



SAFETY TOOLBOX TRAINING – HAND PROTECTION

SUPERVISOR INSTRUCTIONS:

- Use toolbox trainings to spark safety discussions during monthly meetings with employees.
- Fax a copy of the employee sign-in sheet to Tiffany Dothard with EHSO at 404-727-5904 as a record of employee attendance.

Next to our eyes, our hands are probably the most important part of our body when it comes to doing our work. They're involved in almost everything we do. Yet many of the things we do with our hands are done without any deliberate thought. Your hands have no fear. They'll go anyplace they're sent and they only act as wisely as the person to whom they belong. So, before you use your hands think of their safekeeping. Consider each year more than one million U.S. workers receive emergency room treatment for acute hand injuries. Nearly 70 percent of the workers who experienced hand injuries were not wearing gloves. The remaining 30 percent of injured workers were wearing gloves that were either damaged or inadequate for the task being performed. In an effort to prevent such workplace injuries, the Occupational Safety and Health Administration (OSHA) implemented the hand protection standard (29 CFR 1910.138) which mandates that employers provide and require employees to use appropriate hand protection when employees' hands are exposed to any of the following hazards:

- Skin absorption of harmful substances (i.e., chemicals or infectious materials)
- Severe cuts or lacerations
- Severe abrasions or punctures
- Chemical burns or thermal burns
- Harmful temperature extremes.



When selecting proper hand protection it is important to choose the right type of glove for each specific task, since no one glove protects against all hazards. Consult the relevant Material Safety Data Sheet (MSDS) which may recommend a particular glove material. Otherwise, select gloves that are resistant to the chemicals with which you are working. Listed below are general rules to follow when hand protection is needed:

- Select gloves of the correct size and fit; gloves that are too small are uncomfortable and may tear whereas gloves that are too large may interfere with dexterity;
- Before use, check gloves (even new ones) for physical damage such as tears or pin holes and for previous chemical damage;
- When removing gloves, do so in a way that avoids the contaminated exterior contacting the skin;
- Wash hands after removing gloves;
- Dispose of contaminated gloves properly;
- Do not attempt to re-use disposable gloves;
- Never wear possibly contaminated gloves outside of the work area or to handle telephones, computer keyboards, etc.

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Once you have selected the correct gloves, care must be taken to inspect, maintain, and determine when to discard them. Gloves should be inspected before each use to ensure they are not torn, punctured or made ineffective in any way. Non-disposable gloves that are discolored or stiff may also indicate deficiencies caused by excessive use or degradation from chemical exposure.



The following chart provides guidance on glove selection.

GLOVE MATERIAL	COST	CHEMICAL RESISTANCE	RECOMMENDED USES	DISADVANTAGES
Latex	Low	Decent for dilute inorganic solutions	Bases, alcohols, dilute water solutions	Poor for most organics; contain proteins that can cause allergic reactions; swell and degrade when coming in contact with various animal fats, oils and solvents
Polyvinyl Chloride (PVC)	Low	Medium general resistance	Acids, bases, salts, alcohols, amines, peroxides, petroleum hydrocarbons.	Poor for most organics, aromatics, aldehydes and ketones.
Nitrile	Low	Some organics	Organics, oils, greases, aliphatic chemicals, xylene, perchloroethylene, trichloroethane, toluene, some acids and bases, some biohazardous materials	Material not good with many ketones, benzene, methylene chloride, and trichloroethane
Neoprene	Medium	Medium general resistance	Acids, alcohols, oils, solvents, esters, greases, and animal fats.	Not good with many chlorinated solvents, ethers, ketones, and aromatics
Viton	High	Organic solvents	Aromatics, chlorinated solvents, aliphatics and alcohols	Poor physical properties, not good with some ketones, esters and amine
Butyl	High	Polar organics	Gas or water vapors, ketones, esters, and	Not good with hydrocarbons or

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			highly corrosive acids.	halogenated solvents
Polyvinyl Alcohol (PVA)	High	Organics	Strong solvents, including aromatics, aliphatics, and chlorinated solvents	Not good with alcohols, acids, bases.
Silver Shield	Medium	High general resistance	Hazmat	Poor fit, stiff, and easily punctured.

For further information or to have a PPE Hazard Assessment conducted, contact Tiffany Dothard at 404-727-3417 or email tiffany.dothard@emory.edu.

QUESTIONS TO CONSIDER:

1. Has a PPE Hazard Assessment been conducted in your department?
2. Does the MSDS for the chemical you are working with recommend a particular glove?
3. Does the task require double gloving?
4. Do you **always** inspect your gloves before use?