REDUCING SKIN CONTACT WITH CHEMICAL-RESISTANT GLOVES

One of the most common injuries in the workplace is dermatitis, an inflammation of the skin often resulting from contact with chemicals. The choice of proper gloves is an essential step in protecting skin from contact with chemicals. However, no glove material is absolutely impermeable. Gloves should not be used as a substitute for procedural changes that remove your hands from the area of potential contamination. Chemicals may penetrate glove materials through seams, tears, or imperfections in the glove material. The glove material can also absorb chemicals, resulting in skin contact.

Reducing Skin Contact

- Conduct own test. Turn a glove inside out, fill it with the test solution, and suspend it over a basin (if the test solution is volatile, conduct test in fume hood). Check periodically for cracking, softening, dripping, or deterioration. The time it takes for signs of degradation to occur is an indication of the ability of the glove to protect skin.
- Thin vinyl or latex gloves are effective only against water-based or other relatively polar solutions, not organic liquids.
- Neoprene gloves provide better protection against many organic substances.
- If you are working with a mixture of chemicals, check the glove material for resistance to each component of the mixture.
- Before you put on protective gloves (even new ones), check for holes, tears, and other defects (softening or deformation) that indicate physical or chemical degradation. A damaged glove is worse than no glove at all (it can leak chemicals and trap them next to your skin).
- The glove recommended as the best choice may be bulky, stiff, or have other properties that limit its use for detail work (if sensitivity of touch is required, it may be better to use remote handling techniques plus a lightweight pair of disposable gloves - changed frequently).
- Make sure that all open wounds, abrasions, or other breaks in the skin are covered before putting on protective gloves - some chemicals that do not affect the skin may have severe internal toxicological effects.
- Before reusing gloves, test them again for resistance. Chemicals may have permeated the glove material even if gloves have been thoroughly rinsed or cleaned.
- Review the Material Safety Data Sheet (MSDS) for the chemicals or products of interest. MSDS are available through www.ehs.ucr.edu/ehs_msdss.aspx.

Visit the Waste Management Program and the Safety & Industrial Hygiene Program at http://www.ehs.ucr.edu/2005/programs/default.aspx for links to specific manufacturer information and chemical compatibility charts that list the resistance of common glove materials. You can also contact EH&S at 827-5528 for questions or additional information.