing questions linked to previous work or life experiences.

Course Evaluation

Evaluation gathers input from participants regarding value to them, achievement of learning objectives, and insights into how to improve the program. NIEHS supports 'model programs' that employ interactive training methods to build skills; see https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=11266&file_name=WTP_Minimum_Criteria_062818_Final_508.pdf. Collection and use of evaluation data are key to program improvement. Adherence to these criteria is a term-and-condition of NIEHS funding.

Evaluation forms are shown at <https://mwc.umn.edu/>.

Successful completion

Successful completion for this course is defined as: 100% attendance.

Sample Agenda for 3-hour course

Introduction	20 minutes
Module 1: Mold and Health Effects	30 minutes
Module 2: Inspection	20 minutes
Exercise: Inspection Scenarios	30 minutes
Module 3: Cleanup	40 minutes
Exercise: Cleanup Scenarios	20 minutes
Closing and Course Evaluation	20 minutes

Introduction

Time Requirement: 20 minutes

Number of Facilitators: 1 or more, consistent with ratio shown in Minimum Criteria

Materials

- Registration and sign-in forms
- Copies of agenda for participants
- Technology - computer(s), projector, screen, cables, internet

Course Objectives

After completion, participants will better be able to:

- Recognize hazards related to mold and mold cleanup
- Describe the investigation of mold and moisture problems
- Identify how to protect yourself during cleanup
- Describe steps for mold cleanup
- Identify appropriate mold cleanup methods

Objectives for the Introduction

- Introduce facilitator(s), program, participants
- Describe format of class sessions and activities
- Distribute and complete class forms
- Discuss class expectations and rules as applicable

Suggested Facilitator Preparation

- Gather necessary paperwork and handouts prior to the session

Minimum Content Requirements

- Introduction of facilitator(s), program, participants
- Complete registration forms (if not done in advance)
- Everyone signs in

Presentation of the Session

The session can be presented as follows.

Introduce facilitator(s) and provide any needed orientation. Review MWC, NIEHS 'model programs', and uses of evaluation.

Present the agenda that has been prepared. Introduce the course.

Ask participants to introduce themselves, describing experience and what each wants to gain from the session. Note any goals identified by participants that are not in the listing above - address any that may fit with the session materials and describe why remaining goals are outside the scope of this training.

Collect any forms and provide to program staff for retention.

Module 1: Mold and Health Effects

Time Requirement: 30 minutes

Number of Facilitators: 1 or more, consistent with ratio shown in Minimum Criteria

Materials

- Mold Safety and Cleanup PowerPoint
- Participant Guide (3-slide Handout option of the PowerPoint)
- Technology – computer(s), projector, screen, cables, internet

Objective

When completed, participants will better be able to:

- Recognize hazards related to mold and mold cleanup

Suggested Facilitator Preparation

- Review PowerPoint

Minimum Content Requirements

- Mold characteristics
- Mold hazards

Question you may be asked

Is all black mold dangerous? There are many types of black mold. *Stachybotrys chartarum* is usually the one referred to as "toxic mold." All molds can cause symptoms in people who are sensitive to or allergic to mold, but there is no reason to believe that black mold is any more dangerous than other types or colors of mold.

Presentation of the Session

Use the Mold Safety and Cleanup PowerPoint to cover this module. Use images in the PowerPoint to discuss where mold can grow.

Module 2: Inspection

Time Requirement: 20 minutes plus 30 minutes for the exercise

Number of Facilitators: 1 or more, consistent with ratio shown in Minimum Criteria

Materials

- Mold Safety and Cleanup PowerPoint
- Participant Guide (3-slide Handout option of the PowerPoint)
- Technology – computer(s), projector, screen, cables, internet

Objective

When completed, participants will better be able to:

- Describe the investigation of mold and moisture problems

Suggested Facilitator Preparation

- Review PowerPoint and exercise
- Consider bringing a moisture meter and infrared camera for demonstration

Minimum Content Requirements

- Mold inspection strategies and safety
- Exercise

Presentation of the Session

Use the Mold Safety and Cleanup PowerPoint and exercise below to cover this module. Use images provided in the PowerPoint to facilitate discussion about inspection target areas and strategies.

Exercise: Inspection Scenarios

Number of Facilitators: 1 or more, consistent with ratio in Minimum Criteria.

Time Requirement: 30 minutes

Materials:

- Mold Safety and Cleanup PowerPoint
- Participant Guide (3-slide Handout option of the PowerPoint)
- Technology – computer(s), projector, screen, cables, internet
- Table for each group

Introduction: The purpose of this exercise is to give participants the opportunity to practice selecting PPE for different mold remediation scenarios.

Instructions:

- Divide the participants into groups of 4-6
- Each group will work through the 5 PowerPoint slides related to this exercise
- Facilitate a report back and discussion at the end

Answers:

Scenario 1: Wear N-95. Visually inspect around window (from outside as well). Inspect under other sections of wallpaper. Inspect under carpet. Need to identify and stop source of moisture.

Scenario 2: Wear N-95. Is the carpet wet or dry? Need to identify source of moisture. Is there a nearby window or maybe piping in the walls?

Scenario 3: Wear N-95. Need to move refrigerator completely to see extent of mold. Any issues with wall behind refrigerator or in the basement below refrigerator? Is it a leaky ice maker or from an old spill?

Scenario 4: Wear N-95. Will need to determine the extent of mold. Is it above, behind the walls, in the ductwork? Since this is a basement, you should also inspect the floor

above for possible mold. Will need to identify and stop source of moisture. Cleanup will require a better respirator than an N-95 and likely professional help.

Scenario 5: Wear N-95. This is a very large project that might be larger if other apartments are also impacted. Need to check with nearby apartment owners. Need to identify and stop the source of moisture, which may be from apartment above. Need to assess what else in apartment has been impacted. Cleanup will require a better respirator than an N-95 and likely professional help.

Module 3: Cleanup

Time Requirement: 40 minutes and 20 minutes for the exercise

Number of Facilitators: 1 or more, consistent with ratio shown in Minimum Criteria

Materials

- Mold Safety and Cleanup PowerPoint
- Participant Guide (3-slide Handout option of the PowerPoint)
- Technology – computer(s), projector, screen, cables, internet

Objectives

When completed, participants will better be able to:

- Identify how to protect yourself during cleanup
- Describe steps for mold cleanup
- Identify appropriate mold cleanup methods

Suggested Facilitator Preparation

- Review PowerPoint and exercise
- Ensure web access or have videos on a flash drive
- Select any optional videos, if desired (see Instructional Resources)

Minimum Content Requirements

- Safe work practices and personal protective equipment
- Steps in mold cleanup
- Mold cleanup methods
- Exercise

Presentation of the Session

Use the Mold Safety and Cleanup PowerPoint and exercise below for this module. There is also information on black and gray water in the PowerPoint Notes of slide 47.

Exercise: Cleanup Scenarios

Number of Facilitators: 1 or more, consistent with ratio in Minimum Criteria.

Time Requirement: 20 minutes

Materials:

- Mold Safety and Cleanup PowerPoint
- Participant Guide (3-slide Handout option of the PowerPoint)
- Technology – computer(s), projector, screen, cables, internet
- Table for each group

Introduction: The purpose of this exercise is to give participants the opportunity to discuss cleanup methodology.

Instructions:

- Divide participants into groups of 4-6
- Each group will work through the 3 PowerPoint slides related to this exercise
- Facilitate a report back and discussion at the end

Answers:

Scenario 1: The plastic could be cleaned but probably not the upholstery, so these should be discarded (in a way that another person will not take them home). A search should be made for other moldy items in the basement. Many other items could have also been impacted. A search for potential source of moisture should be made. Perhaps the basement needs ongoing dehumidification to keep humidity under control.

Scenario 2: Follow the guidelines for safe entry after flooding. Since it has been over 48 hours, all porous items that were affected will likely need to be discarded. Assume there

will be mold growth. Is the water clean? Dry the house out as quickly as possible. Clean everything that was impacted. Was the HVAC system impacted? Remember to look for hidden mold going forward.

Scenario 3: Is this the only area or is it elsewhere? What is or was the source of moisture? The drywall can be disposed of. The wood appears structurally sound so it can likely be cleaned.

Closing and Evaluation

Time Requirement: 20 minutes
Number of Facilitators: 1 or more, consistent with ratio shown in Minimum Criteria

Materials

- Whiteboard or equivalent; markers
- Evaluation forms

Objectives

- Review program objectives
- Answer questions
- Collect feedback (evaluation forms)

Suggested Facilitator Preparation

Ensure you have evaluation forms prior to the program.

Minimum Content Requirements

- Evaluation
- Answer any final questions
- Provide certificates for those who met the definition of successful completion; provide remediation according to Training Center and MWC policy for anyone who did not attend the entire program.

Presentation of the Session

Thank participants for attending the program.

Review the goals of the program.

This is an opportunity for final questions.

Evaluation is important to continued program improvement. This should not be rushed. Provide time to complete the program evaluation forms and collect them.