Glove Selection and Use Safety Talk

WHAT'S AT STAKE?

Think if you were not able to use your fingers or hands for daily tasks!! Your fingers and hands are your most valuable asset. Farmers, gardeners, industrial workers rely on their hands to perform all kinds of potentially dangerous work. In this regard, protection for fingers and hands is critical. That is where wearing proper gloves enters the equation.

It is important to choose the type of glove that will offer the most protection from the hazards present on the job. Not every job requires gloves, and in some cases, wearing gloves can be dangerous.

WHAT'S THE DANGER?

INTRODUCTION

Farmers and gardeners rely on their hands to perform day-to-day tasks. Exposure to sharp objects, thorns, poisonous plants, hot objects and chemicals can cause damage to skin tissue. Wearing proper hand protection can prevent this painful and infection-causing damage. Gloves can protect hands and forearms from cuts, abrasions, burns, puncture wounds, bites, skin contact with hazardous chemicals and some electrical shocks.

Hands and fingers are subject to an army of hazards in the workplace. There are hazards associated with exposure to chemicals. Generally, exposure means contact through the skin or respiratory system, and ingestion. Research reveals that at least 80% of total body exposure to chemicals is to the hands.

Once exposed, the person could be adversely like developing skin dermatitis or a burn from a corrosive chemical. Chemical can also be absorbed through the skin and into the body, causing a reaction that can lead to acute poisoning. General symptoms often associated with mild exposure to chemicals include headache, fatigue, dizziness, loss of appetite, stomach cramps, and diarrhea. Severe exposure to highly toxic compounds can lead to loss of coordination, seizures, and unconsciousness.

When working with agricultural and other chemicals, no single glove will protect your hands completely. Gloves made from polymers and other materials have their strengths and weaknesses in terms of preventing resistance and physical properties like resistance to tearing and abrasion. Since no protect-all polymer exists, selecting the right glove for the job is imperative to your safety.

HOW TO PROTECT YOURSELF

THE FOLLOWING ARE 7 CATEGORIES DEALING WITH GLOVE SELECTION AND USE

2. CHOOSING PROTECTIVE GLOVES

Gloves are made of a variety of materials that offer different types of protection. Using the wrong type of glove can cause injury.

- Fabric gloves can absorb liquids, including dangerous chemicals. For example, wearing cotton gloves while working with pesticides would not repel the chemical from the skin.
- Nitrile and latex gloves offer little heat protection and may be flammable if exposed to high temperatures. These types of gloves do not provide adequate protection from fire or other heat sources. Therefore, latex gloves should not be used when building a fire for burning brush.
- Never wear gloves of any type while working on or around moving machinery parts such as rotating shafts, belts, pulleys and similar sliding or rotating movements. Gloves can get caught in machinery, causing a risk of injury or amputation to the hand and arm.

Gloves should be selected to best suit the task at hand. If general weeding and planting bed maintenance are being performed, a fabric or fabric-coated glove may be adequate.

2. THE PROPER FIT

Although gloves typically do not come in sizes to fit every hand, it is important to select a glove size to be snug without being overly tight or loose. Gloves that are too tight may restrict movement and cut off circulation to the fingers. Gloves that are too large may make work very cumbersome and difficult, especially work involving small objects requiring increased dexterity. Finding the right size and fit may require trying several different brands and styles.

3. TYPE OF GLOVE AND LEVEL OF PROTECTION

Metal Mesh and Kevlar Knit

- Protects against cuts from sharp objects.
- Used for pruning and grafting, and cutting with knives.

Leather

- Protects against rough objects, abrasion, sparks and moderate heat.
- Used for general chores, construction activities, tree work and fence maintenance/installation.

Fabric and Coated Fabric

- Protects against dirt, splinters and abrasions.
- Helps grip slippery or smooth objects.
- Used for general chores such as raking, shoveling, hoeing and weeding.
- Do not use when working with rough, sharp or heavy objects.

Rubber, Neoprene, Vinyl, Nitrile, Latex

- Protects against chemical, fluid and pathogen exposure.
- Check chemical packaging for specific instructions.

- Used for pesticide application, painting/staining, and livestock care and medications.

4. PROPER CARE

Inspect gloves before each use to make sure they are not torn, punctured or compromised in their ability to provide protection. Whether they can be reused or discarded depends largely on the work they are being used for and the desired protection. A hole in a glove while weeding may not pose a problem, but a puncture in a rubber glove when handling pesticides could create a dangerous situation. Reuse of gloves used to handle chemicals should be carefully considered and depends on the toxicity of the chemical, manufacturer’s recommendations, chemicals handled and factors related to exposure duration, condition of gloves and temperature.

5. SELECTION

The selection of the proper chemical-resistant glove begins with an evaluation of the job application.

Factors that influence this selection are:

- the type of chemicals to be handled (or used)
- frequency and duration of chemical contact
- nature of contact (total immersion or splash only)
- concentration of chemicals
- temperature of chemicals
- abrasion/resistance requirements
- puncture-, snag-, tear-, and cut-resistance requirements
- length to be protected (hand only, forearm, arm)
- dexterity requirements
- grip requirements (dry grip, wet grip, oily)
- cuff edge (safety cuff, knit wrist, or gauntlet)
- color requirements (to show contamination)
- thermal protection (for example, when handling anhydrous ammonia)
- size and comfort requirements
- price

6. USE AND CARE

Always inspect your gloves before using them. Of principal concern are cuts, tears and punctures. Discoloration or stiffness may indicate non-uniformities in the rubber or plastic or chemical attack resulting from previous use.

Visual inspection should be done every time you use the gloves to detect pinholes or other defects. One way to accomplish this is when they are still wet after having been washed, fill the glove with water and tightly roll the gauntlet toward the fingers and examine for leaks. Dispose of gloves that have been damaged or show signs of chemical degradation.

Proper handling of chemicals requires your wearing the gloves on the inside of your shirt sleeves. The exception is when you are working overhead and when your hands are in an upward position. In that case, put your shirt sleeves inside the gloves and turn up the cuff of the glove to catch any material that may run down your arm.

It is extremely important to avoid secondary exposure to the chemical after application. Before removing the gloves, thoroughly wash gloves with soap and water, or a detergent and water, and then rinse with a lot of running water. The gloves may now be removed. As the gloves dry in a decontaminated area, thoroughly wash your

hands with soap and water. Make this a strict practice after every chemical application. Place dry gloves in a sealed plastic bag or other container, and store away from possible contamination.

7. REUSE QUESTION

Glove decontamination and reuse are controversial and unresolved issues. Often, surface contamination can be removed by scrubbing with soap and water; at other times, as in the case of emulsifiable concentrates, it may be practically impossible. The solvents in many emulsifable concentrates prompt this concern. Volatile solvents such as toluene and xylene, readily penetrate many polymers and the nonvolatile solvents, such as alkylated napthalenes and petroleum oil, are very difficult to remove from the glove material.

Once absorbed, some chemicals will continue to diffuse through the material toward the inside EVEN AFTER the surface has been DECONTAMINATED. For highly resistant chemical gloves, the amount reaching the inside may be insignificant. But for moderately performing materials, significant amounts of chemicals reach the inside. This may not occur during use, but while the glove is stored overnight. The next morning, when the applicator dons the glove, he may be putting his hand into direct contact with a hazardous chemical. In addition to the chemical resistance of the glove material, the amount of chemical that reaches the surface can be affected by the duration of exposure, duration of storage, the surface area exposed, and temperature.

The decision to reuse the gloves requires consideration of these factors as well as the toxicity of the chemical(s). In fact, unless extreme care is exercised to ensure decontamination, the reuse of chemical gloves that have been contaminated with a toxic chemical is not advisable. For this reason, the disposal of gloves on a regular and frequent basis is advisable.

FINAL WORD

Your fingers and hands cannot be replaced. Glove protection for your most valuable asset is critical. It’s essential to choose the correct gloves for the task. There are many types to choose from and using the correct type will go a long way to prevent injury or worse.