2962
LABORATORY SAFETY SERIES:
Safety Showers & Eyewashes
Leader’s Guide
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INTRODUCTION TO THE PROGRAM

Structure and Organization

Information in this program is presented in a definite order, so that employees will see the relationships between the various groups of information and can retain them more easily. The sections in this program include:

- How safety showers and eyewashes operate.
- Precautions to take when working with hazardous materials.
- Exposure to corrosive substances.
- Locating safety shower and eyewash equipment.
- Testing the equipment.
- Using the equipment.
  — Safety showers.
  — Eyewashes.

Each of the sections gives an overview of important information in one topic area, providing employees with the basis for understanding the operation of safety showers and eyewashes as well as when and how they should be used.

Background

No one wants to be in accident, that's why laboratory workers take so many precautions. They wear personal protective equipment and carefully select each piece of apparatus.

But accidents sometimes happen, no matter how many precautions we take. In these situations quick action is imperative, and a safety shower or eyewash can be extremely important. Many types of safety showers and eyewash stations exist. Laboratory employees need to be familiar with the various types of this equipment, their operation and under what circumstances they should be used.

Objectives

To help employees plan for laboratory emergencies, and handle them when they occur, this education and training program is designed to present basic information in these areas. Upon completion of the program, employees should:

- Recognize the different types of safety showers and eyewashes.
- Know the advantages and disadvantages of different types of showers and eyewashes.
- Understand what supplemental steps should be taken when using less than optimal showers/eyewashes.
- Know how safety showers and eyewashes operate.
- Know what precautions to take when working with hazardous substances.
- Understand what to do if they come into contact with corrosive materials.
- Be able to properly test safety showers and eyewashes.
• Know the procedures to follow when using safety showers and eyewashes.

**Reviewing the Program**

As with any educational program, the "presenter" should go through the entire program at least once to become familiar with the content and make sure the program is consistent with company policy and directives. An "Outline of Major Program Points" in the program is included in this Presenter's Guide to help with this task and for general reference.

As part of this review process, you should determine how you, as the presenter, will conduct your session. The use of materials such as handouts, charts, etc., that may be available to you needs to be well thought out and integrated into the overall program presentation.
PROGRAM OUTLINE

• No one wants to be in an accident. To prevent them we:
  — Wear personal protective equipment.
  — Select apparatus carefully.

• But, in spite of our precautions, accidents sometimes happen.
  — Quick action is imperative.
  — A safety shower or eyewash can be very important.

• There are many types of safety showers and eyewashes.
  — The best activate the water with one step.
  — Water then continues to flow until it is turned off.

• Safety showers should have a strong enough flow to immediately drench the victim.
  — They should also provide enough water for fifteen minutes of use.

• Eyewashes should produce a soft stream or spray.
  — Often this is aerated.
  — The water should also last for at least fifteen minutes.

• Showers/eyewashes should be located wherever corrosives or other hazardous substances exist.
  — These chemicals can cause severe damage to skin and eyes.

• Corrosives include:
  — Strong acids.
  — Strong bases.
  — Dehydrating agents.
  — Oxidizing agents.

• Specific examples of corrosives include:
  — Sulfuric acid (causes painful, slow-healing burns).
  — Potassium hydroxide (can inflict severe damage to the eyes).

• Always take the proper steps to avoid corrosives' effects.
  — Wear personal protective equipment.
  — Plan in advance for emergencies.
  — Read Material Safety Data Sheets before starting work.
  — Review your facility's Chemical Hygiene Plan.

• You should know the locations of safety showers/eyewashes, and how to use them.
  — You should be able to find them with your eyes closed.

• Be ready to assist coworkers in the event of trouble.
  — You could save someone's eyesight or even their life.

• It is important to make it easy to reach showers/eyewashes.
  — Keep routes free of equipment/supplies.
  — Keep areas under showers clear.

• Shower and eyewash equipment should be routinely tested.
  — Put together a schedule.
  — Mark the dates and results of testing on a tag.
  — Contact your supervisor if any problems.

• If you are splashed by a hazardous substance, take the following steps:
  — Do not panic.
  — Call out for help.
— Get to a shower or eyewash immediately (depending on the incident).

• **If you are helping a victim, take charge.**
  — The incident may require "helpers".
  — Make sure the victim is completely drenched.
  — Remove personal protective equipment.
  — Completely soak their clothes, then remove them (at least down to underwear).
  — Remove their shoes.

• **Shower water is normally cold.**
  — Treatment may be necessary for hypothermia.

• "Waste" water from showers/eyewashes should be surrounded with absorbent material.
  — This will prevent the spread of contamination.

• **After the initial deluge, the victim can be taken to an alternate area, for further decontamination.**
  — Remove their remaining clothing.
  — Then complete the showering process.
  — The entire showering time should be no less than fifteen minutes.

• "Helpers" will also probably be wet.
  — They may also need to be decontaminated.
  — Hypothermia may be a consideration.

• In certain situations, shower water and clothing may need to be disposed of as hazardous waste.
  — The shower may drain into a sewer.
  — Outside agencies may need to be notified about contamination.

• For showers that contain drains, some water should always be kept in the trap.
  — This keeps sewer gases from rising into the room.

• If a chemical splash is constrained to the eye area, you should use an eyewash.
  — It should provide continuous, gentle stream of water.

• **Get to the eyewash as quickly as possible.**
  — Hold the eye open with your fingers.
  — Rinse completely, under and behind the eyelid.

• If only one eye was splashed, don't contaminate the other eye with residual water.
  — Drench the contaminated eye for at least fifteen minutes.

• Many portable eyewash units do not supply fifteen minutes of water.
  — Use these only for an initial wash.
  — Follow up with a fifteen minute rinse.

• Small eyewash bottles don't provide adequate rinsing.
  — Only use them when **nothing else** is available.

• Handheld "drench hoses" require constant hand pressure to operate.
  — They don't free up both hands for manipulating the eye.
  — Because of this they are not approved as eyewashes.

• If you have been the victim of a splash accident:
  — Seek medical attention.
  — Report it to your supervisor.
QUIZ

LABORATORY SAFETY SERIES:
Safety Showers & Eyewashes

Name: ___________________________ Date: ______________

1. What is the minimum amount of time that you should wash your eyes out if they have been splashed with a hazardous chemical?
   ___ 5 minutes.
   ___ 10 minutes.
   ___ 15 minutes.
   ___ 20 minutes.

2. True or False... Oxidizing agents are chemicals that are considered in the corrosive family?
   ___ True
   ___ False

3. True or False... The Material Safety Data Sheet (MSDS) is the best source of information on whether a chemical might have corrosive effects?
   ___ True
   ___ False

4. For how long should you drench a chemical splash victim under a safety shower?
   ___ 10 minutes.
   ___ 15 minutes.
   ___ 20 minutes.

5. True or False... After checking the operation of a safety shower or eyewash, you should record the date and results of the test?
   ___ True
   ___ False

6. True or False... One problem in using a handheld drench hose for eyewashing is that both hands are not free for manipulating the injured eye(s)?
   ___ True
   ___ False

7. True or False... When a safety shower drains directly into a sewer, you need to determine whether residual water can contaminate the outside environment?
   ___ True
   ___ False
QUIZ

LABORATORY SAFETY SERIES:
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PRESENTER'S COPY...WITH ANSWERS

1. What is the minimum amount of time that you should wash your eyes out if they have been splashed with a hazardous chemical?
   __ 5 minutes.
   X 10 minutes.
   X 15 minutes.
   __ 20 minutes.

2. True or False... Oxidizing agents are chemicals that are in the corrosive family?
   X True
   __ False

3. True or False... The Material Safety Data Sheet (MSDS) is the best source of information on whether a chemical might have corrosive effects?
   X True
   __ False

4. For how long should you drench a chemical splash victim under a safety shower?
   __ 10 minutes.
   X 15 minutes.
   __ 20 minutes.
   __ 30 minutes.

5. True or False... After checking the operation of a safety shower or eyewash, you should record the date and results of the test?
   X True
   __ False

6. True or False... One problem in using a handheld drench hose for eyewashing is that both hands are not free for manipulating the injured eye(s)?
   X True
   __ False

7. True or False... When a safety shower drains directly into a sewer, you need to determine whether residual water can contaminate the outside environment?
   X True
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