What Your Workers Need to Know About Skin Contact With Chemicals

Millions of North American workers have jobs that expose them to chemical contact through their skin, including employees in the agricultural, manufacturing, services, transportation/utilities, construction and sales sectors.

According to the National Institute for Occupational Safety and Health (NIOSH), skin problems and diseases are the most common non-injury health issue reported by workers, with the costs of work-related skin problems exceeding $1 billion every year.

Chemical exposures to the skin can cause temporary or permanent health damage. Temporary skin problems may include dry, red, cracked skin from contact with water, soap, gasoline and certain types of solvents. These health problems usually heal quickly when the skin is no longer in contact with the substance.

Permanent skin damage may result if the worker is exposed to a chemical known to have a severe impact. For example, a chemical burn may leave a permanent scar and exposure to certain chemicals can cause permanent loss of skin color.

Permanent damage may also occur to body organs or systems as a result of chemical exposure through the skin. For example, exposure to certain solvents may cause liver or kidney damage, while skin exposure to some pesticides can cause potentially fatal damage to the nervous system.

Chemical exposure may also cause a worker to become unusually sensitive to that chemical or a group of chemicals. Once sensitized, a person will suffer an allergic reaction whenever he or she is exposed to the chemical. The only way to deal with the problem is to prevent any further exposure or contact with the chemical.

NIOSH says workers need to be made aware of how their skin can be exposed to chemicals at work, either through direct contact with liquid, including spills and splashes, contact with contaminated surfaces or contact with spray or mist.

They also need to:

- Know the names of the chemicals with which they work,
- Read labels and the information provided by a chemical's manufacturer, and
- Learn which chemicals can cause adverse health effects following exposure.

Supervisors can help prevent chemical exposure to the skin by eliminating unnecessary chemicals from a work process, such as using disposable brushes instead of having to clean reusable brushes with a solvent.

Another means of preventing chemical exposure is by substituting a product or chemical capable of causing skin problems with one that is less harmful. For example, consider replacing a solvent-based product with a water-based one.

Other actions supervisors can take to reduce or control chemical exposures include:

- Modifying a process to eliminate chemical exposures. For example, rather than have workers hand-clean metal parts during repair operations, use a mechanical cleaner.
- Reducing airborne exposures by adding local or general ventilation. For example, use ventilation during spray-painting operations to reduce airborne levels of isocyanates.

- Encouraging workers to maintain their skin by using mild soap, rinsing thoroughly and using a moisturizer to prevent dry skin.
- Ensuring that workers keep work areas clean to prevent contact with chemicals on work surfaces.
- Ensuring that workers use personal protective equipment (PPE) including chemical resistant gloves, aprons,coveralls and boots, when exposure to chemicals is unavoidable.

For example, use appropriate gloves when mixing epoxy resin to avoid skin contact.

Info to go: To view a new NIOSH system for the assignment of multiple hazard-specific skin notations to help workers and occupational health professionals understand the health risks of skin exposures to hazardous chemicals, click on the Info to Go safety links at www. SafeSupervisor.com.