

LABORATORY PRACTICAL ACTIVITIES

Hands-On Chemical/Biological Spill Cleanup

Give description of Lab Practical

This practical will be broken up into two parts. The first part will focus on biological spill cleanup, while the second part will focus on chemical spills.

Part one will have the participants break up into two teams (3-5 people/group). Each team will have a chance to clean up a spill. Team 1 will clean up the spill with no official spill kit, or instructions. They will be allowed to use whatever they can find to accomplish this. Some in the team will actually clean up the spill while others will give them instructions and advice on what they should do. Team 2 will stand back and watch. After 5-7mins, the instructor will stop the drill, and bring in a fully stocked spill kit. The instructor will go through each element of the kit and its specific purpose. The instruction will then read through the instructions. Team 2 will then clean up a spill using the proper spill kit with the proper instructions. 2-3 people of team 2 will do the actual cleaning while the others on the team will read the spill cleanup instructions, and give advice. Once the spill has been cleaned there will be a discussion period between the teams and the instructors.

Part two will focus on chemical spills. The participants will be asked to discuss the differences between a biological and chemical spill cleanup. After the discussion, volunteers (3-5 people) will be asked to exhibit how to do it. One of the volunteers will "spill" the glow germ. The other volunteers will act out the proper procedures, including notification and spill cleanup.

Aim / Objective

Participants of practical will be able to clean up a biological and a chemical spill.

Methods & Materials

Basic chemical spill kit

Nitrile gloves

Safety glasses, goggles, PAPR

Disposable lab coat, tyvek, apron, gown

Paper towels

Spill booms or pillows

Vermiculite

Small disposable plastic broom and dust pan

Zipper seal bags (1 gallon size)

Plastic garbage bags (not biohazard bags)

Small bottle of dish soap

Chemical resistant shoe covers

Warning signs and tape

Basic instructions for cleaning a chemical spill

Basic biological spill kit

Latex, or nitrile gloves (several pairs)

Dust pan

Tongs

Absorbant towels (beach towels work well)

Undiluted appropriate disinfectant

Spray bottle

Biohazard autoclave bags (medium or large)

Shoe covers

Tyvek

Spill dedicated bucket and mop

Basic instructions for cleaning a biological spill

50-200mls of glow germ in liquid broken into 50ml batches

Tyveks or aprons to protect the peoples clothing during the spill process

Time duration

2hrs

Lesson plan / practical plan layout

Part I Biological Spill Outside Primary Containment

Introduction

- Break into 2 groups (4-5 per group). All members should be wearing either tyveks or aprons to protect their clothing, especially below the knee.
- Explain that one group will just watch, while the other group will be the active “cleaners”

Spill Cleanup Group 1

- Spill ~50mls of glow germ in liquid
- Have the first group clean up the spill the best they know how. Have some in the group give instructions to the others in their group on what to do, while some do the actual cleanup.
- Allow group 1 to use whatever necessary and available to clean-up spill as best they can
- Give them 5-7mins to complete

Spill Cleanup Instructor

- Bring in official stocked spill kit with instructions

- Explain each element of kit and its purpose
- Explain differences when glass or sharps are involved
- Go over instructions

Spill Cleanup Group 2

- Spill ~50 mls of glow germ in liquid
- Group 2 will clean up spill following written instructions; some in group will be giving instruction, while at least 2 clean

Discussion

- How did it go for the first group vs the second group?
- How is the spill kit helpful?
- Approximately how long does it take to clean up a spill, from start to finish?
- Other questions?

Part 2 Chemical Spill Cleanup

Introduction

- The participants will be asked to discuss the differences between a biological and chemical spill
- The instructor will briefly go over the chemical spill kits components
- The instructor will ask for 3-5 volunteers, to show how to clean up a chemical spill.

Spill Cleanup Volunteer Group

- One volunteer will spill ~50 mls of glow germ in liquid
- Notification to the others “working” must also be given
- 2-3 of the volunteers will clean up the spill using the provided chemical spill kit. 1-2 of the volunteers will read the proper chemical spill cleanup procedures, and give advice to the “cleaners”
- Give them 5-7mins to complete

Spill Cleanup Discussion

- Approximately how long does it take to clean up a spill, from start to finish?
- Other questions????