Training Solutions, Delivered!

HAZWOPER:
Decontamination Procedures

Leader's Guide, Fact Sheet & Quiz

Item Number: 5145

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation.

PREPARING FOR THE MEETING

Here are a few suggestions for using this program:

a) Review the contents of the Fact Sheet that immediately follows this page to familiarize yourself with the program topic and the training points discussed in the program. The Fact Sheet also includes a list of Program Objectives that details the information that participants should learn from watching the program.

b) If required by your organization, make an attendance record to be signed by each participant to document the training to be conducted.

c) Prepare the area and equipment to be used for the training. Make sure the watching environment is comfortable and free from outside distractions. Also, ensure that participants can see and hear the TV screen or computer monitor without obstructions.

d) Make copies of the Review Quiz included at the end of this Leader's Guide to be completed by participants at the conclusion of the presentation. Be aware that the page containing the answers to the quiz comes *before* the quiz itself, which is on the final page.

CONDUCTING THE PRESENTATION

a) Begin the meeting by welcoming the participants. Introduce yourself and give each person an opportunity to become acquainted if there are new people joining the training session.

b) Introduce the program by its title and explain to participants what they are expected to learn as stated in the Program Objectives of the Fact Sheet.

c) Play the program without interruption. Upon completion, lead discussions about your organization's specific policies regarding the subject matter. Make sure to note any unique hazards associated with the program's topic that participants may encounter while performing their job duties at your facility.

d) Hand out copies of the review quiz to all of the participants and make sure each one completes it before concluding the training session.

5145 HAZWOPER:
Decontamination Procedures
FACT SHEET

LENGTH: 17 MINUTES

PROGRAM SYNOPSIS:
Hazardous materials and waste are a part of many work situations and can be found in many types of facilities and job sites. It is very important for employees to know how to recognize these potentially dangerous substances, and how to handle and dispose of them properly. In 1976, the EPA issued the Resource Conservation and Recovery Act (RCRA) to regulate the handling of hazardous waste "from cradle to grave". Since then, other regulations have followed, including OSHA's Interim Final Rule for Hazardous Waste Operations and Emergency Response (HAZWOPER) that gave OSHA the task of protecting HAZMAT workers. As part of these HAZWOPER regulations, there are varying requirements for employee training, depending on the employee's specific level of involvement with hazardous materials. This program will help employees understand the decontamination procedures they must follow to avoid the harmful health effects of exposures to hazardous materials.

Topics include the four elements of working safely with hazardous materials, OSHA decontamination regulations, exclusion zones, the contamination reduction zone and contamination reduction corridor, decontamination equipment and solutions, decontamination procedures and responding to injuries and medical problems.

PROGRAM OBJECTIVES:
After watching the program, the viewer should:
- Understand why they need to use decontamination equipment and procedures.
- Know why both an "exclusion zone" and a "contamination reduction zone" are established on a hazardous materials site.
- Understand how a "contamination reduction corridor" is set up and how it functions.
- Know how the decontamination process works, and why it is critical for the continued safety of employees as well as their families and friends.

PROGRAM OUTLINE

FOUR ELEMENTS OF WORKING SAFELY WITH HAZARDOUS MATERIALS

- **For most people, hygiene is an important social practice, not a matter of life and death. When you work with hazardous materials, however, staying "clean" means not becoming contaminated.**
- **Working safely with hazardous materials requires four major elements:**
— Work practices.
— Engineering controls.
— Personal protective equipment (PPE).
— Decontamination.
- **"Work practices" are methods for isolating workers from dangerous chemicals, such as spraying water on hazardous dust to keep it from becoming airborne.**
- **"Engineering controls" are devices for protecting people from hazardous materials. These include:**
— Robotic equipment used for handling hazardous materials.
— Large ventilation fans designed to remove toxic fumes from work areas.
- **"Personal protective equipment" is a blanket term for anything you wear that protects you from contamination and physical injuries, including:**
— Chemical protective clothing (CPC).
— Respirators.
— Hard hats.
— Face shields.
— Work boots.
- **These elements work together to protect you from hazardous materials.**
— But without decontamination you could still end up being exposed.
- **"Decontamination" means removing hazardous substances from your PPE and other equipment or changing these materials into a harmless form.**
— Without decontamination, your PPE could become saturated with the very same chemicals that you need protection from.
— In time, this might present more of a hazard to you than your worksite does.

OSHA DECONTAMINATION REGULATIONS

- **To prevent these unsafe residues from contaminating anyone, the OSHA HAZWOPER Standard made decontamination procedures mandatory at all sites where workers might be exposed to hazardous substances.**
- **The HAZWOPER (Hazardous Waste Operations and Emergency Response) regulations:**

— Spell out the basics of decontamination.
— Describe decontamination procedures that apply to all hazardous materials activities no matter where they take place.

- **HAZWOPER requires that access to any contaminated area be tightly restricted, whether it is:**

— A Superfund site.
— A place where a chemical incident has occurred.

EXCLUSION ZONES

- **These locations are so dangerous that no one is permitted to enter them without authorization and the appropriate PPE.**

— That is why they are called "exclusion zones."
— Most people are excluded from them for their own safety.

- **If certain questions about an exclusion zone can be answered, determining the decontamination procedures that should be used at the location becomes a much easier task. These questions include:**

— What hazardous materials are present?
— What are their concentrations?
— Where is most of the contamination located?
— What sort of work needs to be done within the zone?

- **Other questions include:**

— What level of PPE is required to work in the zone?
— How much traffic will move into and out of the zone during an average day?
— Which decontamination methods are the most effective under these conditions?

- **Once all the questions about the exclusion zone have been answered, your site safety and health officer will design and implement the decontamination procedures that will be most effective in the situation.**
- **The site safety and health officer is the person in your organization who has the ultimate authority over how decontamination should be carried out.**

— They will be able to answer any question you might have about how decontamination procedures are put into effect.

THE CONTAMINATION REDUCTION ZONE & CONTAMINATION REDUCTION CORRIDOR

- **The conditions in the area just outside the exclusion zone are of as much concern as the conditions inside the zone.**

— This space is called the "contamination reduction zone."
— It is the part of the site that acts as a barrier between the exclusion zone and the outside world.
— The sole function of the contamination reduction zone is to keep people from straying into or out of the exclusion zone.

- **A narrow strip of ground called the "contamination reduction corridor" stretches across the contamination reduction zone.**

— Think of this as a one-way bridge from the exclusion zone to the outside world.
— Everyone who has entered the exclusion zone must exit through this "CRC."
— There are no exceptions allowed.

- **It is within the CRC that all decontamination activities occur.**

— At one end, workers enter the CRC from the exclusion zone, wearing contaminated PPE and carrying contaminated tools.
— At the other end, workers come out of the corridor decontaminated and ready to resume their normal activities.
— Confining decontamination activities to this limited area effectively "bottles-up" contaminants and keeps them from "traveling" away from the exclusion zone.

- **Inside a CRC there are a number of stations, which are arranged in a row.**

— At each of these, a specific piece of equipment is cleaned or left behind for later decontamination.

- **Any personnel who work in a CRC must wear PPE that is one level below that of exclusion zone workers.**

— For example, if an exclusion zone worker must wear Level A PPE, the staff in the CRC would need to wear Level B PPE.

DECONTAMINATION EQUIPMENT & SOLUTIONS

- **Most of the decontamination equipment that CRC workers use is far from exotic.**

— Large galvanized wash tubs or children's wading pools hold decontamination solutions.
— Soft-bristled scrub brushes, usually with long handles, are used to wash down the PPE.

- **A combination of water and detergent is the most common decontamination solution.**

— It is versatile and is often used when you are dealing with unknown chemicals.
— This is because water is the "universal solvent", it will wash away almost anything.

- **For a small number of contaminants, however, a detergent and water solution might not be effective.**

— Some materials actually react with water.

— In these cases, special decontamination chemicals that transform the hazardous materials into harmless substances are used.
— This process is called "neutralization."
— Remember to be careful with these decontamination chemicals.
— You can't use them as casually as you would detergent and water.
- **Applying the wrong solution may cause a dangerous chemical reaction, such as:**

— Corrosion.
— The release of hazardous vapors.
- **To avoid any problems, contaminants must be identified before a decontamination chemical is used on them.**

— Often, a chemist will need to be consulted to determine which decontamination solution is best.

DECONTAMINATION PROCEDURES

- **Now that we've reviewed the basics of decontamination, let's take a walk down a typical contamination reduction corridor. We'll assume that you're in Level A PPE.**
- **The first station you will reach is the "equipment drop".**

— Here, you will place any tools that you have been carrying on plastic drop-cloths to be removed for decontamination at a later time.
- **The "outer suit wash" is next in line.**

— At this station, you step into a small pool and an assistant sprays your totally-encapsulating chemical protective suit with water.
— Your suit is then thoroughly scrubbed with a detergent and water solution.
- **This is followed by the "outer suit rinse."**

— You step into a second small pool and an assistant rinses your totally-encapsulating suit, spraying downward from head to toe.
— This washes the contaminants from the suit into the pool.
- **You must pay especially close attention when your boots are being rinsed.**

— Once your first boot is rinsed off, you need to place that foot outside of the rinse pool.
— Be careful, placing a rinsed boot back into the pool will recontaminate the boot!
— Once the second boot is rinsed, you can step out of the pool completely.
- **Next, you will sit down on a bench.**

— A decontamination assistant unzips the top of your totally-encapsulating suit, then peels it away from your body (down as far as your waist).
— The suit must be turned to the outside while it is being peeled off of your upper body (to prevent any residual contamination on the outside of the suit from coming into contact with you).
- **After this, you turn off your air supply and detach your respirator hose.**

— The assistant removes your air tank and puts it in a designated area, where it will be cleaned off.
— Then the assistant removes the rest of your totally-encapsulating suit, which is placed in a special container for decontamination.
- **Next, your respirator facepiece is removed, followed by your SCBA tank harness.**

— These are also placed in containers for later decontamination.
- **You then move to a second bench where an assistant helps you out of your inner suit.**

— This will be bagged for proper disposal.
— You are now at the end of the contamination reduction corridor, in your street clothes.
- **Immediately after you have gone through the CRC, you must receive a medical surveillance examination.**

— This will allow your company's medical staff to determine the state of your health right after you come out of the exclusion zone.
— Information from your medical surveillance exam will go into your permanent medical record, so that it can be compared to data from other exams you are given while working with hazardous materials.

SHOWERING/WASHING OFF

- **Once your exam is completed, you must take a shower as quickly as possible.**

— If no shower is available on site, wash your hands and face.
— Then take a shower as soon as you get home.
- **"Washing off" is important for two reasons.**

— First, there is a slight chance that a minute quantity of contamination may have reached your skin during the later stages of decontamination.
— Showering with lots of soap will wash this off.
— Second, wearing PPE makes you hot and sweaty.
— For hygiene purposes as well as for health reasons, you need to get rid of this perspiration residue as soon as possible after leaving the CRC.

RESPONDING TO INJURIES & MEDICAL PROBLEMS

- **This "orderly" process of decontamination can become complicated if someone is injured or develops medical problems while on site.**

— In some cases, normal decontamination might aggravate these conditions.

— Whenever immediate, life-saving first aid or medical treatment is required, decontamination procedures should be skipped.

- **Depending on the type of substances involved, the victim may have to be transported in a company vehicle to prevent an ambulance from becoming contaminated.**

— Personnel from the work site need to go to the hospital with the victim, to advise the medical staff about any decontamination that may eventually be needed.

— At the hospital, the work site personnel should also let the emergency room staff know what chemicals the victim has been exposed to, as well as the potential health effects of these substances, if known.

- **If you ever have to provide information to a doctor or other medical professional, only tell them what you absolutely know to be true!**

— If you do not know something, don't guess!

— Only "hard," reliable information should be used when someone's life depends on it.

- **To work safely around hazardous materials, you need to use good work practices, engineering controls and personal protective equipment.**

— But these alone are not enough to keep you safe.

- **Decontamination is also necessary.**

— Without it, you can become seriously ill and even spread contamination to those around you.

HAZWOPER: Decontamination Procedures

ANSWERS TO THE REVIEW QUIZ

1. d
2. a
3. b
4. a
5. b
6. a
7. a

HAZWOPER: Decontamination Procedures
REVIEW QUIZ

Name_____Date_____

The following questions are provided to determine how well you understand the information presented in this program.

1. Which of the following elements is required to work safely with hazardous materials?

a. Engineering controls
b. Personal protective equipment
c. Decontamination
d. All of the above

2. Decontamination procedures are mandatory at all sites where workers might be exposed to hazardous substances.

a. True
b. False

3. HAZWOPER regulations only require certain types of contaminated areas to be tightly restricted.

a. True
b. False

4. The sole function of the contamination reduction zone is to keep people from straying into or out of the exclusion zone.

a. True
b. False

5. A combination of water and detergent is the least common decontamination solution.

a. True
b. False

6. The first station in the contamination reduction corridor (CRC) is the "equipment drop".

a. True
b. False

7. Immediately after going through the CRC, you must receive a medical surveillance examination.

a. True
b. False