

Purpose

This program will explain the importance of using proper hand protection in the workplace to employers and employees who are exposed to chemical hazards.

Objectives

At the end of this safety training program, participants will:

- be aware of the workplace conditions that warrant hand protection;
- understand the components that make up a hand protection program;
- know how to choose the appropriate hand protection for a specific work site or job duty; and
- understand the different types of hand protection.

Introduction

A common safety dilemma that many employers face is how to properly protect their employees' hands. In the workplace, a combination of harsh working environments, failure to choose appropriate hand protection, and not wearing hand protection are the three major causes of skin damage. Many employees are unaware of the increased damage that can occur when cut, nicked and cracked hands are exposed to chemicals in the workplace. When the skin's outermost layer, the epidermis, is weakened, chemicals can more easily penetrate the underlying layers, potentially causing moderate to severe damage.

Glove Selection

The first step in choosing hand protection is to analyze the workplace to identify what conditions and chemicals employees' hands may contact. Employers can find pertinent hazard identification information by referencing Safety Data Sheets (SDS) and checking manufacturers' labels for particular chemicals or hazardous materials.

Once this information is known, the next step is to choose the hand protection that will protect employees' hands from these conditions and chemicals. Choosing



the appropriate type of glove can help decrease the incidences of hand injuries and contracted skin diseases. To select the proper type of glove, employers should:

- check SDSs for recommendations for the appropriate type of gloves when exposed to a chemical or hazard;
- assess how quickly these chemicals could penetrate or become reactive with the glove;
- consider the different effects of varying chemicals on a particular glove; and
- check gloves currently in use by employees for signs of deterioration.

Once the employer has selected the proper gloves, care must be taken to assure that the gloves are used properly. Do not substitute one type of glove for another.

Hand Washing

Simple practices such as proper hand washing will help protect employees. The Centers for Disease Control and Prevention (CDC) recommends guidelines for proper hand washing.

1. Turn the water on to a comfortable temperature and wet your hands and wrists.
2. Apply the soap then work it into a thick lather.
3. While holding hands low in the sink, interlace fingers for complete cleaning. Rub one hand against the other, paying particular attention to the fingernails and skin areas between the fingers.
4. Wash the hands for a ten-second period with plenty of friction.
5. Rinse hands thoroughly and hold hands low, allowing soil and soap to run into sink.
6. Dry hands completely using paper towels.
7. Shut off water with a clean paper towel so that clean hands avoid possible contaminants on the faucet.

The type of soap used by employees can also have a great effect on the conditions of their hands. Careful selection must be made when the employer purchases



soap for employee use. Harsh cleaners can aggravate a skin condition. Bar soaps can be a poor choice because they may contain bacteria that can be passed from employee to employee. Pink or coconut-oil based soaps are not designed to remove heavy contamination. Some soaps have a tendency to dry skin. The best choice would be synthetic detergents that are pH-balanced. These clean better than animal-derived soaps that contain high levels of alkali and fatty acids.

Protective Creams

Protective creams can also be a source of hand protection. While creams are not a substitute for gloves, they can help protect the employee if chemicals penetrate gloves. As with gloves and soaps, special care must be taken when selecting protective creams.

Both the employer and employee should understand how to use the proper protective cream for the job. If an employee is working with petroleum-based hazards, they should use creams that are water-based to naturally repel the petroleum solvent. For protection against water-based hazards, oil-based creams should be used.

For protective creams to work to full effectiveness, they should be applied to clean skin at the appropriate time in the employee's job duty sequence. For example, if an employee works on a machine that uses cutting oil, the cream must be applied to the employee's skin before work begins. The cream may not offer any protection to the employee if it is applied after the cutting oil has already penetrated the skin.

Review Questions

1. A good way to choose proper gloves for an employee is to check the SDS for recommendations. **True or False**
2. If an employee works with sharp metal, then decides to work with a cleaning chemical, he or she should change from one type of work glove to another. **True or False**
3. Only people in food preparation and medical professions have to worry about proper hand washing. **True or False**
4. Bar soaps are the best choice of soaps for all types of occupations. **True or False**
5. Before protective creams are used, the employee must make sure to have clean skin. **True or False**

Answers:

1) T; 2) T; 3) F; 4) F; 5) T

This Safety Training Program was published with information from *Industrial Safety & Hygiene News*, September 1997 and the 29 Code of Federal Regulations 1910, Part 138.

The Texas Department of Insurance, Division of Workers' Compensation (TDI-DWC) also offers a free hand related safety publication online at <http://www.tdi.texas.gov/wc/safety/videoresources/index.html>, entitled, *Finger, Hand, and Wrist Injuries Take 5 for Safety*.

The TDI-DWC features a free occupational safety and health audiovisual library. Call 512-804-4620 for more information or visit the agency website at <http://www.tdi.texas.gov/wc/safety/videoresources/avcatalog.html>.